		1
1	STATE OF NEW HAMPSHIRE	
2	PUBLIC UTILITIES COMMISSION	
3		
4	June 18, 2020 - 10:10 a.m. [Remote hearing conducted via Webex]	
5	[Remote hearing conducted via webex]	
6	RE: DG 20-049	
7	LIBERTY UTILITIES (ENERGYNORTH NATURAL	
8	GAS) CORP., D/B/A LIBERTY UTILITIES: 2020 CAST IRON/BARE STEEL REPLACEMENT PROGRAM RESULTS	
9	(Hearing on the Merits)	
10		
11		
12	PRESENT: Chairwoman Martin, Presiding Commissioner Kathryn M. Bailey	
13	Commissioner Michael S. Giaimo	
14	Jody Carmody, Clerk Eric Wind, PUC Remote Hearing Host	
15		
16	APPEARANCES: Reptg. Liberty Utilities (EnergyNorth	
17	Natural Gas) Corp. d/b/a Liberty Utilities:	
18	Michael J. Sheehan, Esq.	
19	Rptg. Office of Consumer Advocate:	
20	Christa Shute, Esquire	
21	Reptg. PUC Staff: Lynn Fabrizio, Esq.	
22		
23	Court Reporter: Susan J. Robidas, NH LCR No. 44	
24		

			_
		2	
1	INDEX		
_			
2			
3			
	WITNESSES: CATHERINE A. McNAMARA		
4	BRIAN R. FROST		
5	ROBERT A. MOSTONE		
•			
6	EXAMINATION	PAGE	
7	Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio	9 24	
,	INTERROGATORIES BY COMMISSIONERS:	24	
8	By Commissioner Bailey	41	
-	By Commissioner Giaimo	48	
9	By Commissioner Bailey (cont'd)	51	
	By Commissioner Giaimo	59	
10	By Chairwoman Martin	70	
11	Redirect Examination by Mr. Sheehan	80	
12	* * * *		
13			
14	WITNESS: RANDALL S. KNEPPER		
15	Direct Examination by Ms. Fabrizio	92	
<b>.</b> .	Cross-examination by Mr. Sheehan	110	
16	INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey	124	
17	By Commissioner Giaimo	134	
_,	Redirect Examination by Ms. Fabrizio	138	
18	By Chairwoman Martin	139	
19	* * * *		
20	CLOSING STATEMENTS:		
20	CLOSING DIAILMID.		
21	By Ms. Shute	140	
0.0		7.47	
22	By Ms. Fabrizio	141	
23	By Mr. Sheehan	142	
24			

## PROCEEDINGS

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

CHAIRWOMAN MARTIN: Good morning,
everyone. Nice to see some of you again.
We're here this morning in Docket DG 20-049,
which is Liberty Utilities 2020 Cast
Iron/Bare Steel, CIBS, Replacement Program
Result. I first need to make some findings
because we're doing this remotely.

As Chairwoman of the Public Utilities Commission, I find that, due to the state of emergency declared by the Governor as a result of the COVID-19 pandemic, and in accordance with the Governor's Emergency Order No. 12 pursuant to Executive Order 2020-04, this public body is authorized to meet electronically. Please note that there is no physical location to observe and listen contemporaneously to this hearing which was authorized pursuant to the Governor's Emergency Order. However, in accordance with the Emergency Order, I am confirming that we are utilizing Webex for this electronic hearing. All members of the Commission have the ability to communicate contemporaneously

during this hearing through this platform, and the public has access to contemporaneously listen and, if necessary, participate. We previously gave notice to the public of the necessary information for accessing the hearing in the Order of Notice. If anybody has a problem during this hearing, please call (603) 271-2431. In the event the public is unable to access the hearing, the hearing will be adjourned and rescheduled.

Okay. And I know Mr. Wind went through most of the ground rules at this point. So just a reminder: Make sure you mute yourself if you're not talking; put your hand up to be recognized unless you're making an objection; speak slowly, it really does help. And if you need a recess, please let me know.

We'll start with roll call attendance of the Commission and then take appearances. When each commissioner states their presence, please also state where you are located. And if anyone is with you, please identify them.

1	My name is Dianne Martin. I'm the
2	Chairwoman of the Public Utilities
3	Commission, and I am in my home in Deerfield
4	alone.
5	Commissioner Bailey.
6	COMMISSIONER BAILEY: I am
7	Commissioner Kathryn Bailey. I'm in my home
8	in Sutton, New Hampshire, and I'm alone.
9	CHAIRWOMAN MARTIN: Commissioner
10	Giaimo.
11	COMMISSIONER GIAIMO: Good morning.
12	Mike Giaimo. I am in Concord, New Hampshire
13	at the PUC offices in an office by myself.
14	CHAIRWOMAN MARTIN: Thank you. All
15	right. Let's take appearances, starting with
16	Mr. Sheehan.
17	MR. SHEEHAN: Good morning. Mike
18	Sheehan. I represent in this matter Liberty
19	Utilities (EnergyNorth Natural Gas Corp.)
20	CHAIRWOMAN MARTIN: Thank you. Ms.
21	Shute.
22	MS. SHUTE: Good morning. My
23	name's Christa Shute, staff attorney from the
24	Office of the Consumer Advocate on behalf of

{DG 20-049} [HEARING ON MERITS] {06-18-20}

1	residential ratepayers. I am in my home in
2	Concord, New Hampshire. Currently my niece
3	is in the room with me.
4	CHAIRWOMAN MARTIN: Okay. And can
5	you identify her?
6	MS. SHUTE: Katie Diehl.
7	MS. FABRIZIO: Good morning,
8	Commissioners. Lynn Fabrizio, staff attorney
9	for the Commission, on behalf of Staff. And
10	with me today are Randy Knepper, who will be
11	a witness in today's proceeding. Steve Frink
12	and Anthony Leone are on the wings if
13	questions arise for them. Thank you.
14	CHAIRWOMAN MARTIN: All right.
15	Thank you. For exhibits we have Exhibits 1
16	through 6 premarked for identification. Are
17	there any other preliminary things we need to
18	address before we swear in the witnesses?
19	MR. SHEEHAN: Just to be clear,
20	there are no confidential matters in this
21	docket, in this hearing, which is helpful.
22	Otherwise we are ready to proceed.
23	CHAIRWOMAN MARTIN: Okay.
24	Excellent. Thank you for confirming that.

1	All right. Ms. Robidas, would you
2	swear in the witnesses.
3	(WHEREUPON, CATHERINE A. McNAMARA, BRIAN
4	R. FROST, ROBERT A. MOSTONE RANDALL S.
5	KNEPPER were duly sworn and cautioned
6	by the Court Reporter.)
7	CATHERINE A. McNAMARA, SWORN
8	BRIAN F. FROST, SWORN
9	ROBERT A. MOSTONE, SWORN
10	RANDALL S. KNEPPER, SWORN
11	CHAIRWOMAN MARTIN: All right. Are
12	we proceeding with this as a panel, with
13	Staff and the Company doing cross or I
14	mean doing direct first?
15	MR. SHEEHAN: We had a brief
16	conversation with Staff, and the preference
17	would be to have to conduct it sort of
18	like a regular in-person hearing, with the
19	Company witnesses testifying, cross,
20	Commissioner questions, and then when they're
21	done Mr. Knepper will testify. I think that
22	was okay with Staff as well.
23	MS. FABRIZIO: Yes.
24	CHAIRWOMAN MARTIN: Okay. All

9 Then Mr. Sheehan, you can proceed. 1 right. 2 MR. SHEEHAN: Thank you. DIRECT EXAMINATION 3 BY MR. SHEEHAN: 4 I'll start with Ms. McNamara. Ms. McNamara, 5 can you please identify yourself and your 6 7 position with the Company and your involvement in this proceeding? 8 9 (McNamara) Yes. My name is Catherine Α. 10 McNamara. I am a rates analyst in the Rates 11 and Regulatory Affairs Department, and I 12 prepared testimony in the calculation of the revenue requirement we're asking for today. 13 And Ms. McNamara, your testimony appears in 14 Q. 15 the original filing the Company made, which 16 has been marked as Exhibit 1, beginning at 17 Bates Page 31; is that correct? 18 (McNamara) Correct. Α. 19 Q. And do you have any changes to that testimony 20 that you'd like to put on the record today? 21 Α. (McNamara) I do not. 22 And if I were to ask you the same questions Q.

answers be the same?

that are in writing orally today, would your

23

- 1 A. (McNamara) Yes.
- Q. And do you adopt that as your sworn testimony here this morning?
- 4 A. (McNamara) I do.
- Q. Just a couple preliminary questions for you,Ms. McNamara.
- What your testimony provides is, as you
  said, the calculation of the revenue
  requirement that the Company is seeking
  approval of this morning; is that correct?
- 11 A. (McNamara) Yes.
- Q. Can you just tell us at a high level what was
  the total cost that you started with to
  calculate the revenue requirement -- that is,
  the total CIBS cost for which we're seeking
  recovery?
- 17 A. (McNamara) The incremental investment in CIBS
  18 was \$14,885,261.
- Q. And where within the Company did that number come from to land on your desk?
- 21 A. (McNamara) Information provided by Brian
  22 Frost and Robert Mostone.
- Q. And then you performed the necessary
  calculations to turn that investment into a

- written requirement; is that correct? 1
- 2 Α. Correct.

- And what is the annual revenue requirement 3 Q. that we are seeking approval of today?
- (McNamara) The annual revenue requirement is 5 Α.
- \$6,161,925, which is an incremental revenue 6
- 7 requirement of approximately 1.6 million.
- And 1.6 is the addition to the CIBS revenue 8 0.
- requirement that's being addressed today; is 9
- that right? 10
- 11 (McNamara) Correct. Α.
- And have you calculated a bill impact of that 12 Q.
- 1.6 incremental increase, what the bill 13
- 14 impact would be for a typical residential
- 15 customer?
- 16 (McNamara) I have. A typical residential Α.
- 17 customer using approximately 809 therms per
- year would be \$7.03, or a .60 percent 18
- 19 increase.
- 20 Seven dollars per what time frame? **Q.**
- 21 Α. (McNamara) Year.
- 22 Okay. Have the -- has the Company's filing Q.
- 23 been audited by Commission's audit division?
- (McNamara) Yes, it has. 24 Α.

- Q. And has the audit division completed its work and issued a final audit report?
- A. (McNamara) Yes, they issued a final audit report, and there were no findings in that
- 5 audit report.
- Q. And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter?
- 9 A. (McNamara) Yes.
- Q. And as you said, there were no findings, if you will, in that audit report; is that correct?
- 13 A. (McNamara) Correct.
- 14 Q. Thank you.
- Mr. Frost, turning to you. Please
  introduce yourself, your position at the
  Company and your general involvement in this
  docket.
- A. (Frost) Good morning. My name is Brian R.

  Frost. I am an Engineer III for Liberty

  Utilities. I developed the CIBS program, led
- design and led the team that compiled the
- results for the CIBS year-end filing.
- Q. Brian, there's often some comments every year

- about the massive spreadsheet that sort of
- forms the core of the CIBS filing. Is that
- 3 mostly your work?
- 4 A. (Frost) Yes, it is my work.
- 5 Q. Okay. You filed -- in the original filing
- 6 your testimony, along with Mr. Mostone,
- 7 appears in Exhibit 1, beginning at Bates
- Page 1; is that correct?
- 9 A. (Frost) Correct.
- 10 Q. And for the portions of that testimony, do
- 11 you have any corrections to identify this
- morning?
- 13 A. (Frost) No, I do not.
- 14 Q. And if I were to ask you the questions in the
- written testimony, would your oral answers be
- 16 the same today?
- 17 A. (Frost) They would be the same.
- 18 Q. And do you adopt that as your sworn testimony
- 19 today?
- 20 A. (Frost) I do.
- 21 Q. Mr. Mostone, same questions for you. Please
- introduce yourself, your position with the
- 23 Liberty and your involvement with this
- 24 filing.

- (Mostone) Good morning. My name is Robert A. 1 Α. Mostone. I'm the director of Gas Operations 2 at Liberty Utilities Service Corp. of New 3 Hampshire, and my direct filing is with Brian 4 Frost's in the joint direct testimony. 5 Are there any changes to the portions of the 6 Q. 7 testimony for which you are responsible that we identified as Exhibit 1? 8 9 (Mostone) No, sir. Α. And do you adopt the written testimony as 10 0. 11 your sworn testimony here this morning? (Mostone) Yes, sir. 12 Α. Mr. Frost, since you filed your original 13 Q. 14 testimony, Staff, Mr. Knepper, has filed 15 testimony. Have you had a chance to review 16 Mr. Knepper's testimony? 17 Α. (Frost) I did review Mr. Knepper's testimony. And Mr. Mostone, I think you may need to turn 18 19 your mic off.
- 20 Mr. Frost, Mr. Knepper's testimony, as 21 he often presents in CIBS cases --
- 22 CHAIRWOMAN MARTIN: Never mind. It 23 went away. He just went on mute.
- 24 BY MR. SHEEHAN:

- Q. Mr. Frost, did you read Mr. Knepper's testimony?
- 3 A. (Frost) I did.
- 4 Q. And is it correct to say that generally Mr.
- 5 Knepper's testimony was an overview of the
- 6 CIBS program from his perspective, pointing
- 7 out certain aspects of the program as it
- 8 developed during the last construction
- 9 season?
- 10 A. (Frost) Yes. It includes notes of the
- 11 program developments since last construction
- 12 season.
- 13 Q. And his testimony also contains two basic
- 14 recommendations at the end regarding future
- 15 reporting requirements and a recommended
- 16 deadline for completion of the CIBS program.
- 17 Did you read that?
- 18 A. (Frost) I did read that.
- 19 Q. Regarding the deadline, Mr. Knepper
- 20 recommends that the Commission require the
- 21 Company to complete removal of remaining CIBS
- 22 by 2024.
- Can you tell me approximately how many
- 24 more miles of CIBS are remaining? And this

16 is the CIBS that is, I believe it's less than 1 10-inch diameter is the category. How much 2 of that is remaining in our system, 3 approximately? 4 (Frost) Last week I ran some reports in the 5 Α. Company's mapping program. 6 There are 7 56.63 miles of cast iron and bare steel mains left on the maps; 4.3 miles of that is 8 10-inch nominal diameter and larger. And the 9 10 Company does often maintain there's a small 11 plus or minus due to mapping backlog as 12 projects get mapped. And of those 50 or so miles remaining, is it 13 **Q.** fair to say that most of those miles are in 14 the downtown areas of the cities in the 15 16 Company's service territory? (Frost) Yes. That mileage is predominantly 17 Α. located within the downtown core urban areas 18 19 of Concord, Manchester and Nashua, New 20 Hampshire. 21 Q. Given that fact, are there issues with a firm 22 deadline of 2024 to complete removal of those 23 miles of CIBS?

24

Α.

(Frost) I would think that establishing a

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

firm deadline would present challenges. It could also present challenges that might not be in the best interest of the ratepayers.

For example, the City of Nashua recently took out a large bond to repave every street within the city over a number of years. The Company tries to coordinate projects because coordinating projects with cities and other utilities typically results in lower project costs.

Additionally, the City of Manchester is finalizing a consent agreement to do a municipal sewer separation on the east side of the Merrimack River. This will cause replacement of many sewers and pipes that Liberty had maybe in conflict. The Company would have concerns that replacing pipes, only to have them be in the way of the sewer construction a year or two after they're installed, could be troublesome. Staff in the past has recommended that the Company phase work so that this type of conflict and replacement of facilities that are less than five years old, are not beyond their normal

- life, does not occur because that's wasteful.
- Q. So a follow-up on, for example, Manchester.
- 3 The work that they will have to do for their
- 4 sewer separation is over a number of five to
- 5 ten years; is that correct?
- A. (Frost) Yes. The city has given us very high-level projections that they want to
- 8 stretch it out over a period of ten years.
- 9 Q. And am I correct in summarizing the issue you
- raise is if you replaced CIBS this year on a
- street that is going to be torn up in four or
- five years for that project, you would end up
- replacing the pipe twice?
- 14 A. (Frost) It's not a given that the pipe would
- 15 be replaced twice. However, during sewer
- 16 construction, typically the trench width for
- 17 sewer construction is large, and the depth is
- 18 larger than gas construction. So therefore,
- 19 oftentimes gas piping is in the way and needs
- to be relocated before sewer construction to
- 21 prevent the integrity of the gas piping from
- being compromised.
- 23 Q. So you're saying you may not have to remove
- it. You may simply have to move it, which is

- also a costly endeavor; is that correct?
- 2 A. (Frost) In this type of construction, Liberty
- 3 typically does not move live gas pipes. What
- we would do is we would be replacing it.
- Again, because to prevent customer outages,
- we would install a new pipe, tie over all
- 7 customers to the new pipe and then cut dead
- 8 the old pipe, similar to CIBS work.
- 9 Q. And as for the factor you described in
- Nashua, the reason a city-wide paving project
- impacts you, impacts the Company, is working
- with that paving project will allow us to
- share paving costs with the city; is that
- 14 fair?
- 15 A. (Frost) Correct. When coordinating with
- 16 cities, we can typically share paving costs.
- 17 The city get a volume discount on paving much
- 18 better than what Liberty gets. Also, we can
- 19 typically restore the trenches with a binder
- 20 mix of asphalt, which is a rougher, less
- 21 refined asphalt mix that is slightly less
- 22 expensive.
- 23 Q. In addition to these two high-level concerns
- regarding a firm deadline, are there also

issues of the quantity of work that needs to be done within the inner cities that arise if you were trying to force what may be too fast a schedule on their replacement?

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

(Frost) The Company has concerns that they Α. would like to explore the quantity. Company was to replace a large quantity of pipe per year in a single city, it could result in having traffic detours upon traffic detours due to many streets in the same area having construction at the same time. item to note is that of the remaining mileage that I discussed earlier, we have 6.7 miles in the city of Concord in that list; in the city of Manchester there's 31.8 miles; and in Nashua, approximately 17.2. And those are all rounded numbers. Therefore, there isn't a balanced number for construction to be phased in. The Company can't say, per se, do five miles per city per year and then end the program at an even rate. At some point the pipe in Concord and in Nashua is going to be replaced, and construction will only be able to occur in the city of Manchester. And the

- Company hasn't fully explored the effects of that.
- Q. Do the cities have ultimate veto authority as
  to whether you can perform a particular
  construction project at a particular location
  in a particular year?
- 7 (Frost) I would not characterize it as "veto Α. authority." However, they're responsible for 8 approving the Company's detour and traffic 9 plans. I think the issue that could arise 10 11 would be that the Company would not be able to complete satisfactory detour and traffic 12 plans if we had too many crews in such a 13 14 small area.
  - Q. Is there a recent example in Nashua of the city taking action that caused the Company to not do a project it had planned to do?

16

17

18

19

20

21

22

23

24

A. (Frost) Correct. This year we've had to shift work on Main Street in Nashua.

Recently, with the current events, the city of Nashua and the Company came to an agreement to stop a cast iron replacement project on Main Street so that the city could install barriers for outdoor dining to help

- the community and the restaurants in that area.
- Q. This is both for you, Mr. Frost, and Mr.

  Mostone. Is the Company nonetheless still

  committed to removing all leak-prone pipe as

  soon as is practically and economically

  feasible.
- 8 A. (Mostone) That is correct. The Company is
  9 looking to remove the pipe as quickly as
  10 possible.
- 11 Q. And Mr. Mostone, as the director of gas
  12 operations, at a high level can you repeat
  13 what I think are the well-accepted benefits
  14 of removing these leak-prone pipe in our
  15 system?

17

18

19

20

21

22

23

24

Q.

A. (Mostone) The benefits of removing the pipe, first of all, is the safety of the public.

Getting leak-prone pipe out of the system, the integrity of the system will be much tighter. And with the months of digging up areas, it definitely will mitigate, be less involved. As far as the system, it will be a tighter system for the overall system.

Is it fair to say that leak-prone pipes are a

- common source of the leaks that the Company
  has to address on either a true or kind of
  emergency basis during the course of the
  year?
  - A. (Frost) Yes. During the winter months
    especially, the leak-prone pipe has potential
    for leakage with ground movement, and we are
    constantly monitoring that through our survey
    program. And we are doing much more repairs
    on Grade 1 emergencies during the winter
    months.
- 12 CHAIRWOMAN MARTIN: Mr. Sheehan,
  13 you're on mute.
- MR. SHEEHAN: I'm sorry.
- 15 BY MR. SHEEHAN:

Q. Mr. Frost, last question. Your testimony documents the work done in the last program year. It in great detail describes every project, how many feet, how much it cost, whether it was over or under budget, et cetera, et cetera, and comes to the total numbers that you conveyed to Ms. McNamara. Is it your opinion that those costs incurred by the Company last year were prudently

{DG 20-049} [HEARING ON MERITS] {06-18-20}

```
24
1
         incurred and were a prudent exercise as this
2
         program requires?
         (Frost) Yes, I believe they were prudent
3
    Α.
         costs that increased pipeline safety.
4
5
    Q.
         Thank you.
                    MR. SHEEHAN: I have no further
6
7
         questions for these two witnesses.
8
                    CHAIRWOMAN MARTIN: All right.
         Thank you.
9
10
                    Ms. Shute.
11
                    MS. SHUTE: I do not have any
12
                 Thank you.
         cross.
13
                    CHAIRWOMAN MARTIN: All right.
                                                     Ms.
14
         Fabrizio.
                   MS. FABRIZIO: Thank you, Madam
15
16
         Chair.
17
                      CROSS-EXAMINATION
    BY MS. FABRIZIO:
18
         I would like to start with a few questions
19
    0.
20
         for Ms. McNamara for purposes of
21
         clarification of just a number of points in
22
         her testimony.
23
              Ms. McNamara, have there been any
         changes in how you calculated the fiscal year
24
```

- 2020 CIBS revenue requirement in comparison to how you calculated the fiscal year 2019 revenue requirement?
- 4 A. (McNamara) No.
- Q. Thank you. And are the only inputs that changed the amount of rate base -- sorry.
  Are the only inputs that changed the amount of rate base and the property tax rate?
- 9 A. (McNamara) Well, the annual spending changes.
- 10 I'm not sure if I fully understand that
  11 question. But incremental spending our
- investment is updated, which is part of the
- rate base. And there's a rate base
- 14 calculation and a property tax rate. Does
- that answer what you're looking for?
- 16 Q. Yes. Thank you. And how did you determine
- 18 requirement calculation? Could you just walk

the rate base amount to use in your revenue

- 19 us through that?
- 20 A. (McNamara) So are you referring to the
- year-end rate base of 40 million or the
- 22 14 million?

- 23 Q. The 14 million.
- 24 A. (McNamara) So that information was provided

- by Mr. Frost, and we used it based on his FY
  2020 actual costs that were on the gigantic
  spreadsheet that people referred to. And
  when it came to carryover costs, we only
  included 5 percent, which was the limit that
  was previously allowed.
- 7 Q. Thank you. And how do you calculate the
  8 property tax rate? And does the fiscal year
  9 2020 rate compare -- how does it compare to
  10 2019?
- 11 A. (McNamara) So we're using the property tax

  12 rate from 2019 is 2.71 percent, and in 2018

  13 it was 2-1/2 percent. And the information we

  14 pulled for plant in service and depreciation

  15 come from the annual report, Page 9 I believe

  16 it is.
- Q. Okay. Thank you. And how much of fiscal
  year 2020 CIBS revenue requirement is to
  recover CIBS spending in calendar year 2019?
- 20 A. (McNamara) Could you repeat that question?
  21 Sorry.
- Q. We talked about the CIBS fiscal year. How
  much of the 2020 CIBS fiscal year revenue
  requirement is to recover specifically CIBS

- 1 spending in calendar year 2019?
- A. (McNamara) I don't have that specific
  breakdown. But generally speaking, we need
  to end construction on the gas company
  usually sometime in the winter. And any of
  the costs that flow through March of the next
  year are typically for construction that
- 9 Q. Thank you. That's helpful.

happened in 2019.

8

14

15

16

17

18

19

20

21

22

23

24

Does Liberty intend to file a full rate

case using calendar year 2019 as a test year,

to your knowledge?

- 13 A. (McNamara) That's my understanding.
  - Q. And how will CIBS spending in calendar year 2019, and included in calculating the fiscal year CIBS 2020 revenue requirement, be reflected in the full rate filing?
  - A. (McNamara) So assuming that this increase that we're requesting goes through, none of the spending would be included in our calculation for the test year for the rate case that we would file this year because we would have already recovered it. So we would remove it from the calculation in the rate

case.

Q. All right. Thank you. I think that's all I have for Ms. McNamara. So I will turn to Mr. Mostone and Mr. Frost, and I'll leave it up to both of you to decide who responds just in case I'm not clear on who has the responsibility.

So in your testimony at Bates Page 9 and at Lines 1 through 6 -- so it's your joint testimony -- you state that the Company reduced scope on a number of projects late in the year when it became apparent that construction crews would not be able to finish the entire CIBS plan.

How many projects -- how many planned projects were not started and how many projects had their scope reduced in the course of the CIBS year?

- A. (Frost) There were ten projects that were reduced; seven of those were reduction-only, and three projects were not completed.
- Q. And were they not completed due to time in winter?
  - A. (Frost) Correct. They were not completed to

- It takes some time to spool down a 1 construction project, get all the new pipe 2 tied back into the existing gas system and 3 have all customers hooked up to the completed 4 5 work. So we had to make a decision where the break point was. 6 7 Thank you. And how many of the 0. Okay. 8 planned projects were never started? (Frost) As I stated, three. 9 Α. Oh, I thought I heard three were completed. 10 11 So three were not started, and three were not 12 completed? (Frost) No. I stated there were ten projects 13 Α. 14 that either contained scope reductions or 15 were not started. 16 Oh, okay. Q. 17 Α. Seven projects had scope reductions and three were not started. 18
- 19 Q. Thank you. That was my misunderstanding.

20 And could you explain what led to an
21 actual per foot cost of \$384 compared to an
22 estimated cost of \$299 for CIBS year 2019?

A. (Frost) I think we described during the testimony there are some factors that the

23

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Company -- it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.

Q. Okay. Thank you. That's helpful.

And when some of those barriers to continuing work occurred as you've just listed, had the Company been aware of potential problems that might have led to some of those issues at the time it was planning the projects?

A. (Frost) We've discussed in prior hearings
that the Company tends not to quantify those

scope items because of the safety hazard of taking out cast iron and bare steel pipe.

You know, it's a recognized -- those pipe materials are recognized as a safety risk in a gas distribution system, and it's recognized that they need to be taken out of the ground. Therefore the Company -- since the project is destined to move forward, the Company did not think it was prudent to spend additional quantifying funds to do such things as environmental studies where we would, say, dig test holes all over the city during work because we're going to encounter these materials no matter which way.

Q. Okay. On that note, does the Company tend to do any preliminary footwork, say, talking with targeted town officials, or officials in targeted towns, I should say, to learn about such issues beforehand -- for example, the sewer projects that might end up interrupting a CIBS replacement or might end up facilitating a CIBS replacement -- or asking the town officials about environmental issues during the Company's planning process? Is

there any outreach such as that?

- 2 A. (Frost) Yes. The Company liaises with towns
- on a weekly and bi-weekly basis. We also do
- a level of research, a records research.
- 5 That's a generally accepted engineering
- 6 practice for environmental contamination.
- 7 However, as I explained, we don't do field
- 8 research which involves test pitting. The
- 9 records research often indicates, you know,
- 10 possible contamination. And the Company does
- try to incorporate the results of records
- research into its project estimating.
- However, typically, records are good on say a
- 14 street level or a neighborhood level versus a
- foot-by-foot level of installed pipeline.
- 16 Q. And your weekly or bi-weekly meetings with
- 17 town officials, is that specifically for
- 18 projects that are underway?
- 19 A. (Frost) During the year the types of topics
- 20 discussed tend to vary with the construction
- 21 season. During the winter months when
- there's snow, we'll typically discuss
- forward-looking plans. During the summer
- 24 months of the actual construction plan, we

- typically discuss ongoing projects.
- Q. So no outreach is made in the planning stage
  just to coordinate with the towns. That's
  what I take from your discussion.
- 5 Α. (Frost) Outreach is made during the planning That's the forward-looking part. 6 7 Often the towns tend to hold back permit restrictions until they have received a 8 traffic plan just before construction. 9 Company does try to predict, based on past 10 11 history, traffic impacts. However, the cities and towns tend to hold back final 12 traffic decisions until the weeks before 13 construction. 14
  - Q. Okay. Thank you.

15

16

17

18

19

20

21

22

23

24

What process does the Company have in place to oversee project construction and oversight of spending?

- A. (Mostone) As far as oversight, as inspectors out on jobs typically, you know, we keep it under the one-to-four ratio. And they monitor each job and location on a daily basis.
- Q. Okay. Thanks.

And is there a view of costs as they
develop as well at the same time?

- A. (Mostone) Yes, we have a -- we are monitoring costs and reviewing each one if something pops up. We estimate the cost of each job prior to, and then we also have a -- we monitor the cost as the job is being done.

  If there's any add-ons or anything else that happens as the project is, they have to have it signed off by the inspector and the supervisor out in the field to have any add-ons or overages.
- 13 Q. So is that your role?

A. (Mostone) It's not necessarily my role. It's necessarily the supervisor's role. They have to get approval from the supervisor. If there's something in question, then the construction manager gets involved with it and there will be a discussion with him. And if it's to go up, then it would go to me on that piece of it if it escalates higher.

Most of it gets resolved with the supervisor, and then there's someone there that -- (connectivity issue). You know, there's

things in the ground that could happen that they find that's going on. And you want the main to go in one direction and you have to offset something particular as an example, and the costs would be a little bit higher.

Q. Thank you. That's helpful.

In prior CIBS proceedings, we've heard that the Company testified that it intended to complete its CIBS replacement by year-end 2024. We know that has changed. So now what does the Company project for an expected completion date?

A. (Mostone) The Company is projecting to extend it. I don't have the exact date in mind yet. We're still looking into putting a team together to actually look at what we have left and projecting out how it's going to work, as far as the city and towns and working with everybody here. As Brian stated earlier, the cities, a lot of it being replacements, Manchester, Nashua and Concord are going to be a heavy traffic area. So we have to work closely with them on making sure. Of course we want to work with the

cities and towns as they're doing their own construction, which keeps the costs down. So we'll be looking at that also at the same time.

So as far as the date, exact year, I don't have that yet right now, but we are looking at it.

- Q. And does the indefinite date at this point, does that impact safety concerns?
- 10 A. (Mostone) Yes, it does. At Liberty we are
  11 concerned with that. We do want to get the
  12 pipe out as quickly as possible. But we also
  13 want to do it in a safe manner so we don't
  14 cause any other issues with the cities and
  15 towns or the public. So yes, we are -- we
  16 try to get them out as quick as possible.
  - Q. Okay. Thank you. I think I'll address this to both Mr. Frost and Mr. Mostone. What are your reactions to the CIBS reporting requirements that Mr. Knepper has recommended in his testimony?
  - A. (Frost) I believe that some of the CIBS
    reporting that Mr. Knepper's recommended is
    acceptable. I think that both parties could

1		work together on the due dates of the
2		reports. The spreadsheet referenced as
3		Attachment A in this docket, the large
4		spreadsheet, I believe that that has gotten a
5		little too large. It often contains many
6		numbers that don't provide a lot of value.
7		The Company's spent a lot of time developing
8		all those numbers, and it seems that all
9		parties sometimes get frustrated with the
10		quantity of numbers and trying to pick out
11		the numbers that matter, getting them lost in
12		the thousands of other numbers on that
13		spreadsheet. I think one night I was working
14		on it, and I calculated there was I did a
15		calculation of how many cells were in the
16		spreadsheet that I was checking, and it was
17		in the thousands.
18	Q.	And is the information that's included in
19		that massive spreadsheet, is that information
20		the Company retains for its own records,
21		generally speaking?
22	A.	(Frost) Yes, the Company does maintain the

computer system. The Company also maintains

results of that spreadsheet within its

23

archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.

## Q. Thank you.

Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully managed." At what level would a cost variance rise above the level of more than "slightly elevated" in your mind?

## A. (Mostone) Sorry. I'm on mute.

So, slightly above cost levels, are we pertaining to the construction when we're putting something in the ground and the cost

has increased because of that? So I want to just understand the question better.

Q. Sure. I'm referring to the Company's references to "slightly elevated" cost variances on project costing as included in the record. Just generally speaking. Maybe I could rephrase and ask a different question.

What would you consider a less than successfully managed project in terms of costing?

- A. (Mostone) Okay. I guess the cost, the increase in costs, you're talking like percentages I would imagine. So anything over about 10 percent higher would be kind of general. We don't want to see anything higher than that. You know, we do have overages that something can be around 20 percent. And those are generally -- you know, we review those and try to get our estimates better when we're working on projects. But as things come up and they arise, that's where the increases come from.
- Q. And have you had a number of over fairly high

cost overruns this past year?

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

- (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to -- you know, for the -you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to -- it takes time for the digging, which adds cost to the projects.
- Q. Okay. Thank you. I think that completes my questions for Messrs. Frost and Mr. Mostone.

  CHAIRWOMAN MARTIN: All right.

22 Thank you.

23 Commissioner Bailey.

24 COMMISSIONER BAILEY: Thank you.

INTERROGATORIES BY COMMISSIONERS:

## BY COMMISSIONER BAILEY:

- Q. Just a few more questions, Mr. Mostone, on the cost overrun question. You say, "A lot has to do with what we find in the ground."

  But in the testimony it says in Hudson you expected asbestos. So why wouldn't you assume that every pipe in Hudson has asbestos and estimate as if it did and then come in under budget rather than over budget?
- A. (Mostone) We have a general knowledge of an area in Hudson, especially where we have asbestos, and we look at the mappings and see. If we do have something where we know there's known asbestos, we do try to take that into consideration. But there's times where we don't know how much and, you know, where exactly it is. So it's very difficult to just estimate the whole length of a project at a time and how much you're going to deal with. Depth of main, depth of the asbestos is always in consideration. So it is a rough estimate. And then the environmental changes towards how we have to

- extract it is also a consideration when
  you're in the area.
- Q. Do you assume that all the pipe in Hudson has asbestos?
- (Mostone) We assume it does. But we have a 5 Α. map that shows if we've done some 6 7 construction in the area in the past and we haven't encountered it. If we do think that 8 there's an area that doesn't show that it had 9 it, then we go in there. And when we start 10 11 digging in the main, you may start in the first 100, 200 feet you don't see anything, 12 and then all of a sudden we pull it out and 13 14 we have to get it mitigated at that time. So 15 it does happen.
  - Q. I think Mr. Frost has something to add.

17

18

19

20

21

22

23

24

A. (Frost) Good morning, Commissioner. I think one of the challenges is that a lot of times the Company is working with spot reports regarding the asbestos. On a technical level, the asbestos was generally used as fill material in those areas. So we'll have spot environmental reports from environmental services and the Company records saying that

- at house number 30 on this street asbestos

  was found, at house number 50 it wasn't

  found. And we have to make a lot of -- it's

  kind of reading tea leaves to quantify the

  amount of asbestos. In areas where nobody

  has dug in the past 50 to 60 years, records

  do not exist.
  - Q. But my question is why not assume the worst, the most expensive scenario in your estimating?

- A. (Frost) Oh, understood. That I would think would present challenges, too. Sometimes it's better to control the construction process going upwards to a degree rather than give the impression that the project is supposed to cost a large amount at the outset. The Company tries to estimate a realistic number if no problems or only the anticipated problems are covered so that we can keep an eagle eye on the amount of extras that come up during the job.
- Q. But as you said, you can't do anything about the extras that come up during the job. So I still don't understand. I think what you're

- saying is that if you overestimate the job,

  the spending will creep up to that much even

  if it doesn't need to? Is that why you're

  reluctant to overestimate and come in under

  budget?
- (Frost) I wouldn't say the spending is going 6 Α. 7 to creep up necessarily. But that is the 8 slight concern, that I want to make sure that the jobs are -- you know, that the 9 10 supervisors in the field, the expectation is 11 that they need to meet the numbers based on a good-faith average estimate plus or minus 12 10 percent. And it would need to be 13 14 documented fully why the estimates were to go 15 elsewhere, or the actuals were to go 16 elsewhere.
- Q. But you're 30 percent over this year on your cost per foot.
- 19 A. (Frost) Yes, it does indicate the need for work on estimating.
- Q. Okay. Can somebody tell me what's left, what
  streets are left in Concord? Because it
  seems like Concord's been torn up for the
  last five years, and I can't believe there's

- anything left in Concord to do. But you said there's 6.7 miles remaining in Concord.
- (Frost) Right now we are working on South 3 Α. State Street. North State Street has some 4 The other -- there are some small left. 5 pockets on the north end of the city in the 6 7 neighborhood there north of Centre Street. 8 And there's other pipes that's kind of -- I'd characterize it as "scattered streets." 9 majority of Concord is plastic pipe these 10 11 days. Concord is, of the three large cities, 12 is the best.
- Q. When do you think that the 6.7 miles left in Concord will be complete?

16

17

18

19

20

21

22

23

24

A. (Frost) I would imagine, if the Company continues at its current rate and makes no changes, the Company could complete that in two to three years. It depends on where the Company wants to take the program and spread out the remaining construction that we talked about, phasing and working with each city.

Part of the mileage in Concord is on Main Street, which is larger than 10-inch, which Mr. Knepper's testimony indicated a

- desire for Staff not to be within the replacement program.
- Q. A desire for what not to be in the replacement program?
- (Frost) Mr. Knepper noted a recommendation, 5 Α. and I'm finding the quote. Okay. 6 Page 10 of Mr. Knepper's program, he noted 7 the exception of mains equal to or greater 8 than 10-inch nominal diameter not be included 9 within the CIBS replacement program. 10 11 technical basis, typically the larger diameter mains have a thicker wall thickness. 12 And the Company has historically taken 13 efforts to seal the joints between those 14 The seal is kind of like gluing the 15 pipes. 16 pipes back together, so their leakage rate is a lot less than other cast iron mains. 17 think that is the technical basis for that 18 cut-off in diameter. 19
  - Q. So you didn't replace the cast iron in Main Street, Concord, when it was ripped up several years ago?
  - A. (Frost) No, we did not replace that cast iron. I'm not aware of the history behind

21

22

23

that because I was not working with the CIBS
program at Liberty when the decision was
made.

- Q. Okay. Tell me a little bit about Nashua and what you expect in five to ten years. I think Main Street -- well, not this year, obviously, because of the barriers that you mentioned. But when do you expect to get some progress in Nashua?
  - A. (Frost) I would imagine in Nashua, a five-year timeline would be very achievable.

I think the challenges with establishing a hard and fast date, the Company can be substantially complete, maybe with a few stragglers. But a hard and fast, you know, a hundred percent, you know, might be challenging. Or maybe it wouldn't make sense, you know, as we discussed, that if the city was to say that we've got this last piece over here out, you know, one to two years. It might make sense to wait that one to two years to get the last streets and to work in an orderly manner.

Q. And what about Manchester?

1	A.	(Frost) Manchester has the most cast iron and
2		bare steel remaining. I can see that being
3		challenging due to the amount of mileage that
4		can be done per year and Manchester's sewer
5		project. Off the top of my head, I'm having
6		a hard time, you know, on the spot projecting
7		that due to the amount of pipe.
8	Q.	Mr. Mostone, you acknowledge that there are
9		some safety concerns. Can you give me an
10		idea about
11		CHAIRWOMAN MARTIN: Excuse me,
12		Commissioner Bailey. I'm sorry to interrupt.
13		Commissioner Giaimo has his hand up.
14		COMMISSIONER GIAIMO: I do. And
15		just before we left Manchester, could I
16		interject a quick hypothetical?
17		CHAIRWOMAN MARTIN: Yes.
18	BY	COMMISSIONER GIAIMO:
19	0.	Okay. Mr. Frost, I thought I heard you say
	2	

23 A. (Frost) Yes. Correct.

21

22

Q. Okay. And I think all of us understand and

years to finish its sewer project?

Manchester could take between five and ten

appreciate why you would want to coordinate and prevent a redundancy of digging and re-digging. But where I'm struggling is if you wanted to do that, and there's a main on Street A in Manchester that's going to have a sewer project -- that needs to have a CIBS replacement, but it's expected that the city will make that one of its last priorities on its sewer project and says, okay, we'll get to that in nine years or ten years. Is that a situation where the Company is actually going to suggest that the CIBS replacement doesn't happen until 2029?

A. (Frost) I think in a case like that, the
Company, you know, longstanding within the
CIBS program, has completed risk assessments
on its main where we try to identify mains
that have a leakage history and replace those
first. I think we'd make an evaluation of
the leakage history of the main, and if for
safety reasons it had to be replaced sooner,
we would replace it sooner. If it was not
presenting a safety hazard, we would defer
it. And additionally, we often work with the

		30
1		cities, where the city will also maybe adjust
2		their schedule to match the condition of our
3		facility.
4	Q.	So the Company's comfortable that it's
5		actually had detailed discussions with the
6		cities of Manchester, Concord and Nashua,
7		that it feels like it appreciates the
8		expectations of the cities with their
9		projects, so as to make them most efficient
10		and effective with respect to CIBS as well?
11	A.	(Frost) I believe we do a good job with the
12		cities overall with trying to keep an open
13		line of communication. Trying to juggle the
14		total public interest is what it is, really.
15		COMMISSIONER GIAIMO: Okay. Thank
16		you.
17		Commissioner Bailey, sorry to
18		interrupt, but I thought it might be best for
19		the flow of the hearing to tackle Manchester
20		while we were talking about Manchester.
21		Thank you.
22		COMMISSIONER BAILEY: No problem.
23		Interrupt anytime. I just didn't see you.
24		So thank you, Chairwoman Martin, for letting
l.		

1 me know.

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

- 2 BY COMMISSIONER BAILEY (CONT'D):
- Q. So let's talk about the leak rate before I go back to the question for Mr. Mostone.

It looked like the leak rate in 2018 was
higher than it has been in a long time. Can
somebody explain why that is after all this
replacement?

- (Frost) The leak rate, we went through it in Α. the last docket. There is some weather variability to leak rates. Typically in winters where there's a lot of freezing and thawing or extremely cold weather, the leak rate will go up on the cast iron main population. I'm not sure where that -- one of the observations that Staff made in their testimony in last year's docket was that the Company's leak rate testimony was statistically insignificant -- the Company thought that it was statistically significant. Staff did not. I'm not sure --
  - Q. Did the leak rate come down in 2019 when we didn't have such a cold winter?
  - A. (Mostone) As far as broken mains on the cast

iron leak-prone pipe, yes, it did overall.
But as we are checking other areas during our
leak survey program, we have a very low
tolerance of, you know, percentage of gas,
how our grading system is. And yes, we do
have areas in Nashua, especially where we
have picked up some leaks mostly on our
dresser couplings that's on a coated steel
system. And technically what's happening
there is they leak during the winter months
with the cold because of the rubber around
the dresser couplings and the age of it, and
we have to go back in and seal those. In the
past, those leaks were considered Grade 3
leaks; now they're considered Grade 2 leaks,
and we're required to fix them within six
months of year end. So you're actually
seeing some of that going on, and that's why
you're seeing the leak rate go up a little
bit. But the system itself, the rating or
the grading and amount of leaks especially
during this winter has gone down
significantly on the cast iron system of the
leak-prone pipe.

Q. So did you say that the leaks that you found recently are not on the cast iron/bare steel pipes?

- A. (Mostone) No. I don't have the numbers in front of me, but we've had -- the amount of Grade 1s that we had through this past year was less than previous years. And some of the leaks that we've had on our dresser couplings or what have you in the Nashua area in particular, that increased in the winter of 2019-2020 from winter of 2018-2019.
- Q. So how concerned are you? Give me an assessment of the risk of not immediately replacing these pipes in Nashua?
- A. (Mostone) So the repair there is, what we're doing -- this is on our coated seal system, 60-pound system in general -- we encapsulate the dresser coupling and we cut it out. So it's almost like a permanent repair. It's something that we are looking at to alleviate within time. But, you know, the leak itself actually goes away when the frost comes out of the ground. It doesn't persist. A lot of times that's what happens. So we actually

have to pin the leak during the winter months and make sure we have it, and then the crews go out and do the repairs in the off -- you know, after the frost is out during the summer and we can get permits for them because they're graded low.

- Q. I heard you say that that was on the coated steel system. I'm interested in the risk, your risk assessment of the remaining cast iron/bare steel pipes in Nashua and Manchester and Concord and how long you think that they can exist as they are.
- A. (Mostone) So that's a tough question to answer, as far as how long. We constantly are monitoring the system and we're checking.

  As we dig, you know, we observe what the condition of the pipe is. If there's something that needs to be addressed right away, we immediately get engineering involved and recommend the main being replaced. As far as the piping itself goes, you know, we do a monitoring setup where we're out and monitoring the mains at times and making sure that there's no leaks and they're being

- repaired right away as soon as we get them.

  But it's tough to say how, you know, how long

  the cast iron going to last in the ground

  that's already been in there a hundred years.

  So...
  - Q. I think Mr. Frost has something to add.

A. (Frost) Thank you, Commissioner Bailey. I can say, to provide more information to you, as the CIBS program has gone on over these years, the Company, working with Staff, does document every leak that is on cast iron pipe. We document it in our mapping system so that we can typically, with leaking pipes, replace them within one to two years if they show an active leak history that develops.

We've also seen as the program goes on that we're replacing more pipes that don't have a leak history even though they are cast iron or bare steel. During the early days of the program, maybe it could be characterized as more of a fire-type thing, where you're only replacing pipes that have a very bad leak history. The Company, you know, currently now is able to replace, as part of

- their program, a lot of pipes that need to come out of the ground because they present a risk higher than plastic pipe. However, they don't have a documented leak history because the population with the documented leak history is smaller than the Company's total replacement effort. Does that help?
- Q. A little, but it leads me to my next question. So if you have a leak history on the remaining cast iron/bare steel pipes, what does that look like in Nashua, where I think you've had a couple of incidents this year? And I don't know if it has to do with these CIBS pipes or not. But seems like a couple times in Nashua over the past year there have been some leaks where people had to be evacuated.

So what does the leak history look like on the remaining CIBS pipes in the three cities that we're talking about?

A. (Frost) I mean it's hard to categorize what it looks like. I think the Company manages it. Yes, we've had leaks. Also during the winter, as Mr. Mostone mentioned, we're

Q.

driving around every day during the winter	
trying to find leaks, you know, the day they	У
develop. We have a program where in the cas	st
iron/bare steel areas we drive a	
leak-detection truck. It just goes on a	
continuous circuit driving through the city	
every couple of days. And I'm not familiar	
with the incidents you described. The	
only the part that I'm most familiar with	h
is the total replacement amounts and then he	wc
much of that total replacement amount could	
be considered streets that had a strong	
history of prior leaks versus the total	
replacement amount. And I'm really happy	
about that, that the Company is able to get	
ahead versus just treading water, you know,	
trying to run around just putting out the	
fires. We're able to get ahead and modernize	ze
the infrastructure because our replacement	
rate is higher than the degradation of the	
facility.	
So are you saying, then, that the leak	
history on the remaining CTBS is not severe	

enough to cause you concern and that you'll

- get to it in time before there's a real problem?
- (Frost) I believe that with continued 3 Α. monitoring and with quick action on pipes 4 that show degradation and with establishing a 5 realistic end date, you know, within I think 6 7 the five- to ten-year mark that we discussed, 8 with maybe an allowance to discuss, as Mr. Knepper brought up, the large-diameter cast 9 10 iron and to discuss straggler streets that 11 are shown not to present an immediate safety 12 hazard, that the Company would be reliably managing this. 13
  - Q. Okay. Just one more question. In your testimony you talked about you either -11.13 miles were either replaced or abandoned. So can you tell me what it means,
    "abandoned"? You just take it out of service and it's no longer necessary and you count that as part of the CIBS replacement program?

15

16

17

18

19

20

21

22

23

24

A. (Frost) Yes. A perfect example was on Smyth
Road in Manchester. There is a 60-pound gas
main on Smyth Road that's coated steel that
provides a feed into the city that was

```
installed I believe within the last 50 or 60
1
2
                 There was also an approximately
         hundred-year-old cast iron pipe on Smyth
3
                So what the Company did for the
4
5
         portion of that street where the pipes were
         running parallel was we abandoned the cast
6
7
         iron main and put the customers onto the
         steel main. The steel main was installed at
8
         a later date. So that would be an example of
9
10
         abandonment where the Company was able to get
11
         cast iron out of the ground without full
         expenditure of replacing the pipe.
12
                Thank you.
13
    Q.
         Okay.
14
                    COMMISSIONER BAILEY:
                                          That's all I
15
         have, Madam Chair.
16
                    CHAIRWOMAN MARTIN:
                                        All right.
         Commissioner Giaimo.
17
                    COMMISSIONER GIAIMO: Good morning.
18
19
         I'm going to wait for people to nod their
20
         heads so that I know they're hearing me.
21
         Great.
                 Thank you.
22
    BY COMMISSIONER GIAIMO:
23
         So Staff at one point last year suggested the
    Q.
         discontinuance of the step adjustments for
24
```

the CIBS program, but also made a couple of observations. I want to know if the Company agrees with the observations. Specifically, in a recommendation they said public safety risks due to leaks and pipe failures have been substantially reduced, as evidenced by a significant decline in system leaks, and the regulatory burden and expenses will be reduced by eliminating the CIBS annual step adjustments. Are those statements true?

Does the Company believe those statements to be true?

- 13 A. (Mostone) Yes, the Company believes those 14 statements to be true.
- 15 Q. Okay. Thanks.

Mr. Frost, you said that you re-ran the numbers and there's approximately 56 miles left of CIBS. And then you said plus or minus, but then I don't think you said plus or minus what. I'm just wondering, what's your confidence in it actually being 56 miles?

A. (Frost) Good morning, Commissioner Giaimo.

The numbers I referenced were from an extract

of the Company's mapping system last week.

The Company, you know, as construction is

completed, it can take a few months for all

records to be finished and then the finished

maps to be completed in the electronic system

I use. So that was kind of where I had said

plus or minus.

The testimony in this case, it described mileage where the Company has -- when we started the CIBS program, we froze the amount of cast iron mileage and have been subtracting the year-end replacement on a fiscal basis. So that's why I noted that there might be slight differences in the reason that those occurred.

Q. Okay. That's fine. Mr. Frost, would you say it's fair to make this observation: That as the total miles of CIBS replacement has occurred, the costs have gone up as a function of various things, but one of those is that you've taken out the low-hanging fruit and that it's more and more difficult and more and more problematic the pipes that you have to deal with now? Is that fair? Is

1 that fair to say?

- A. (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program -- in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population.
  - Q. Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects?
- A. (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards out there when some of the cities and towns won't give us final requirements until they officially issue a permit right before construction. So a lot of times they'll give us general guidance, or the Company can make -- can use as historical data. And I do use historical data with estimating. There's

been wild cards with working amongst city
projects, such as the Concord steam
conversion. Not that we were working the
project together; however, we had to
juggle -- or the City of Concord had to
juggle us with contractors doing the steam
work concurrently on similar streets. That
often happens in the other cities, too, where
the municipality is juggling Liberty's
construction with other parties' construction
affecting us.

- Q. Thanks for that. So when I read the testimony, many things jumped out. But there were two that really jumped out at me as potential concerns, and one was the low estimate, the underestimating of projects, and the other was the inability to get certain things done early or at least on time. So I want to ask some questions to probe that a little more.
  - I'll start with were there seven -- how many projects were delayed? Seven were delayed due to weather, is that right, due to the winter season?

- 1 A. (Frost) Seven that had reduced project scope.
- Q. And then was it three that were not -- no,
  three were not started at all. How many were
- delayed because winter, for lack of a better
- term, snuck up on you?
- 6 A. (Frost) Well, I think that population of ten.
- 7 What happens on the Company side is that
- before we begin a project, we need to make
- 9 sure that we have enough time left in the
- 10 construction season to substantially complete
- it so that it's a prudent expenditure. We
- also need to make sure that the in-progress
- 13 projects will reach a point where the gas
- 14 system is safe for winter. I would think,
- 15 looking in my testimony, the amount of
- mileage completed, I believe the Company
- 17 substantially completed the mileage that it
- 18 intended to. So that is one good part there
- 19 that should be noted --
- 20 Q. So let me interrupt you there. I think --
- off top of my head, I'm not looking
- specifically at the page, but I think it
- 23 was --
- 24 (Court Reporter interrupts.)

- Q. I said I'm not looking specifically at it,
  but I believe that 12.6 miles of projects was
  proposed, but something like 11.1 was
  completed.
  - So Mr. Frost, in your mind, that's substantial completion? It's about 88 percent of the total projects that were supposed to be in place were actually put in place.

- A. (Frost) Thank you for calculating that that's the 88 percent figure. I was about to calculate that. While not ideal, I would describe that as successful. The Company has had prior years, where I've been involved with the program, where I think the amount of completion has been less. So I was satisfied to have approaching 90 percent completion. I take -- as alluded to, I'm less involved with the construction management side. However, I was pleased from a design side.
- Q. Okay. So with respect to your planning, when you -- you like -- you want projects in place and completed by Thanksgiving, early

  November, mid-October, to ensure that it gets

- done before the winter makes the construction 1 2 season impossible? I'm just trying to get an understanding. What's your planning? What 3 do you work back from? 4 (Mostone) So that is the plan. We try to get 5 Α. as much as we can done by Thanksgiving. 6 7 as projects go on and we have delays here and 8 there, they run into the December months. But our goal is to have everything out before 9 Thanksgiving. We've had some overages on 10 11 that that brings us into December. But a lot of it is because of late starts. 12 It could be something with the cities or towns requesting 13 us at a later date, trying to get everything 14 15 The one thing we do not want to do is 16 leave -- we try not to leave any cast iron 17 that's already encroached on in the ground. So we push to try to get it out as quickly as 18 we can. And it does run into the December 19 20 month.
  - Q. Right. And all the more reason you might -(connectivity issue)
- (Court Reporter interrupts.)

22

24 CHAIRWOMAN MARTIN: Commissioner,

can you restate your question? Ms. Robidas is having trouble hearing.

## BY COMMISSIONER GIAIMO:

- Q. Your prior answer explains why the Company would not start a project and defer it completely for a year because of compressed time frames; is that right?
- A. (Mostone) That's a possibility. We do look at that. So if we do have a project that's getting late in the year, we may work with the city and towns to find out what their protocols are, if they're paving, if they're doing things also. But we did that last year, where we saw some projects that were getting off way too late, and we didn't want to run into winter months because we don't know what to expect on weather. So yes, we will shut them down. With that being said, we also add projects during the year, too, and we look at other projects that may be smaller that we can get done instead. So we do look at all avenues at that point.
- Q. So thank you for that answer.

The CIBS program has been functioning

- for Liberty for what, like 13 or 14 years
  now? Does that sounds right? Or 12, 13
  years now?
  - A. (Mostone) I believe that's correct, yes.

- Q. And you said that the benchmark is being within 10 percent of budget. But what I thought I heard was, you know, you're at 15 percent over this year and last year was 13 percent. Is 10 percent a reasonable goal, or does the Company just need to do a better job of sharpening its pencil?
- A. (Frost) This is Brian here. I think the

  Company has demonstrated, you know, on an

  overall program basis, costs, you know,

  within that limit.

Another thing that has come up over the years and within this hearing is that the Company's estimating process tends to look at each project within the whole program, and it tends to look at a lot of history and average rules for each city. Typically when I estimate projects, I'll estimate each individual project, but I'll apply historical experience with environmental and permitting

- restrictions to each of those projects rather
  than going into a deep dive and approaching
  each project as, say, a new day or whatnot.

  So I think the total program number indicates
  10 percent, you know, plus or minus as a
  goal.
  - Q. I just want to make sure I understand. The plus or minus is 10 percent; right? The objective is to stay under 10 percent, or within 10 percent under or over budget and not to be more or less 10 percent; right?

- A. (Frost) I think in a program like this,

  10 percent would be hitting -- you know, plus
  or minus 10 percent would be good;

  15 percent, you know, indicates an issue if
  the overall program -- or it may start
  indicating an issue if it starts going
  towards 20. That's more of an issue.
- Q. Okay. I guess I'm not trying to be argumentative, but you've been forecasting this program for a dozen years. And I guess I would think ideally the Company should be shooting for hitting the estimate on the nose, not plus or minus 5 percent from a

```
10 percent overage standpoint. So I'll pause
1
2
         there and let you comment on that if you'd
         like.
3
         (Frost) Thank you for the observation.
4
    Α.
5
         it's hard to respond. I can say that me, I
         take a lot of these, the observations from
6
7
         Staff and the Commissioners, and incorporate
8
         them into future program years. And I will
         take the observation that we need to look at
9
         estimating back to the team.
10
11
    Q.
         Thank you, Mr. Frost. I appreciate that.
12
                    COMMISSIONER GIAIMO: Madam Chair,
         I appreciate the responses of the witnesses,
13
         and that's all the questions I have.
14
15
                    CHAIRWOMAN MARTIN: All right.
16
                    A lot of my questions have been
17
         answered, but I have a few left.
    BY CHAIRWOMAN MARTIN:
18
19
    Q.
         I read in the testimony of Mr. Knepper that a
20
         number of the pipes in question are at the
21
         point of 100 percent wall loss and 24-hour
22
         leaking.
23
              Can you give me a sense of what portion
         of the remaining pipes are in that condition
24
```

and whether or not, as I heard earlier, part of the consideration for Liberty is whether it's economically feasible? And that goes into the timeline. But for those that are in that condition, are they on a different timeline regardless of where they're located?

A. (Frost) Yes, those pipes are on a different timeline. I had noted that the Company evaluates its leaks continuously and strives to replace pipes that show an abnormal or a leak history as soon as possible. We wouldn't be deferring pipe with a leak history.

One other item of note regarding the samples that Mr. Knepper referenced. The Company often extracts those samples at locations where it has measurements to the old pipe. Often those locations are points where the Company in the past, you know, maybe in the prior year or two, had installed a temporary repair clamp. The temporary repair clamps are made to last, you know, probably up to 30 years to seal those leaks. So I think that should also be considered.

The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.

- Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?
- A. (Frost) It's hard to -- I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole in it.

The Company surveys all of these mains continuously during the winter. They also provide summer follow-up surveys to find the leaks when they occur and repair them. It would be impossible to give a mileage percentage of that.

- 1 (Court Reporter interrupts.)
- 2 Q. There was mention of a Keene replacement that
- didn't appear in the prior planning in the
- 4 Knepper testimony as well. Can the Company
- respond to that and give an explanation?
- A. (Frost) I'm extremely sorry. I didn't catch
- 7 the question fully.
- 8 Q. No worries. There was mention of a Keene
- 9 replacement that was not included in the
- 10 prior planning in the Knepper testimony. And
- I was wondering if the Company could respond
- to that and explain.
- 13 A. (Frost) Would it be too much trouble to ask
- 14 for a Bates page reference?
- 15 Q. Well, my notes say Bates 9, but that could be
- for the next question. Let's check that.
- 17 Mr. Knepper, do you have that and could
- 18 confirm? That would help.
- 19 A. (Knepper) Yup, Bates Page 9.
- 20 Q. Okay.
- 21 A. (Knepper) I guess it beings on Bates Page 8
- if you're looking for it.
- 23 A. (Frost) Okay. Now I understand. Sorry. You
- 24 meant Keene replacement. I had heard steam

1 replacement.

10

11

12

22

- 2 Q. Oh, sorry. No, Keene.
- A. (Frost) We had a -- the state was doing a steam project in Concord. I'm very sorry.

Yes, we did include a single project in
the Keene operating area because Keene's cast
iron pipe was added into our risk model for
fiscal year 2020, and the rates were
consolidated under another case.

- Q. Okay. Can you tell me the average number of miles done per year in this program for the three prior years?
- (Frost) Okay. I'm looking at testimony as 13 Α. referenced before for fiscal year 2020. This 14 15 year it was, I believe, 11.1 miles, 16 approximately. There was another decimal 17 point there. In fiscal year 2019, the CIBS program replaced -- I'm looking at a graph --18 19 just under 10 miles on this graph. In fiscal 20 year 2018, it appears on the graph between 11 21 and 12 miles.
  - Q. Okay. Thank you.

You mentioned that some of the work that would be delayed beyond the 2024 timeline was

- related to a Nashua paving project. I can't remember if you gave this information about the specific timeline for that.
- (Frost) I think I described that a good goal 4 Α. 5 would be approximately five years. We also discussed about the difficulty of having a 6 hundred percent. There may be stragglers. 7 8 Typically the cities, all the major cities, will give us a look ahead. They'll give us a 9 plan to coordinate construction that's out 10 11 one to two years, and then as the construction season approaches, the cities' 12 plan starts to get more certain to a hundred 13 14 percent certainty. The City of Nashua has 15 set forth a goal to repave the city, and they 16 got authorization for bonding for that; 17 however, they have not set forth an execution plan year by year on how they're going to do 18 19 that. And the Company only gets data 20 typically for one year and then maybe the 21 follow-on year is uncertain.
  - Q. Okay. Thank you.

You made a comment about construction.

At some point construction in Nashua and

1 Concord will occur. I didn't follow you. 2 Were you saying that those two cities would be doing it at the same time, or what was 3 your meaning there? 4

5

6

7

8

9

10

11

15

19

20

24

- (Frost) Yes, the Company typically needs to Α. spread out its construction work. typically try to allocate construction equally among each city. It's not exactly equal, but we try to spread it out more or less. The amount of pipe remaining in both Concord and Nashua is a lot less than in the city of Manchester. Right now it appears 12 that over 50 percent of the remaining pipe is 13 14 in the city of Manchester, and Nashua has a higher percentage of pipe remaining than 16 Concord. That's what I was trying to allude 17 to, that if we continue construction, we would run out of CIBS pipe in Concord first 18 and then in Nashua.
  - Okay. Thank you for that. 0.

You mentioned that three projects had 21 22 not started. Can you just give more 23 explanation for that?

(Frost) Okay. I'm looking at the spreadsheet Α.

here, and I'd like to start in Nashua. There was a project on Concord Street in Nashua that I'm unfamiliar with that the Company was not able to get a permit. That was a state road. And New York -- New Hampshire DOT, I'm sorry, would not issue a permit because the expected construction schedule would go into the winter. On Lake Street there was --

- Q. Before you move on from that -- I apologize for interrupting. When did you ask for that permit?
- 12 A. (Frost) I made the initial request for that
  13 permit during the winter, the prior winter.
  14 New Hampshire DOT did not resolve it. I made
  15 multiple follow-ups on a monthly and then
  16 bi-weekly basis.
- 17 Q. Okay.

A. (Frost) Ledge Street in Nashua, that is a sizable project that also involved -- was being coordinated with a regulator station installation. And the Company was not able to fully complete that, and it did not make sense to get into the gas system at that point. I'm not familiar with the one project

- in Concord that was not begun.
- Q. Mr. Mostone, are you familiar with that
- 3 project?
- 4 A. (Mostone) The Ledge Street project? No, I'm not.
- 6 Q. No, the third project that was not started.
- 7 A. (Mostone) That was the Ledge Street project?
- Q. I don't think so. Mr. Frost just mentionedthe Lake Street project.
- 10 A. (Mostone) South Spring project, I'm not
- familiar with that, off top of my head.
- 12 Don't know.
- 13 Q. Is that the project, Mr. Frost, the South
- 14 Spring in Concord?
- 15 A. (Frost) Correct. South Spring Street,
- 16 Concord.
- 17 Q. So you don't know why that wasn't started?
- 18 A. (Frost) No, I do not. I typically hand off
- the designed CIBS program to the Company's
- 20 construction management department.
- 21 Q. Okay. You mention that you abandon pipes.
- Do you have to get agreements related to that
- 23 before you can abandon them?
- 24 A. (Frost) We would request a road opening

- permit to complete the work, to complete
  excavation to tie over the services. Is
  there a specific agreement that you're
  wondering about?
- Q. No. Am I understanding correctly that you're leaving -- you're abandoning the pipeline in the roadway?
- 8 A. (Frost) Yeah, the pipe is left in the ground.
- 9 Q. I guess my question is do you have to get
  10 agreements from whomever you have been given
  11 access by, whether it be the municipality,
  12 landowner?
- 13 A. (Frost) Yes. Typically municipalities allow
  14 the pipes to be abandoned in place. At times
  15 New Hampshire DOT, if it's an especially
  16 large pipe, would require it to be filled
  17 with grout, which is similar to concrete. It
  18 is not concrete. But we would work with the
  19 owner of the right-of-way to figure that out.
  - Q. All right. Thank you.

20

21 CHAIRWOMAN MARTIN: I think all my 22 other questions have been answered. So we 23 can go back to Mr. Sheehan in follow-up.

MR. SHEEHAN: I do have some.

1 Thank you.

2 REDIRECT EXAMINATION

## 3 BY MR. SHEEHAN:

- Q. On the last topic about the projects that were not started, is it common for the Company to plan for more projects than it completes in each CIBS year?
- A. Yes, it is common to do that. Also, to answer the question on that a little bit more, I don't know the exact reason why, but it could be because of the length of the project and crew availability up in that area at the time.
  - Q. And is it also fair to say that having planned for more projects to be completed affords the Company some flexibility to adjust? As I think someone mentioned, if one project doesn't get a permit, then you can quickly move to another one that's already planned; is that correct?
  - A. (Mostone) Yes, that's correct. We try to
    move over to try to get another project done
    if something's detained for whatever reason.
    The only issue that we do have with that is

```
the amount of fitters to open from inside to outside. If they're working on a project that they're thinking is going to happen, they start earlier than the main crews. So they're doing what we call "pre-piping" ahead of time on a similar project. So if we do move, we have to get them over, and that does slow projects down in that area because they haven't -- they may not have started the pre-piping process in that area.
```

- Q. So you're saying you can switch to a new project, but it's not an overnight task.

  There's a fair amount of pre-planning for such a change; is that correct?
- A. (Mostone) Yeah, that's correct. We try to prioritize with them and tell them, you know, where we're going to start. And they'll go up -- they actually start their projects in the middle of winter to get ahead of the main construction crews, you know, to try to get -- (connectivity issue)

(Court Reporter interrupts.)

A. (Mostone) We call them fitters. What they try to do is try to get ahead of the main

construction crew, so then the pipes inside
the homes and outside -- we call that
pre-piping so they can get ahead of the
schedule. So when the main crews come in and
start laying main and start services, it's
all a quick tie-over to get them gas and
running to complete the projects on a
scheduled time. So when we do move, it does
create a little bit of a havoc to get the
crews moved that are over and coordinate with
customers to get in to do this. That's part
of their process. They have to coordinate
and get in and schedule with customers for
the piping inside.

- Q. Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you explain that in a little more detail?
- A. (Mostone) So we're required to have a minimum of one-to-four ratio, meaning one inspector to four crews. We typically try to do better than that. We go down to, you know, it's either a one-to-three or even lower. You know, we typically like to get the

- one-to-two. But at times, with vacations and other things going on, we can't always control that. So the minimum that we go to is the one-to-four.
- Q. And that means that an inspector would have two, three or four projects that they are working on in any given day; is that fair?
- 8 A. (Mostone) That's correct.
- 9 Q. And is it fair to say you will assign, or
  10 someone will assign that inspector to
  11 projects that are geographically close
  12 together?
- 13 A. (Mostone) Correct.

- Q. And so this inspector's job is to touch base with each project, an hour each, a half-hour each, whatever is the appropriate way of keeping an eye on what's going on in the project.
- 19 A. (Mostone) Yes. They try to see -- they go to
  20 each project on a daily basis. If we're
  21 doing a tie-over, they're required to be at
  22 the job to monitor any major things that
  23 could tie in to the existing main.
  - Q. And I think it came up in the context that

- this inspector would be the first person,

  decision maker, if you will, who would see a

  need for a change in what the plan was and

  start the process of either approving it him

  or herself or running it up the flagpole to

  get approval for whatever that change might

  be; is that correct?
  - A. (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.
  - Q. So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.
- 16 A. (Mostone) Right.

Correct.

8

9

10

11

12

13

14

15

24

Q.

17 Q. There were several questions about the safety of the remaining pipe in the ground. Mr. 18 19 Mostone, can you, at a quick level, explain 20 what the three levels are in our system, what each of the three are, and what the Company's 21 22 obligation is to respond to each of those? 23 (Mostone) So are we talking leak grading? Α.

So a Grade 3 leak is considered a 1 Α. 2 non-hazardous leak. We have to monitor it. And it's not necessarily repaired within a 3 time frame. Grade 2 leaks are monitored and 4 also replaced within six months or by year's 5 end. And Grade 1 is an emergency leak that's 6 7 considered hazardous and needs to be repaired 8 immediately. And of course the Company finds these leaks 9 Q. through its surveys or through customer or 10 11 civilian reports of the smell of gas; is that fair? 12 (Mostone) That's correct. 13 Α. And as for the pipe samples that come out of 14 Q. 15 the ground with, as the phrase is, "a hundred 16 percent wall thickness loss -- (connectivity 17 issue) (Court Reporter interrupts.) 18 19 Q. Bob, I think you need to mute yourself while I'm talking. I think the echo's coming from 20 21 your end. 22 So some pipes that have holes in them 23 are not really leaking because the

24

surrounding soil, mud, whatever, can actually

- prevent them leaking, especially on the low-pressure pipes; is that fair?
- That is a fair (Frost) Yes. This is Brian. 3 Α. assessment, that we sometimes find pipes that 4 have a hole in it during the course of 5 construction. However, the Company has not 6 found leaks going into the soil. We've also 7 8 cut out pipe samples which have been previously repaired within a couple of years 9 before they were cut out. 10
  - Q. Of course we need to replace those pipes anyway. But I think I understand your testimony, Brian, to be it is the reported leak history that the Company relies on in prioritizing which pipes should come out first; correct?
- 17 A. (Frost) Correct, it is the reported leak history.

12

13

14

15

16

Q. And last, Brian, if you could open your
spreadsheet, Attachment 2 to your testimony,
which begins or appears at Bates 30, and
scroll over horizontally to Column B, as in
boy, and M, as in Michael, titled "Loaded
Cost Variance Percentage." Let me know when

1 you're there.

- 2 A. (Frost) I am in that column of the spreadsheet.
- Q. Can you tell me what you are trying to show,
  what it means, the phrase "loaded cost
  variance percentage"?
  - A. (Frost) The loaded cost is the sum of the direct contractor cost on the job plus the Company's overhead burdens. This is trying to show the difference between the original estimate filed with Staff and the finished construction costs. That also includes an estimate of carryover costs.
  - Q. We have not talked about carryover costs much today, which is fine. But if you could give us a brief description as we go through this.
  - A. (Frost) Carryover costs are typically incurred for paving or degradation fees that are not completed in the year that the pipe is installed. Sometimes due to when construction finishes, it is too cold out to finish repaving the street, so those costs would be incurred in the following year.

Additionally, the City of Manchester

- charges degradation fees on the total
  finished pavement patched. So Manchester
  degradation fees are not billed until the
  second year.
- So if we look at the columns on this page, 5 Q. the one I was pointing to, the ones to the 6 7 left are those other costs you described. 8 There's an estimated direct cost, BH; actual direct, BI and the variance there. And then 9 10 there's the estimated loaded cost, BK; 11 actual, BL; and variance is BM. So the BK, estimated loaded cost, is in effect your 12 estimate before any construction begins; is 13 that fair? 14
- 15 A. (Frost) You are correct.
- 16 Q. Now if we scroll down in those columns to
  17 line, looks like 48, 49 and 50, where it
  18 returns to a blue shaded area. Do you see
  19 that?
- 20 A. (Frost) I do.
- Q. You have to scroll all the way to the left to find out what those blue shades are. And those are -- the bottom of the blue shaded said "Fiscal Year 2020 CIBS Program Totals";

1 is that right?

- A. (Frost) It is the total for all areas.
- Q. And I think the number Commissioner Bailey
  started with is where the variance between
  estimated and actual shows 15 percent and the
  average cost per foot shows the \$299 to \$384;
  is that right?
- 8 A. (Frost) It does.
  - Q. And so in this particular line, 15 percent is the variance between the estimated and the actual loaded costs for the program, the dollars that are at issue in this case.

    That's not fair. Strike that question.

Scroll down further, and the last two shaded blue lines are 76 and 79. One of them has a minus 17 percent and the lower one has 8 percent. Can you tell us what those are?

A. (Frost) The minus 17 percent, that is the variance between what the Company incurred for actual carryover costs within the fiscal year 2020 program versus estimated at last year. And the 8 percent is the total cost variance of the program if you add up work completed this year and expected future

- carryover costs plus the variance of carryover work completed this year.
- Q. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?
- A. (Frost) That is correct. The Company
  incurred less carryover cost than it
  anticipated. It was able to hold the line on
  that cost.
- Q. And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?
- 14 A. (Frost) On a total-wide program expenditure,
  15 8 percent is the variance.
- Q. And if we -- I'm not going to have you go
  through prior years. But is it fair to say
  that in recent years the variances have been
  less than that? You have had years of four
  or five or six or even minus four percent
  variances; do you recall that?
  - A. (Frost) Yes, I recall that. The Company has been very successful in managing the overall program costs. I believe in prior years

22

23

- Staff has noted the Company's success with
  managing the program on an overall basis.

  However, Staff has also asked for, at times,
  a microscopic basis. And on the microscopic
  level there is a fair amount of variance.
  - Q. And by that do you mean that if you look at it project by project, some will be at budget, some will be significantly over, and some will be significantly under? Is that fair?
  - A. (Frost) Yes, Mike, that is correct.

    Additionally, we talked a lot in these questions about how the variance is calculated in multiple different ways based on original estimate, based on incurred costs plus expected carryover costs, variances of carryover costs against expected carryover costs. Just many different types of variance calculations. However, the total program variance calculated in fiscal year 2020 is 8 percent.
    - Q. Thank you.

MR. SHEEHAN: Those are all the questions I have, Chairwoman.

1 CHAIRWOMAN MARTIN: All right. 2 Thank you. Ms. Fabrizio, do you want to do 3 your direct on Staff? 4 5 MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper 6 7 as Staff's witness. DIRECT EXAMINATION 8 BY MS. FABRIZIO: 9 Mr. Knepper, could you please state your full 10 11 name for the record. You are on mute, Randy. 12 (Knepper) I'm unmuting. I'm just not as quick as you, Lynn. 13 14 Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room -- I 15 16 don't even know what room -- Room 32 at the 17 Commission. And I'm by myself right now. Thank you. And what is your position at the 18 Q. Commission? 19 20 (Knepper) I'm the director of Safety and Α. 21 Security. 22 And in that capacity, were you the lead Q. 23 analyst responsible for examining Liberty's

CIBS program results this year?

- 1 A. (Knepper) By default, yes.
- 2 Q. And did you prepare testimony filed on behalf
- of Staff on June 12th, 2020, marked as
- 4 Exhibit 2 in this docket?
- 5 A. (Knepper) Yes.
- 6 Q. And you attached Staff's audit report as part
- of your testimony in Exhibit 2, but that is
- also entered as Exhibit 3; is that correct?
- 9 A. (Knepper) Yes.
- 10 Q. And are there any corrections to your
- 11 testimony that you would like to make at this
- 12 time?
- 13 A. (Knepper) No.
- 14 Q. If I were to ask you the same questions that
- are included in your testimony, would the
- answers be the same today?
- 17 A. (Knepper) Yeah.
- 18 Q. Thank you.
- 19 CHAIRWOMAN MARTIN: Ms. Fabrizio,
- are you finished introducing the witness and
- 21 laying the foundation?
- MS. FABRIZIO: Yes.
- 23 CHAIRWOMAN MARTIN: Okay. I just
- 24 want to check with Ms. Robidas.

```
1
                   Ms. Robidas, could you use a break?
2
                    COURT REPORTER: I'm good right
3
               Thank you.
         now.
                    CHAIRWOMAN MARTIN:
                                        You're okay
4
5
         right now?
                    COURT REPORTER:
6
7
                    CHAIRWOMAN MARTIN: Okay.
                                               Then
8
         let's proceed.
9
                   MS. FABRIZIO: Okay. Thank you.
    BY MS. FABRIZIO:
10
         Mr. Knepper, we've heard a lot of numbers
11
         this morning. First of all, I'd like to ask
12
         you, how many years has Liberty CIBS program
13
14
         been in place?
15
         (Knepper) So the Liberty CIBS program has
    Α.
         been in place for 12 years. And of all the
16
17
         people here, the one person that's been here
         constant is me.
18
19
    Q.
         Okay. And we've heard statements regarding
20
         project cost variances. We've heard a couple
21
         of numbers: Plus or minus 10, 15 percent,
22
         8 percent. In your review of the Company's
23
         spreadsheet attached to your testimony on
         Bates Page 20, what is the percentage
24
```

variance regarding low-cost planned projects
that were completed without reduction in
scope?

And maybe I can step back there. And if you could provide your understanding of the earlier discussion of variances and how you read the Company's results.

- A. (Knepper) Lynn, I want to make sure I understand your question. Are you referring to my Bates Page 20 on my testimony?
- 11 Q. Yes. You attached the spreadsheet to your
  12 testimony, so that was easiest for me to
  13 refer to.
  - A. (Knepper) Okay. So my Bates Page 20, I believe, is a spreadsheet of just bare steel only. And that just lists -- that is not the -- it's not a financial thing. All it lists is of the samples that were brought in over the 12 year period, what the ages were, the history and the conditions of the bare steel that have been brought to us. Are you referring to a different one?
    - Q. Yes, I must be. I'm referring to the giant spreadsheet that we've been looking at --

- 1 (Knepper) So the giant spreadsheet that I'm Α. aware of is in Exhibit 1 of Liberty's 2 testimony, and I believe it's Bates Page 30. 3 And I have the benefit of having a large 4 printout and I can read those column numbers 5 and I can read those numbers. So, you know, 6 7 for those who want to follow it, they're 8 going to have to really zoom in on that Bates Page 30 because it's very small. 9
- 10 Q. Okay.

23

- 11 A. (Knepper) So now that I have the right page
  12 and the right reference, can you repeat your
  13 question for me?
- 14 Sure. We've heard statements from the Q. 15 Company today that the overall variance is 16 plus or minus 10 percent on project cost. 17 We've also heard a figure of 15 percent 18 today. Based on your review of the 19 spreadsheet that we're now all looking at, 20 how would you assess the cost variance of the 21 CIBS program?
  - A. (Knepper) Well, I think it's difficult to kind of do the overall because when you -- if you look at the seven uncompleted projects,

they show up as negative variances; so that's going to reduce the overall amount. I believe that's also consistent with the audit findings, the final audit findings. I mentioned that in Section 2. And so when you're looking at those numbers on an overall basis, I find it's kind of difficult. If you look at even the carryover costs that are included, some of them are not totally included because they haven't gotten bills for degradation fees and things like that. And that's part of that 8 percent number they use.

So I tend to look at it on a project-by-project basis. I don't know if they call that a "microscopic" level, but I call it on a "individual" level. So those are the ones that I tend to look at to see, you know, for a given project, did you vary from what you thought you were going to do.

And I do agree with Staff's testimony -or the previous testimony. I think it is
over 2,000 cells that we asked for. The
reason we asked for 2,000 cells on this data

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

is because of all the things that you've heard today -- you know, I can't get started until later. And so then we want to know the actual start date and end date, and that becomes a column. That becomes a thing. We want to know how much are degradation fees, because when we initiated this program, degradation fees weren't even part of this, right; they weren't getting any degradation fees. When we initiated this program, carryover costs weren't a major portion of it because a majority of the projects were getting done in a single year; they've now become a major portion. So in the beginning we were probably not hitting sections where there was a lot of extra costs, such as ledge or asbestos. So all those things have kind of grown over the years, and the spreadsheet now has the data with it. And even then, they still cause a lot of questions. So my assessment is, you know, it's not

for me to -- you know, I look at their numbers, and they look at as an overall -- 15 percent is the number that I look at for

the overall cost, which I think they listed 1 between the estimated loaded cost versus the 2 actual loaded cost. That's kind of what the 3 number is. If you look at it on a division 4 basis, looks like the Nashua division was 5 5 percent, and that had, you know, two 6 7 projects within that were well over; you know, one was 151 percent one was 8 9 146 percent. The Manchester was 15 percent. 10 And I think in Concord it was 38 percent over 11 in the Concord division. So those were the ones that I kind of focused on. 12 Okay. On Bates Page 7 of your testimony you 13 Q. 14 refer to 27 percent. So what is that based 15 on? 16 (Knepper) Bear with me, Lynn. I'm flipping Α. 17 through pages. I have it marked as Bates Page 7. 18 Q. 19 Α. (Knepper) Yes. 20 And it looks like Lines 15 through 17. 21 Α. (Knepper) Yeah. That's basically just

Mostone's and Brian Frost's testimony.

sourcing it from their testimony, from Robert

reference it in my footnote where I got that,

22

23

Note 7. 1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

Okay. Thank you.

So you have recommended that the Commission require Liberty to set a target goal of end of year 2025 to complete its CIBS program -- that's at Bates Page 10 of your testimony, with an exception for mains equal to or greater than 10-inch nominal diameter and mains associated with the Keene system.

Why have you chosen 2025 as a target?

(Knepper) So in the past, Liberty, in many Α. years, has said 2024. If you look at previous years' CIBS dockets, I think it's been at least three dockets that they've mentioned 2024 as the target. I don't think that's achievable by them anymore, but I do think 2025. So I can tell you how I get there and derive that number.

> So they have about 55 miles of cast iron and bare steel left in their system. not include Keene because Keene was never really part of the CIBS program from inception. It was never part of the conceptual thing, so I'm not including the

{DG 20-049} [HEARING ON MERITS] {06-18-20}

19

18

20

21

22

23

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

6.75 miles. If you were to include it, we'd need to see, you know, are you operating the system? Is it going to natural gas? We'd have to see a whole conversion plan associated with it to look at that.

So of that 55 miles that's left, there's about, I think -- I don't know if these numbers are consistent with what Brian said. But according to reports that they filed with us, there's about 1 mile that's 14- and 16-inch, and there's about 3.7 miles that are 10-inch and 12-inch. So it's a very small portion, between 4 and 5 miles. I kind of excluded that. That gets you down to about 50. At the end of this year, they're probably going to get 7 to 8 miles done. That's my estimate based on what I see on crew activity in some of the discovery questions. So that reduces that down to about 42. Through municipal projects historically over this 12-year period, they've been replacing somewhere around 2 miles on average. But I anticipate that going down a little bit. So if you were to

```
say 1.75 miles for the remaining 5 years,
1
         that gets another 7 to 8 miles.
2
                                           That's done
         outside of the CIBS, what you call the CIBS
3
         program. Remember, the CIBS program is for
4
5
         internally-driven projects, right. They're
         not for externally driven projects.
6
7
         Externally projects that are done by
         municipalities, the Company should be taking
8
         advantage of those and replacing them.
9
         is as if the municipality was not going to do
10
11
         any work and the Company's initiating the
12
         program, or the replacement program on their
         own. And if you do that, you're down to
13
14
         about 35 miles. And you divide that by five
15
         years, right. We're talking about 2021,
16
         2022, 2023, 2024 and 2025. That's about
17
         7 miles a year. I think that's achievable.
18
         And does pushing the program back to 2025
    Q.
19
         create a delay that poses a significant risk
20
         to public safety?
21
         (Knepper) Well, I think a one-year delay from
22
         what we were kind of -- remember, this is a
23
         targeted end date.
                              This isn't a hard and
                I don't know where they label this
24
         fast.
```

"hard and fast." But it's a targeted end date. And I don't think so. If you look at this large spreadsheet, you'll see there's pipes in there that have been in the ground, and they've been removed, since 1892. So those are 128 years they've been in the ground. At this point in time, I think an extra year is probably not going to increase it.

We do note that the leak rates are going down. I would expect them to go down as they replace more. And so I think we're getting to the end of the system, the end of the program. And I think they can start to replace -- you know, certainly if they want to do more, they can.

But I do think they need some sort of guidance because I don't think we want to continue this on for the next 10 years or 20 years. This has been going on for quite a long time to get some of this aged, leak-prone pipe out.

Q. Thanks. And you refer to CIBS mains equal to or greater than 10 inches in diameter not

{DG 20-049} [HEARING ON MERITS] {06-18-20}

posing the same level of risk. What would be 1 2 a reasonable target to replace those? (Knepper) I don't think it's a targeted date. 3 Α. I think it's going to be -- because there's 4 very few streets that that's on. It's not 5 scattered throughout. There's 12-inch here 6 on Main Street in Concord. There's 10-inch 7 on North State Street and South Street in 8 There's a few places in Nashua near 9 Concord. their plant that they have some 16-inch and 10 11 14-inch. So you're looking at very, very 12 specific streets and segments. So I think you can look at those on an individual basis 13 14 of when it makes sense to replace them. 15 Those are going to be very, very expensive 16 projects to replace because you can't just 17 easily replace 16-inch with plastic like they can do with a 4-inch or 8-inch or 6-inch. 18 19 And, you know, those are ones that I would 20 probably just monitor and not put an end date 21 to. 22 We specifically asked, like on the Main 23 Street program in Concord -- you know, Main Street's been redone with brick pavers and 24

extended curbs to replace the gas main years
ago at the time the construction was done.

And at that time Liberty did not feel it was
a priority.

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

- Q. So you are not suggesting that 10-inch or greater mains should never been replaced, merely that they should not be -- they don't need to be part of the accelerated recovery CIBS program; is that right?
- (Knepper) So the CIBS program's gone away, Α. right. So the reason I kind of say 10-inch and above is because typically they'll leak at bell joints. And I would say the majority of those bell joints have already been attended to by Liberty. So now the only other thing is with cast iron, the other way to have the gas leak is when it breaks. when that cast iron fractures or breaks, the gas can leak. But when you get to those size pipes of 10-inch, 12-, 14- and 16-inch, they're much thicker materials and so they tend not to break as much. And we've not recorded many gas main breaks on those. look at that data that Liberty submits to us.

- And because of those reasons we don't tend to see it.
- Q. Okay. Thanks. And you've also excluded the
  CIBS mains in Keene as part of your
  assessment of an optimal target end date.
  Why is that?
- 7 (Knepper) Yeah, because I don't think Keene Α. 8 was really ever part of the program. when you look at the testimony that they 9 have, I think it's -- let me get to the Bates 10 11 page number. Bear with me for a second. would be in Exhibit 1, Bates page -- trying 12 to look at -- well, let's just look at Bates 13 14 Page 50. If you were to go and look at that 15 in Exhibit 1, and you look at Line 11, 16 Keene's not really in there when you look at 17 the miles of cast iron replaced and you're trying to do this tracking. So it doesn't 18 make sense to even include it because it 19 distorts all data and all the associated 20 21 stuff. I kind of think Keene's separate, on 22 its own.
  - Q. Okay. Thank you. You have recommended that the Commission require certain reporting

23

24

{DG 20-049} [HEARING ON MERITS] {06-18-20}

requirements from the Company regarding its
CIBS activities. Could you briefly explain
what you're looking for?

A. (Knepper) Yeah. So now that the CIBS program was terminated last year by the Commission as we alluded to, this large spreadsheet is probably the number one thing we get, as well as the spreadsheets that Ms. McNamara puts together that kind of gives you the financial impact. Those two things kind of tell us the most.

And so if you were to go to cold turkey and not get any of that information, and you're still spending, I don't know, upwards of \$20 million to year to \$25 million a year, I think it's reasonable to, instead of just taking that out and only replacing it with what we get for the E22, which is just a single line item for very little description, I think you either continue with this or you have a modified something in between. And so I made suggestions as to the Commission asking for a modified E22.

Q. Thanks. And the Company has indicated in

{DG 20-049} [HEARING ON MERITS] {06-18-20}

this proceeding some concern regarding the
administrative burden of the reporting that
Staff would like to see from the Company. Do
you have similar concerns?

- A. (Knepper) I don't consider this detail of this type of spreadsheet an administrative burden. The things when I refer to administrative burdens are not having to file the marketing report, not having to do these cast iron/bare steel cutouts anymore, not having to give us a preliminary plan with all the GIS and all the layers and all the leak history associated with it, to then have a tech session, to then have a finalized plan, to then have a hearing like this and to have the order posted and testimony and discovery and -- those are the administrative burdens that I was referring to.
  - Q. Okay. And your recommendation is that the Commission set a replacement target goal year end 2025. Do you believe there should be any incentives or penalties related to that target date?
  - A. (Knepper) I don't know if there should be --

```
1
         well, I'm not a big fan of incentives.
                                                   I
         think -- I don't think they need to be
2
         incentivized any more. That's why we
3
         terminated the program. But penalties, it
4
         all depends upon if you -- if they're not
5
         doing things properly. And so I think if we
6
7
         continue to see the milages -- you just heard
8
         that the last three years was around 11 miles
         a year, and that's between municipal and
9
10
         self-initiated work.
                                If we see those numbers
11
         stay constant or in and around that, I don't
         think we need any penalties, no.
12
         Okay. Thank you. And do you generally
13
    0.
14
         support the Company's request here for
15
         recovery of the CIBS program cost for 2020?
16
         (Knepper) Yes.
    Α.
17
    0.
         Okay.
                Thank you.
                   MS. FABRIZIO: I have no further
18
19
         questions for Mr. Knepper.
20
                   CHAIRWOMAN MARTIN:
                                        Okay.
21
                   Ms. Robidas, are you still okay to
22
         keep going?
23
                    COURT REPORTER:
                                     Yes, thanks.
24
                   CHAIRWOMAN MARTIN:
                                        Okay.
                                               Thank
```

## [WITNESS: KNEPPER]

```
110
1
         you.
2
                    Ms. Shute.
                    MS. SHUTE: I don't have any cross.
3
         Thank you.
4
5
                    CHAIRWOMAN MARTIN: Okay. Mr.
         Sheehan.
6
7
                    MR. SHEEHAN: Thank you.
                                               I have a
8
         few questions.
                      CROSS-EXAMINATION
9
    BY MR. SHEEHAN:
10
         First, Mr. Knepper, and you did say it in the
11
         middle of your testimony just now, but to
12
         make clear, the CIBS program and all of the
13
14
         components that comprise the CIBS program no
15
         longer exist as of the Commission order a
16
         year ago; is that correct?
17
    Α.
         (Knepper) That's correct.
         And that was a recommendation of Staff, not
18
    Q.
19
         the Company, to terminate the CIBS program;
20
         correct?
21
    Α.
         (Knepper) That's correct.
22
         And in fact, the Company objected to it for a
    0.
23
         number of reasons, and the Commission
24
         ultimately decided to terminate the program.
```

{DG 20-049} [HEARING ON MERITS] {06-18-20}

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

My first series of questions regarding your proposed target date, you heard Mr. Frost and Mr. Mostone talk about the many factors that should be considered when setting a target date, such as the Manchester sewer project, the Nashua paving goals and the traffic concerns of trying to do too much work in a city. Do you disagree that any of those are factors that could impact the ability to meet any target date? (Knepper) I think they can, yes. Α. The east side of Manchester sewer and water separation project has probably been discussed for, I don't know, 20 years. And it's going to be dependent upon federal funding. So as you well know, those kind of municipality projects get stretched out and delayed. for a long period of time they were looking for different technologies so they wouldn't even do that type of work. So I do think if they actually go through, yeah, you should try to coordinate as much, and you should do

as much planning, so that if you do move

something, it will not be in the way later

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

and you wouldn't have to do duplicate replacements or movement. And that depends upon where they are. So I don't want to wait forever for this, quote, unquote, sewer separation project because that's been, I don't know, an ongoing project that I've been aware of since I started.

So the Nashua one. Each town always has cities and towns and paving priorities and things like that. And you should be doing that as well. To me, that's all kind of coordination that you guys do. I think you're doing it now. But I don't want it to be said that it was a final hard and fast. It was -- I think I used the word "targeted" I think is what I used. And that doesn't mean it's an absolute. And if you're hearing a straggler or two that you're talking about, I don't think Staff's going to object to those kind of things. It's just kind of what are you targeting, what are you trying to do and get a replacement rate I guess. So from what I heard was, from earlier testimony today, was five years. And it seems to kind

- of coincide with the same number that I had put in my testimony.
- Q. Do you have any specific information about
  the Manchester project of recent that says
  it's a go or a no-go, or is it just general
  knowledge that it's been in the works
  forever, and from your perspective, who knows
  when it will actually happens?
- 9 A. (Knepper) I think the latter, what you just said.

- Q. So if the Company has information that it's more likely to proceed, it would be wise to at least wait some time to see in fact what the city is going to do and work around those plans, even if it were to push the finished date out beyond 2025 by a few years. Would that be wise?
- A. (Knepper) I think that's wise. But again, I don't know if they are -- at what stage of completion are they at. Are they at the 90 percent completion of drawing drawings and bidding it and that kind of stuff? I'm guessing they're probably at the trying to get federal money stage. But I don't know.

But I do think the Company should definitely factor that into consideration, yes.

- Q. And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?
- A. (Knepper) Well, I don't have the specifics, so... I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street this street the next year and what that is, definitely you should factor that in.
- Q. And if they received whatever permissions or approvals they need to do the whole project and it's a ten-year project, would it be reasonable to make sure you're not putting in pipe today that's going to have to be moved on year seven?
- A. (Knepper) I'd have to kind of look at the specifics before I answer that question. I don't know. I mean if you're talking about delaying all 40 years -- 40 miles, I'd say

- no. Talking about what amount and where, I'd have to take that into consideration before I answer that question.
- Q. And do you disagree with the Company's
  testimony that the cities impose requirements
  sometimes apparently -- well, they impose
  requirements such as hours of the day or the
  like that makes projects more difficult to
  complete as timely as first anticipated?
  - A. (Knepper) Yeah, we've noticed that when we're in the field doing inspections, that cities are imposing more and more costs on to these projects which is driving up those rates.
- 14 Q. And so slowing things down; correct?
- 15 A. (Knepper) I couldn't hear you, Mike.
- 16 Q. And slowing things down.

10

11

12

13

17 Α. (Knepper) Yeah. If they say you can't start -- like in Nashua, I believe, they'll 18 say things like you can't start until after 19 20 the morning rush and then you've got to be 21 done before the evening rush, which means you 22 can't start normally at 7:00 a.m. I now 23 start at 9:00 and I got to be finished by That reduces the amount of work hours 24 3:00.

in a day, and that means you have to go back
the same day and you can't get what you could
get done if they didn't impose those kind of
requirements.

- Q. And in that example, I think Mr. Mostone referenced it, the practice -- I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?
- A. (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know that that would be imposed versus some other side street where there isn't much traffic.
- Q. Yeah. I mean, we all know it's coming. But it's just a factor that will increase as we do more and more of the final streets in downtown. Is that fair?
- A. (Knepper) Yup. I believe that's another reason why the costs are increasing. They're getting to the more arterial, more the heart

of the heart of the city, and the more costlier projects.

- Q. Did you figure the delays associated with those kinds of things when you stated your 2025 target?
  - A. (Knepper) I think that, yes, because I'd already reduced going from 10 miles a year to 11 miles a year down to 7. So I think the answer is I think that's all -- if I were to factor that in, I would say that would be part of that consideration. I can't hear you.
  - Q. Thank you. I marked a few exhibits from last year, Staff's recommendations from earlier in the year that Mr. Frink wrote recommending termination of the program, Mr. Frink's testimony which had some of that same information, and an excerpt of testimony from last year's hearing. I don't need to go through those in detail, but they're there if any of us need to refer to them for the following few questions.

First, do you agree that administrative burden was one reason for Staff's

1 recommendation to terminate the CIBS program?

- 2 A. (Knepper) I believe that's what he mentioned
- on those, one of the reasons, yes.
- 4 Q. Yeah, I think you just recited a few minutes
- ago the components of that administrative
- 6 burden; correct?
- 7 A. (Knepper) Yeah. It may not be word-for-word
- 8 but --
- 9 Q. Understood.
- 10 A. (Knepper) -- but the gist.
- 11 Q. Last year there was a comparison to what
- 12 happened with Northern Utilities a decade ago
- when their program was terminated. Do you
- 14 recall that?
- 15 A. (Knepper) Yeah, that's part of -- I'd have to
- 16 kind of -- I didn't really focus on that. So
- 17 you'd have to point me to the page that
- you're referring to if you want me to
- 19 comment.
- 20 Q. Sure. It is in --
- 21 A. (Knepper) Is it Exhibit 4 or 5?
- 22 Q. Yeah, Exhibit 4, Mr. Frink's testimony, Bates
- Page 10. Are you there?
- 24 A. (Knepper) Yeah, I'm getting a delay from you.

- 1 I don't know if you're getting a delay from But I'm there. 2
- Okay. Second line -- well, the first line 3 Q. described Northern's program in one sentence. 4 Second sentence, the program went for ten 5 years through 2020. Do you see that? Sorry. 6 Through 2000.
- (Knepper) Which line? 8

7

- The second full sentence, I'll just read it 9 Q. 10 slowly. "Northern was allowed to recover 11 bare steel replacement costs through annual 12 step adjustments for ten years, with the last bare steel step adjustment occurring in 13 14 2000." Do you see that?
- 15 (Knepper) I see that. Α.
- 16 And then the rest of that sentence, "After 17 which Northern's bare steel replacement program continued until all bare steel was 18 eliminated from its distribution system in 19 2018." Correct? 20
- 21 Α. (Knepper) I see that, yeah.
- 22 So their accelerated recovery version of the 0. 23 program ended in the 2000, and they spent another 18 years removing the balance of 24

{DG 20-049} [HEARING ON MERITS] {06-18-20}

their bare steel; is that correct?

- 2 A. (Knepper) That's correct.
- 3 Q. Okay.

9

- A. (Knepper) And it wasn't really until there
  was a mandate by the Commission to say get it
  done by 2018 that they got it done by 2018.
  So if there wasn't any mandate, I would
  assume that it would have extended even
- 10 Q. The other piece that I marked was an excerpt
  11 from testimony last year. I just cut a few
  12 pages. This is Exhibit 6. And the pages I
  13 excerpted begin at Bates 4, which is Page 95
  14 of that testimony. Let me know when you're
  15 there, please.
- 16 A. (Knepper) I'm there.

further.

17 Q. The question at the top of the page is me, and then Mr. Frink gives an answer for a 18 19 period. And then I ask another question 20 summarizing what part of the current CIBS 21 process would no longer happen, other than 22 the yearly rate increases. And Mr. Frink 23 starts to give an answer. If you scroll to Page 96, he defers to you. And then you 24

- begin answering on Page 96 of the transcript,

  Bates 5. Do you see that?
- 3 A. (Knepper) I do. Looks like Line 13.
  - Q. Correct. And bear with me a second. At the end of Bates Page 96 and into 97 you describe the spreadsheet and all the data in it and the report. And you say, quote, "I view all of that as not having to be done." Do you see that?
- 10 A. (Knepper) Yup.

4

5

6

7

8

9

19

20

21

22

23

24

And then you say, in effect, what you need 11 0. for information going forward is, quote, "'We 12 replaced nine miles, 'close quote. They 13 14 don't have to say, 'I replaced 550 feet on 15 Blodget Street or whatever.'" And then later 16 in that paragraph you have a sentence that 17 begins with "And so." And everyone can see 18 that.

But you're basically saying let the

Company do it, and we don't need to be

getting all the information and micromanaging
that process. Is that a fair

characterization?

A. (Knepper) Yeah. But I think if you look at

- the -- to me it says we're not of like minds,

  Mr. Frink and myself. He believes from a

  financial side of the equation he needs to

  have all that information.
- Q. But it's your testimony in this docket, Mr.
  Knepper, that's proposing the new information
  to be provided; correct?
- 8 A. (Knepper) Opposing new information being provided?
- 10 Q. Proposing.
- (Knepper) Yeah, I think it's reasonable to go 11 Α. from just saying we're going to spend \$25 12 million over 11 miles to be able to give more 13 detail to that, a description of it and where 14 15 you're going to go and how many services and 16 some basic information. Do I need to know 17 the dates, the ages of things? Probably not. Do I need to have all the cost estimates and 18 variances? Probably not. But I do think we 19 20 need to have something more than in a single 21 And I think that's what I was trying 22 to express in my testimony. I don't know if 23 I gave it justice or not, but that's what I was looking to do. 24

- Q. Certainly without the program, the way the 1 Company would recover CIBS cost is through a 2 rate case where it would provide information 3 like it does for all its other capital 4 5 projects supporting the rate case. course it's for the Commission to decide 6 7 whether that information is sufficient to establish the prudency of those costs. 8 that fair? 9
- (Knepper) Yeah. And I would expect if we 10 Α. 11 don't get this on an annual basis for the amount of dollars, that'll probably be the 12 first question you get during a rate case is, 13 "Please provide similar information in these 14 15 2,000 cells on a project-by-project basis." 16 So I think we'll either get it upfront or 17 we'll get it at the end at a rate case level. We'll probably get the detail that we need to 18 19 be able to analyze the prudency.
- Q. And it would be fair to say that -- well, strike that.
- 22 A. (Knepper) I lost you again, Mike. Sorry.

  CHAIRWOMAN MARTIN: Mr. Sheehan, I

  think you're on mute.

1 MR. SHEEHAN: Yes, I'm sorry.

- 2 BY MR. SHEEHAN:
- 3 Q. I think my last question is, and I think you
- answered it, the Company is requesting a
- 5 certain rate adjustment in this case as
- 6 outlined in Ms. McNamara's testimony. And I
- 7 think you said that Staff has no objection to
- 8 that particular request. Is that fair?
- 9 A. (Knepper) That's fair.
- 10 Q. Thank you.
- 11 MR. SHEEHAN: I have no further
- 12 questions.
- 13 CHAIRWOMAN MARTIN: All right.
- 14 Thank you. Commissioner Bailey.
- 15 COMMISSIONER BAILEY: Thank you.
- 16 INTERROGATORIES BY COMMISSIONERS:
- 17 BY COMMISSIONER BAILEY:
- 18 Q. I'm really sorry, but I'm a little bit
- 19 confused. So we have the spreadsheet that is
- in the Company's testimony. That's
- 21 Attachment A. And we have a different
- spreadsheet in your testimony, Mr. Knepper.
- That's Attachment 7. And they're not exactly
- the same thing; right? Looks like it's --

- 1 A. (Knepper) Let me look at what Attachment 7
  2 is.
- Q. Attachment 7 is what you -- I think it's a response to a data request that you recommended. That's the reporting information that we could require.
- 7 A. (Knepper) Yeah. So let me kind of go over that, if I can clarify that a little bit.
- 9 Q. Okay.

15

16

17

18

19

20

21

22

23

24

10 A. (Knepper) So in Attachment 6A, when we asked
11 the Company what kind of information we would
12 get for this year's program, I highlighted a
13 single row. And it said basically -14 (connectivity issue)

(Court Reporter interrupts.)

A. (Knepper) Said \$9 million in capital expense, approximately. And that's it. And so that was just to kind of emphasize it. And then in 6B I listed the kind of information that we get from an E22 currently. And you can see it doesn't -- you know, it just talks about growth. It does say replacement. And it doesn't give a lot of detail. So what I'm trying to do in Attachment 7, when we asked

the data request, the discovery request to get more information on those E22s, Liberty then provided a spreadsheet on Bates Page 106. And that starts to put a little bit more definition to those numbers. And that's what I was trying to say is that kind of detail would be helpful. But again, we would ask that the Commission order some sort of detailed report like that. Or they can just use the existing format that they have now, that's currently -- that they've been using for 12 years.

Q. Sorry. I'm having trouble getting my mouse between screens and unmuting and looking at the information in your testimony.

So the information that they've been providing for years is the big, huge, giant spreadsheet that's in Attachment A in their testimony. So Attachment 7 is a subset of that.

- A. (Knepper) That's kind of what they propose for -- that's what they showed that's going on, activity that's going on right now.
- 24 Q. Okay.

- 1 (Knepper) So right now there's no CIBS Α. 2 program going on, because this hearing's talking about last year's CIBS program. 3 can see that's a lot less than the 2,000-cell 4 spreadsheet, the 66 columns, call it 39 or 5 whatever, associated with the 39 projects. 6 7 This is a lot less. But it does give important information. It gives information 8 about is it cast iron or is it bare steel. 9 10 Gives you length. You know, gives you 11 whether it's going to be abandoned and 12 re-laid. And did give a cost estimate, and it told you kind of the scope of the work. 13 14 So I think something like that is not 15 burdensome to the Company to provide. 16 Okay. Q.
  - A. (Knepper) But I do think that the Company needs to be aware that if they don't keep this format that they have for this 2,000-cell spreadsheet, they can expect the Staff, during a rate proceeding when they come in for rates, to say we want it on a segment-by-segment basis. And we're going to be looking for similar information because

18

19

20

21

22

23

Staff knows that they have the ability to extract that. And we also kind of think it does give a lot more of a telling story as to what did you plan, what did you do, when did you start, what did you accomplish, what were the reasons. And when you start putting that on there, the spreadsheet gets big.

- Q. So if they were -- if the Commission were to order them to provide you the information in Attachment 7 in your testimony, and then a rate case came up, would they still need to provide the big 2,000-cell spreadsheet information if they're going to have to do that anyway?
- A. (Knepper) Well, it's hard for me to -- I
  don't want to speak out of turn for Mr.

  Frink. But I would expect that would be a
  data request that they would ask for very
  early in the process.
- Q. So your point is they might as well continue to file that 2,000-cell spreadsheet on an annual basis because they're going to have to produce it anyway. And so is it your recommendation then that we require that

(Knepper) I think if the Commission orders

rather than what you have in Attachment 7?

2

13

14

15

16

17

18

19

20

21

22

23

24

things.

and it's made known, then they know they're 3 going to have to do it. And whether it's 4 upfront or not -- right now they -- but there 5 would just be no -- I guess it would help the 6 7 Staff because it gives you an idea as to how 8 many bare steel services are remaining, how much -- which projects get done. Answers all 9 those questions like, you know, there's 10 11 6 miles left in Concord and how much got done in Manchester and all those things to help in 12

Q. Is it possible that if you had time, you and Mr. Frink had time with the Company to look at the gigantic spreadsheet, that you could maybe trim it down a little bit and get rid of some of the columns so that it wasn't quite as massive and that it would satisfy both the requirement for you to keep track of the progress with CIBS and also satisfy Mr.

coordination with what you're talking about a

city and sewer water project that the City of

Manchester is considering and those kind of

Frink for the rate case?

- A. (Knepper) I guess we could look at what kind of things -- I mean, I'm really looking at it, Commissioner Bailey, from an operational standpoint --
- Q. Right.

A. -- and he's kind of looking at it from a financial aspect. And the two kind of intermingle. So I tend to look at stuff on a project-by-project basis. And so are you planning on replace 22-inch.

So in my opinion, that one spreadsheet is not a huge burden. It is a burden more than nothing. But I think we're eliminating having a hearing, having to cut out samples, analyze them, having to -- you know, prior to this spreadsheet, they gave us -- you know, Brian Frost would give us plans that showed GIS, you know, where it starts and stops, and all the leak history that goes with it.

There's many, many, many, many more pages than just that one spreadsheet. So I think if we eliminate all that other stuff, and the only thing remaining is this, I would say

- that that's -- it can't -- it shouldn't be that much of a burden for them.
- 3 Q. And by "this," you mean the big spreadsheet?
- 4 A. (Knepper) Yes.

years.

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Q. Okay. So on the timing of when they should
finish the CIBS project, I think that your
basic position is they have 56 miles left.
They've been doing about 11 miles a year. So
they should be able to finish it in five

Is that kind of where you got to --

- A. (Knepper) I think so. I think that the original 2024 date's getting extended to 2025. So I think that it will. Now, whether it's down to the last foot and down to the absolute that I've gotten every single thing out, I don't think that's our concern. But our concern is without having a goal, it will get -- it will extend. And, you know, when I'm dealing with pipes that are well over -- that were put in when horses were still on these streets, we need to remove those pipes.
- Q. I understand. I am a little sympathetic to the Company's argument about not having to move the pipes twice. And I think what you

said is work with the city, find out when they're going to do the sewer separation project in earnest. And to the extent that they can move them now and move them to a location where the sewer separation project won't be impacted, that would be the best thing. But if --

A. (Knepper) I would expect them to do that.

- Q. But if the sewer separation project were happening, say completing in seven years from now, would you expect them to open the street up next year, replace five miles in Nashua [sic], and then I guess they would have to pay for all the paving, and then the city opens it up again in the next five years?
- A. (Knepper) If you told me that was an absolute it was going to be done in seven years and you're going to make that commitment, that's one thing. What I find is that this project has been lingering for decades, and the answer is I can't wait forever. And at some point in time we have to remove it.

Now, the other thing you need to take -to know is even the existing polyethylene

pipe that they have replaced, let's say six years ago, if that's in the way, that's going to get moved. So either way they're going to be moving pipe if it interferes with the project. So I look at it and say, well, I'd have to look at it in context of how much of their pipeline system is going to be affected by this sewer water -- or sewer interceptor project. So you'd probably have to look at it in those terms.

- Q. Okay. And if they did look at it earnestly in those terms, you can't really bind them to five years then. But you can -- we could say the target is five years, but work with the City of Manchester and get it done within no later than ten years or something.
- A. (Knepper) I find if the Commission doesn't mandate or put a target on it, it just goes on forever.
- 20 Q. Okay.

21 A. (Knepper) And I think, in my opinion, what
22 you initially heard from Liberty this morning
23 was they wouldn't give you a date, wouldn't
24 get there, and you had to kind of get it out

```
of them town-by-town. And you kind of got
1
         out that they think they can do most of it in
2
         five years and that there's some stragglers.
3
         That's a lot different than at the beginning
4
         they just kind of said, well, we'll get to it
5
         on a practical basis when we can get to it.
6
7
              So I think the strongest point is if the
         Commission is doing that, it sets a tone that
8
         this is important to remove this, and it
9
         gives a targeted date. It's not an absolute.
10
11
         And it doesn't say every footage. But if
         we're down to that, we're going to be down to
12
         less than 5 miles, 6 miles out of the --
13
         which is going to be less than probably
14
15
         2 percent of their system I think at that
         point in time, I'll be pretty satisfied.
16
17
    Q.
         Okay. Great.
                         Thank you very much.
18
                    COMMISSIONER BAILEY:
                                          That's all I
19
         have Madam Chair.
20
                    CHAIRWOMAN MARTIN:
                                        All right.
21
         Thank you, Commissioner Giaimo.
22
    BY COMMISSIONER GIAIMO:
         I have just a couple quick clarifications.
23
24
              So, good afternoon Mr. Knepper.
                                                 I want
```

```
1
         a clarification. So last year it was Staff's
2
         recommendation and your recommendation that
         the CIBS project should be immediately
3
         terminated.
4
5
         (Knepper) Yup.
    Α.
         And the Commission decided and ordered that
6
7
         it would be deferred one year; is that
8
         correct?
9
         (Knepper) Yup.
    Α.
10
         Okay. What I'd like -- sorry?
11
         (Knepper) The reason is because we gave
    Α.
         advanced notice to the Company even before
12
         that, that we're winding down.
13
         Okay. I understand.
14
    Q.
15
              What I thought I also heard you say is
16
         that you're supportive and that you will
17
         continually encourage the Company to work
         with the cities in coordinating and getting
18
         things done as quickly as possible. Is that
19
20
         right?
21
    Α.
         (Knepper) Not only supportive, that would be
```

Q. Okay. And I want to touch finally on what

Commissioner Bailey was suggesting. And I'm

my expectation.

22

23

24

{DG 20-049} [HEARING ON MERITS] {06-18-20}

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

wondering did you feel like there would be a meeting of the minds with respect to the reporting requirements, or are you so far apart with what you think the Company wants and what you need and what Mr. Frink may need that, you know, you can't resolve that and you would need the Commission to order that immediately?

(Knepper) Well, you know, when we asked them Α. for this year when there wasn't a cast iron/bare steel program, right -- they're replacing main as we speak right now -- what do you have for associated information, they started out with that one line. That's it? Well, that kind of told me that absent this -- and then we had -- then they kind of got down to a little bit more detail, and then finally the third discovery question we got to it. And so, you know, I was kind of afraid like we were going cold turkey, that we had a lot of data information coming in with a lot of dollars in expenditures associated with it, and then all of a sudden we're not getting anything. I didn't want --

```
I wanted to make sure that does not happen.
1
2
         I understand that, Mr. Knepper. But you also
         said that it's a question of do we need
3
         the -- we're going to get the information now
4
5
         or we're going to get it before a rate case.
         Eventually you're going to get the
6
7
         information.
8
    Α.
         (Knepper) Right.
         The Company understands --
9
    Q.
10
         (Knepper) From my standpoint --
    Α.
11
    Q.
         Sorry.
         (Knepper) From my standpoint, I could live
12
    Α.
         with what's in Attachment 7. But I'm also
13
14
         not speaking for Mr. Frink.
15
                    COMMISSIONER GIAIMO: Okay.
16
         don't know to the extent it's appropriate,
17
         but maybe Mr. Sheehan could maybe think about
         that and incorporate something to that effect
18
         in his closing.
19
20
                           Thank you. That's all the
                    Okay.
21
         questions I have.
```

{DG 20-049} [HEARING ON MERITS] {06-18-20}

remaining. So back to you, Ms. Fabrizio.

CHAIRWOMAN MARTIN:

Thank you. I don't have any questions

All right.

22

23

138 I do have a request. I'd like to 1 2 ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. 3 Fabrizio is done -- (connectivity issue). 4 5 CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio 6 7 is done, I would like to ask one more 8 question. 9 MS. FABRIZIO: Thank you, Madam Chair. 10 11 REDIRECT EXAMINATION BY MS. FABRIZIO: 12 Mr. Knepper, you are recommending that 13 14 Liberty continue its replacement of its 15 in-ground CIBS pipes; is that correct? 16 (Knepper) Yeah. I just want to make sure Α. 17 everybody's aware. When the program -- the CIBS program is over, I would like to replace 18 19 leak-prone pipe, yes. 20 Okay. And you are basically recommending Q. 21 that we simply not continue the accelerated 22 recovery incentive that has been in place 23 under the CIBS program; is that correct? (Knepper) Yes, that's correct. And that's 24 Α.

{DG 20-049} [HEARING ON MERITS] {06-18-20}

- what the Commission decided last year.
- Q. Okay. Thank you. I have no further questions.
- 4 BY CHAIRWOMAN MARTIN:

- Q. Okay. My question is really related to the question about the sewer project. And Mr. Sheehan said if the Company had information that the sewer project is likely to proceed -- I would like to ask that question to the Company. If you have specific information that it is likely to proceed at a certain time frame, could you please provide that now.
  - A. (Frost) Good afternoon. Brian Frost here.

    The City of Manchester sent us a construction plan for the first major east side projects earlier this summer. It involves creating a main drain roughly in the area of Salmon Street and North Street. After that is complete, in the next one to two years they would move into neighborhoods. They have made -- the city has made a formal request for us to start considering replacement and movement of our pipes next year in that area.

{DG 20-049} [HEARING ON MERITS] {06-18-20}

{DG 20-049} [HEARING ON MERITS] {06-18-20}

level of detailed reporting that's been

requested by the Staff seems reasonable and 1 2 appropriate. And I have no other statements at this time. Thank you. 3 CHAIRWOMAN MARTIN: All right. 4 Thank you. 5 Ms. Fabrizio. 6 7 MS. FABRIZIO: Thank you, Madam 8 Chair. Staff recommends approval of the 9 proposed increase in annual revenue 10 requirement for fiscal year 2020 CIBS program 11 costs based on the audit of fiscal year 2020 CIBS costs and review of the Company's 12 revenue requirement calculation. The CIBS 13 14 replacement program is necessary to ensure 15 public safety, a point that has been made

complete the program but does not expect to meet that goal at this time. Staff recommends the Commission require Liberty to target year end 2025 to remove CIBS from its

Liberty has been targeting year end 2024 to

repeatedly by both the Company and Staff

throughout the existence of the program.

distribution system, with only a minor

16

17

18

19

20

21

22

24

allowance for large-diameter CIBS piping,

{DG 20-049} [HEARING ON MERITS] {06-18-20}

which is generally less leak-prone and more	
costly to remove, and CIBS mains in Keene, as	
those mains are expected to be addressed	
through the Keene system conversion from	
propane air to natural gas. Because of the	
importance of the program, Staff recommends	
the Commission require Liberty to provide	
annual CIBS plans reporting for Staff review,	
as outlined by Mr. Knepper today, to be more	
limited than it was, as required under the	
settlement agreement program that has been	
terminated, but sufficient to enable Staff to	
track progress and for Staff to inform the	
Commission of any concerns regarding CIBS	
replacement planning. Thank you.	
CHAIRWOMAN MARTIN: All right.	
Thank you.	
And Mr. Sheehan.	
MR. SHEEHAN: Thank you. First, we	
appreciate the support of Staff on the	
primary request in this proceeding, which is	
the rate adjustment. We spent a lot of time	

recommendations that, going forward, part

on a recommendation -- on Staff's

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

of -- no longer CIBS program from the PUC, but the internal CIBS program, if you will. So, first, we do appreciate the audit division's review of the filing and Staff's support of that piece of it.

What I'd like to say briefly on the future part of this is that the Company is committed to replacing CIBS as soon as is practical and possible, with appropriate consideration to cost. You will recall that we objected to the termination of the program. Since Liberty took over this franchise, it took a couple years to ramp up the CIBS program. But in fact we did, going from, I don't know, 3 or 4 miles per year up to over 10 miles per year for a number of It was the annual -- in part, it was the annual rate adjustments that helped support those costs. I think we had 30-something crews out in the field last year. We feared, in part, that the loss of the annual adjustment would send the wrong message internally, that it's not a priority of the Commission anymore. I can tell you

locally it's always been a priority, and we are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.

otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So we're simply saying that 2024 is not realistic. It's always been a target, but we also knew that as we got to the end we would run into the problems that we're running into, the asbestos, the downtown projects and the paving projects and the like. So we don't think the Commission needs to impose a target date. We are already targeted as soon

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

as possible. And Brian is doing the engineering to put a finer point on that as we get more details, for example, for the Manchester project. And I give the history to show that the Company has been committed to it, and we will remain committed to removing the CIBS.

As for the reporting, these projects are the only projects in the Company that receive this level of detail, and it's only because of the CIBS program that this evolved over the years. When we go to put CIBS pipe in rate cases in the future, we will present similar information that we always present in every rate case to support capital investment. It will not look like that big spreadsheet because we don't do that for any other project. And the Commission routinely approves capital expenditures on far less detail. To resolve the issue, as Commissioner Giaimo suggested, we will accept the recommended reporting that is in Mr. Knepper's testimony, which was the enhanced E22, if I have the name of that report

{DG 20-049} [HEARING ON MERITS] {06-18-20}

correct. I think even Mr. Frost testified 1 2 today that he can live with that as a reporting requirement going forward. 3 So with that, we thank everyone for 4 their work on this and ask the Commission to 5 approve the rate adjustment. 6 7 One last, final thought. 8 Last year's order terminating the 9 program suggested that the Company, and I'm 10 going to quote here, that the next step of 11 CIBS, whether it's CIBS or something else, should be discussed in a rate case. 12 quote is this: "By terminating the existing 13 14 CIBS program, we are not precluding an 15 alternative proposal in Liberty's next rate 16 case. We continue to believe it is important 17 to replace the cast iron/bare steel infrastructure and will consider an 18 19 alternative proposal from the parties during 20 the anticipated rate case," close quote. 21 That's Order 26, 2667. 22 So this whole conversation over 23 reporting and deadlines and targets we think belongs in the rate case that we intend to

24

	117
1	file this summer. And we will be making a
2	proposal that will be in the neighborhood of
3	a CIBS program. It won't be CIBS, but we're
4	developing something that at least is
5	somewhat analogous for the Commission's
6	consideration. And we think that's where
7	most of these conversations belong.
8	With that being said, as I said
9	before, we'll accept the reporting
10	requirements in Mr. Knepper's testimony. We
11	ask the Commission not to set a target, and
12	if one is to be developed, that that
13	conversation go to the upcoming rate case.
14	Thank you.
15	CHAIRWOMAN MARTIN: Okay. Thank
16	you. And I just want to thank Ms. Robidas
17	for being willing to continue.
18	With that, we will close the record
19	and take the matter under advisement and get
20	an order out as soon as we can. Thank you,
21	everyone.
22	MR. SHEEHAN: Thank you.
23	MS. FABRIZIO: Thank you.
24	(Hearing concluded at 1:30 p.m.)

19

20

21

Susan J. Robidas, LCR/RPR Licensed Shorthand Court Reporter Registered Professional Reporter N.H. LCR No. 44 (RSA 310-A:173)

22

23

24

2020 CAST IRON/BAR	E STEEL REPLACEM	ENT PROGRAM RES	ULIS	June 18, 202
	access (3)	adjustments (5)	76:7	apparent (1)
Φ.	5:2,9;79:11	40:3;59:24;60:10;	allow (3)	28:12
\$	accessing (1)	119:12;143:18	19:12;40:16;79:13	apparently (1)
	5:6	administrative (6)	allowance (2)	115:6
<b>\$14,885,261</b> (1)	accomplish (1)	108:2,6,8,17;	58:8:141:24	appear (1)
10:18	128:5	117:23;118:5	allowed (2)	73:3
<b>\$20</b> (1)	accordance (2)	admit (1)	26:6;119:10	appearances (2)
107:15	4:13,20	140:11	allude (1)	5:21;6:15
<b>\$25</b> (2)	according (1)	adopt (3)	76:16	*
107:15;122:12	101:9	10:2;13:18;14:10	alluded (2)	<b>appears (5)</b> 9:14;13:7;74:20;
\$299 (2)	achievable (3)	advanced (1)	65:18;107:6	76:12;86:21
29:22;89:6	47:11;100:16;	135:12	almost (1)	apply (1)
\$384 (2)	102:17	advantage (1)	53:19	68:23
29:21;89:6	acknowledge (1)	102:9	alone (2)	appreciate (5)
66,161,925 (1)	48:8	advisement (1)	6:4,8	49:1;70:11,13;
11:6	action (2)	147:19	along (1)	142:20;143:3
§7.03 (1)	21:16;58:4	Advocate (1)	13:6	appreciates (1)
11:18	active (1)	6:24	alternative (2)	50:7
<b>59</b> (1)	55:15	Affairs (1)	146:15,19	
125:16				approaches (1)
	actively (1)	9:11	always (7)	75:12
[	72:16	affected (1)	41:22;83:2;112:8;	approaching (2)
	activities (1)	133:7	144:1,2,18;145:15	65:17;69:2
No (1)	107:2	affecting (1)	among (1)	appropriate (4)
140:15	activity (2)	63:11	76:8	83:16;137:16;
sic] (1)	101:18;126:23	affords (1)	amongst (1)	141:2;143:9
132:13	actual (13)	80:16	63:1	approval (6)
	26:2;29:21;32:24;	afraid (1)	amount (24)	10:10;11:4;34:16;
$\mathbf{A}$	38:7;88:8,11;89:5,11,	136:20	25:6,7,17;38:6;	84:6,14;141:8
	20;90:5,13;98:4;99:3	afternoon (2)	43:5,16,20;48:3,7;	approvals (1)
ibandon (2)	actually (12)	134:24;139:14	52:21;53:5;57:11,14;	
78:21,23	35:16;49:11;50:5;	again (7)	61:10;64:15;65:15;	approve (1)
abandoned (5)	52:17;53:22,24;	4:3;19:5;40:4;	76:10;81:1,13;91:5;	146:6
58:17,18;59:6;	60:21;65:8;81:18;	113:18;123:22;	97:2;115:1,24;	approves (1)
79:14;127:11	85:24;111:21;113:8	126:7;132:15	123:12	145:19
bandoning (1)	actuals (1)	against (1)	amounts (1)	approving (2)
79:6	44:15	91:17	57:10	21:9;84:4
abandonment (1)	add (4)	age (1)	analogous (1)	approximately (10)
59:10	42:16;55:6;67:19;	52:12	147:5	11:7,17;15:23;
ability (3)	89:23	aged (1)	analyst (2)	16:4;20:16;59:2;
4:24;111:10;128:1	added (1)	103:21	9:10;92:23	60:17;74:16;75:5;
able (13)	74:7	ages (2)	analyze (2)	125:17
20:23;21:11;28:13;	addition (2)	95:19;122:17	123:19;130:16	archives (1)
55:24;57:15,18;	11:8;19:23	ago (6)	annual (13)	38:1
59:10;77:4,21;90:8;	additional (1)	46:22;105:2;	11:3,5;25:9;26:15;	area (17)
122:13;123:19;131:9	31:10	110:16;118:5,12;	60:9;119:11;123:11;	20:10;21:14;22:2;
bnormal (1)	Additionally (4)	133:2	128:22;141:9;142:8;	35:22;41:12;42:2,7,
71:10	17:11;49:24;87:24;	agree (2)	143:17,18,22	9;53:9;72:14;74:6;
above (3)	91:12	97:21;117:23	answered (3)	80:12;81:8,10;88:18
38:19,22;105:12	add-ons (2)	agreement (4)	70:17;79:22;124:4	139:18,24
absent (1)	34:8,12	17:12;21:22;79:3;	Anthony (1)	areas (10)
136:15	address (3)	142:11	7:12	16:15,18;22:21;
bsolute (4)	7:18;23:2;36:17	agreements (2)	anticipate (1)	42:22;43:5;52:2,6;
112:17;131:15;	addressed (3)	78:22;79:10	101:23	57:4;72:2;89:2
132:16;134:10	11:9;54:18;142:3	agrees (1)	anticipated (4)	argument (1)
accelerated (3)	adds (1)	60:3	43:19;90:8;115:9;	131:23
105:8;119:22;	40:18	ahead (7)	146:20	argumentative (1)
138:21	adjourned (1)	57:16,18;75:9;	anymore (3)	69:20
	5:10	81:5,19,24;82:3	100:16;108:10;	arise (4)
accept (Z)	adjust (2)	air (1)	143:24	7:13;20:2;21:10;
		1	eneut (1)	39:23
145:21;147:9	50:1;80:17	142:5	apart (1)	
145:21;147:9 acceptable (1)		142:5 alleviate (1)	136:4	arises (1)
145:21;147:9 acceptable (1) 36:24	50:1;80:17			arises (1) 84:12
acceptable (1)	50:1;80:17 adjustment (5)	alleviate (1)	136:4	arises (1)

20 12 20 10 52 11	T	i e		,
30.13.39.18.37.11.	avenues (1)	104:13;123:11,15;	88:8	101:8;130:18;
30:13;39:18;52:11; 57:1,17;101:22;	67:22	127:23;128:22;	BI (1)	139:14;144:11;145:1
109:8,11;113:14	average (5)	130:10;134:6	88:9	brick (1)
arterial (1)	44:12;68:20;74:10;	Bates (25)	bidding (1)	104:24
116:24	89:6;101:23	9:17;13:7;28:8;	113:22	brief (2)
asbestos (14)	aware (6)	46:6;73:14,15,19,21;	big (6)	8:15;87:16
30:11,14;41:7,8,13,	30:19;46:24;96:2;	86:21;94:24;95:10,	109:1;126:17;	briefly (2)
15,22;42:4,20,21;	112:7;127:18;138:17	14;96:3,8;99:13,18;	128:7,12;131:3;	107:2;143:6
43:1,5;98:17;144:21	away (6)	100:6;106:10,12,13;	145:17	brings (1)
asbestos-containing (1)	14:23;53:22;54:19;	118:22;120:13;	bill (2)	66:11
30:8	55:1;84:13;105:10	121:2,5;126:3	11:12,13	broken (1)
aspect (1)		Bear (3)	billed (1)	51:24
130:8	В	99:16;106:11;	88:3	brought (3)
aspects (1)		121:4	bills (1)	58:9;95:18,21
15:7	back (14)	became (1)	97:10	budget (8)
asphalt (2)	29:3;33:7,12;	28:12	bind (1)	23:20;41:10,10;
19:20,21	46:16;51:4;52:13;	become (1)	133:12	44:5;68:6;69:10;
assess (1)	66:4;70:10;79:23;	98:14	binder (1)	91:8;144:2
96:20	95:4;102:18;116:1,	becomes (2)	19:19	burden (8)
assessment (5)	12;137:24	98:5,5	bit (12)	60:8;108:2,7;
53:13;54:9;86:4;	backfill (1)	beforehand (1)	30:10;35:5;47:4;	117:24;118:6;
98:21;106:5	40:12	31:19	52:20;80:9;82:9;	130:13,13;131:2
assessments (1)	backlog (1)	begin (3)	101:24;124:18;	burdens (3)
49:16	16:11	64:8;120:13;121:1	125:8;126:4;129:20;	87:9;108:8,17
assign (2)	bad (1)	beginning (5)	136:17	burdensome (1)
83:9,10	55:22	9:16;13:7;98:14; 134:4;140:17	<b>bi-weekly (3)</b> 32:3,16;77:16	127:15 <b>buried (2)</b>
<b>associated (8)</b> 100:9;101:5;	<b>Bailey (19)</b> 6:5,6,7;40:23,24;	begins (3)	BK (2)	72:13,14
106:20;108:13;	41:2;48:12;50:17,22;	86:21;88:13;	88:10,11	72.13,14
117:3;127:6;136:13,	51:2;55:7;59:14;	121:17	BL (1)	C
23	89:3;124:14,15,17;	begun (1)	88:11	
assume (5)	130:4;134:18;135:24	78:1	Blodget (1)	calculate (3)
41:8;42:3,5;43:8;	balance (1)	behalf (3)	121:15	10:14;26:7;65:12
120:8	119:24	6:24;7:9;93:2	blue (4)	calculated (6)
assuming (1)	balanced (1)	behind (1)	88:18,22,23;89:15	11:12;24:24;25:2;
27:18	20:18	46:24	BM (1)	37:14;91:14,20
attached (3)	bare (14)	beings (1)	88:11	calculating (2)
93:6;94:23;95:11	16:7;31:2;48:2;	73:21	Bob (1)	27:15;65:10
Attachment (13)				
	55:19;95:15,20;	believes (2)	85:19	calculation (8)
37:3;86:20;124:21,	55:19;95:15,20; 100:20;119:11,13,17,	60:13;122:2	85:19 <b>body</b> (1)	
37:3;86:20;124:21, 23;125:1,3,10,24;	100:20;119:11,13,17, 18;120:1;127:9;	60:13;122:2 bell (2)	body (1) 4:15	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15;
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10;	100:20;119:11,13,17, 18;120:1;127:9; 129:8	60:13;122:2 bell (2) 105:13,14	body (1) 4:15 bond (1)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3)	60:13;122:2 bell (2) 105:13,14 belong (1)	body (1) 4:15 bond (1) 17:5	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2)
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 <b>barriers (3)</b> 21:24;30:17;47:7	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7	body (1) 4:15 bond (1) 17:5 bonding (1)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8)	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1)	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4)
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21;	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1)	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18,	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9)
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10)	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23;	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23;
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11;	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1)	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3;
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18;	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7,	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3;	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2)	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4)
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4;	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24;
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3)	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5)	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16;	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18;	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68)
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1) 11:23	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16; 131:7	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18; 132:6;144:3	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3) 29:6;94:1;105:22	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68) 7:4;9:1,6;10:12;
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16; 131:7 basically (4)	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18; 132:6;144:3 better (7)	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68) 7:4;9:1,6;10:12; 15:23;19:16,18;21:4;
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13  attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1) 11:23 authority (2) 21:3,8	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16; 131:7 basically (4) 99:21;121:19;	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18; 132:6;144:3	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3) 29:6;94:1;105:22 breakdown (1)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68) 7:4;9:1,6;10:12; 15:23;19:16,18;21:4; 22:12;39:18;43:20;
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13 attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1) 11:23 authority (2)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16; 131:7 basically (4)	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18; 132:6;144:3 better (7) 19:18;39:2,21;	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3) 29:6;94:1;105:22 breakdown (1) 27:3	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68) 7:4;9:1,6;10:12; 15:23;19:16,18;21:4;
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13  attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1) 11:23 authority (2) 21:3,8 authorization (1)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16; 131:7 basically (4) 99:21;121:19; 125:13;138:20	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18; 132:6;144:3 better (7) 19:18;39:2,21; 43:13;64:4;68:10;	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3) 29:6;94:1;105:22 breakdown (1) 27:3 breaks (3)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68) 7:4;9:1,6;10:12; 15:23;19:16,18;21:4; 22:12;39:18;43:20; 44:21;47:13;48:2,4,
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13  attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1) 11:23 authority (2) 21:3,8 authorization (1) 75:16	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16; 131:7 basically (4) 99:21;121:19; 125:13;138:20 basis (21)	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18; 132:6;144:3 better (7) 19:18;39:2,21; 43:13;64:4;68:10; 82:21	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3) 29:6;94:1;105:22 breakdown (1) 27:3 breaks (3) 105:17,18,23	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68) 7:4;9:1,6;10:12; 15:23;19:16,18;21:4; 22:12;39:18;43:20; 44:21;47:13;48:2,4, 9;51:6;54:5,12;55:8,
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13  attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1) 11:23 authority (2) 21:3,8 authorization (1) 75:16 authorized (2)	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16; 131:7 basically (4) 99:21;121:19; 125:13;138:20 basis (21) 23:3;32:3;33:23;	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18; 132:6;144:3 better (7) 19:18;39:2,21; 43:13;64:4;68:10; 82:21 beyond (3) 17:24;74:24; 113:16	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3) 29:6;94:1;105:22 breakdown (1) 27:3 breaks (3) 105:17,18,23 BRIAN (17)	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68) 7:4;9:1,6;10:12; 15:23;19:16,18;21:4; 22:12;39:18;43:20; 44:21;47:13;48:2,4, 9;51:6;54:5,12;55:8, 13;58:17;61:3;62:22,
37:3;86:20;124:21, 23;125:1,3,10,24; 126:18,19;128:10; 129:1;137:13  attendance (1) 5:20 attended (1) 105:15 attorney (2) 6:23;7:8 audit (12) 11:23;12:1,2,3,5,7, 11;93:6;97:3,4; 141:11;143:3 audited (1) 11:23 authority (2) 21:3,8 authorization (1) 75:16 authorized (2) 4:15,19	100:20;119:11,13,17, 18;120:1;127:9; 129:8 barriers (3) 21:24;30:17;47:7 base (8) 25:6,8,13,13,17,21; 38:2;83:14 based (10) 26:1;33:10;44:11; 91:14,15;96:18; 99:14;101:17;140:3; 141:11 basic (3) 15:13;122:16; 131:7 basically (4) 99:21;121:19; 125:13;138:20 basis (21) 23:3;32:3;33:23; 46:11,18;61:13;	60:13;122:2 bell (2) 105:13,14 belong (1) 147:7 belongs (1) 146:24 benchmark (1) 68:5 benefit (1) 96:4 benefits (2) 22:13,16 best (5) 17:3;45:12;50:18; 132:6;144:3 better (7) 19:18;39:2,21; 43:13;64:4;68:10; 82:21 beyond (3) 17:24;74:24;	body (1) 4:15 bond (1) 17:5 bonding (1) 75:16 both (7) 22:3;28:5;36:18, 24;76:10;129:23; 141:16 bottom (1) 88:23 boy (1) 86:23 break (3) 29:6;94:1;105:22 breakdown (1) 27:3 breaks (3) 105:17,18,23 BRIAN (17) 8:3,8;10:21;12:19,	calculation (8) 9:12;10:8;25:14, 18;27:21,24;37:15; 141:13 calculations (2) 10:24;91:19 calendar (4) 26:19;27:1,11,14 call (9) 5:8,19;81:5,23; 82:2;97:16,17;102:3; 127:5 came (4) 21:21;26:4;83:24; 128:11 can (68) 7:4;9:1,6;10:12; 15:23;19:16,18;21:4; 22:12;39:18;43:20; 44:21;47:13;48:2,4, 9;51:6;54:5,12;55:8, 13;58:17;61:3;62:22, 23;66:6,19;67:1,21;

·	1			,
80:18;81:11;82:3,17;	123:15	12:21,23;13:2;14:21;	134:23	commitment (1)
84:19;85:24;87:4;	Centre (1)	15:6,16,21,24;16:1,	clarify (1)	132:18
89:17;95:4;96:5,6,	45:7	23;18:10;19:8;25:1;	125:8	committed (4)
12;100:17;103:14,	certain (7)	26:18,19,22,23,24;	clear (3)	22:5;143:8;145:5,6
16;104:13,18;	15:7;40:15;63:18;	27:14,16;28:14,18;	7:19;28:6;110:13	common (3)
105:19;111:11;	75:13;106:24;124:5;	29:22;31:21,22;35:7,	close (4)	23:1;80:5,8
121:17;125:8,20;	139:12	9;36:19,22;46:10;	83:11;121:13;	communicate (1)
126:9;127:4,20;	certainly (2)	47:1;49:6,12,16;	146:20;147:18	4:24
132:4;133:13;134:2,	103:15;123:1	50:10;55:9;56:14,19;	closely (1)	communication (1)
6;143:24;146:2;	certainty (1)	57:23;58:20;60:1,9,	35:23	50:13
147:20	75:14	18;61:10,18;67:24;	closing (3)	community (1)
capacity (1) 92:22	cetera (2) 23:21,21	74:17;76:18;78:19;	137:19;140:14,17	22:1
	23:21,21 Chair (7)	80:7;88:24;92:24; 94:13,15;96:21;	coated (5) 30:13;52:8;53:16;	Company (128) 8:13,19;9:7,15;
capital (4) 123:4;125:16;	24:16;59:15;70:12;	100:5,13,22;102:3,3,	54:7;58:23	10:9,19;12:17;15:21;
145:16,19	92:6;134:19;138:10;	4;103:23;105:9,10;	coincide (1)	16:10;17:7,16,21;
cards (2)	141:8	106:4;107:2,4;	113:1	19:11;20:5,7,19;21:1,
62:17;63:1	CHAIRWOMAN (46)	109:15;110:13,14,19;	cold (6)	11,16,21;22:4,8;23:1,
career (2)	4:2,9;6:2,9,14,20;	118:1;120:20;123:2;	51:13,23;52:11;	24;27:4;28:10;30:1,
62:4.5	7:4,14,23;8:11,24;	127:1,3;129:24;	87:21;107:12;136:20	5,7,19,24;31:7,9,15;
carryover (14)	14:22;23:12;24:8,13;	131:6;135:3;138:15,	Column (4)	32:2,10;33:10,16;
26:4;87:13,14,17;	40:21;48:11,17;	18,23;141:10,12,13,	86:22;87:2;96:5;	35:8,11,13;37:20,22,
89:20;90:1,2,4,7;	50:24;59:16;66:24;	22,24;142:2,8,14;	98:5	24;38:3;42:19,24;
91:16,17,17;97:8;	70:15,18;79:21;	143:1,2,8,14;145:7,	columns (4)	43:17;45:15,17,19;
98:11	91:24;92:1;93:19,23;	11,13;146:11,11,14;	88:5,16;127:5;	46:13;47:13;49:11,
case (22)	94:4,7;109:20,24;	147:3,3	129:21	15;51:19;55:10,23;
27:11,22;28:1,6;	110:5;123:23;	circuit (1)	comfortable (1)	56:22;57:15;58:12;
49:14;61:8;74:9;	124:13;134:20;	57:6	50:4	59:4,10;60:2,11,13;
89:12;123:3,5,13,17;	137:22;138:5;139:4;	cities (27)	coming (3)	61:2,9;62:4,22;64:7,
124:5;128:11;130:1;	140:2,6,16,19;141:4;	16:15;17:8;19:16;	85:20;116:18;	16;65:13;67:4;68:10,
137:5;145:15;	142:16;147:15	20:2;21:3;30:2;	136:21	13;69:22;71:8,16,19;
146:12,16,20,24;	challenges (5)	33:12;35:20;36:1,14;	comment (3)	72:1,3,19;73:4,11;
147:13	17:1,2;42:18;	40:8;45:11;50:1,6,8,	70:2;75:23;118:19	75:19;76:5;77:3,21;
cases (2)	43:12;47:12	12;56:20;62:18;63:8;	comments (1)	80:6,16;84:13;85:9;
14:21;145:13	challenging (3)	66:13;75:8,8;76:2;	12:24	86:6,14;89:19;90:6,
Cast (36)	47:17;48:3;62:13	112:9;115:5,11;	Commission (34)	22;96:15;102:8;
4:5;16:7;21:22;	chance (1)	135:18	4:10,23;5:20;6:3;	107:1,24;108:3;
31:2;46:17,20,23;	14:15	cities' (1)	7:9;15:20;92:17,19;	110:19,22;113:11;
48:1;51:14,24;52:23;	change (5)	75:12	100:4;106:24;107:5,	114:1;116:7;121:20;
53:2;54:9;55:3,11,	81:14;84:3,6,9,12	City (45)	22;108:20;110:15,	123:2;124:4;125:11;
18;56:10;57:3;58:9;	changed (3)	17:4,6,11;18:6;	23;120:5;123:6;	127:15,17;129:18;
59:3,6,11;61:11;62:3,	25:6,7;35:10	19:13,17;20:8,14,15,	126:8;128:8;129:2;	135:12,17;136:4;
4,10;66:16;74:6;	changes (6)	20,24;21:16,20,23;	133:17;134:8;135:6;	137:9;138:2;139:7,
100:19;105:16,18; 106:17;108:10;	9:19;14:6;24:24;	31:12;35:18;40:16;	136:7;139:1;141:21;	10;141:16;143:7;
106:17;108:10; 127:9;136:10;146:17	25:9;41:24;45:17 characterization (1)	45:6,21;47:19;48:20; 49:7;50:1;57:6;	142:7,14;143:24; 144:13,23;145:18;	144:4;145:5,9;146:9 Company's (24)
catch (1)	121:23	49:7;50:1;57:6; 58:24;63:1,5;67:11;	144:13,23;145:18;	11:22;16:6,16;
73:6	characterize (3)	68:21;75:14,15;76:8,	commissioner (39)	21:9;31:24;37:7;
categorize (1)	21:7;38:16;45:9	12,14;87:24;111:8;	5:21;6:5,6,7,9,11;	39:3;50:4;51:18;
56:21	characterized (1)	113:14;117:1;	8:20;40:23,24;41:2;	56:6;61:1;68:18;
category (1)	55:20	129:14,14;132:1,14;	42:17;48:12,13,14,	78:19;84:21;87:9;
16:2	charges (1)	133:15;139:15,22	18;50:15,17,22;51:2;	91:1;94:22;95:7;
CATHERINE (3)	88:1	city-wide (1)	55:7;59:14,17,18,22;	102:11;109:14;
8:3,7;9:9	check (2)	19:10	60:23;66:24;67:3;	115:4;124:20;
cause (4)	73:16;93:24	civilian (1)	70:12;89:3;124:14,	131:23;141:12
17:14;36:14;57:24;	checking (3)	85:11	15,17;130:4;134:18,	compare (2)
98:20	37:16;52:2;54:15	clamp (1)	21,22;135:24;	26:9,9
caused (1)	chosen (1)	71:21	137:15;145:21	compared (1)
21:16	100:10	clamps (1)	Commissioners (4)	29:21
cautioned (1)	Christa (1)	71:22	7:8;41:1;70:7;	comparison (2)
8:5	6:23	clarification (2)	124:16	25:1;118:11
cells (4)	CIBS (106)	24:21;135:1	Commission's (2)	compiled (1)
37:15;97:23,24;	4:6;10:15,17;11:8;	clarifications (1)	11:23;147:5	12:22
		. ,	,	

· · · · · · · · · · · · · · · · · · ·		T	T	
complete (16)	condition (5)	29:14	29:21,22;34:5,7;38:4,	cross (4)
15:21;16:22;21:12;	50:2;54:17;70:24;	contains (2)	18,22,24;39:4,12;	8:13,19;24:12;
35:9;45:14,17;47:14;	71:5;72:8	15:13;37:5	40:1,7,18;41:4;	110:3
64:10;77:22;79:1,1;	conditions (1)	contamination (2)	43:16;44:18;62:7;	CROSS-EXAMINATION (2)
82:7;100:5;115:9;	95:20	32:6,10	86:24;87:5,7,8;88:8,	24:17:110:9
139:20;141:19	conduct (1)	CONT'D (1)	10,12;89:6,22;90:4,7,	curbs (1)
completed (20)	8:17	51:2	9;94:20;96:16,20;	105:1
12:1;28:21,22,24;	confidence (1)	contemporaneously (3)	99:1,2,3;109:15;	current (3)
29:4,10,12;38:4;	60:21	4:18,24;5:3	122:18;123:2;	21:20;45:16;
49:16;61:3,5;64:16,	confidential (1)	context (2)	127:12;143:10	120:20
17;65:4,23;80:15;	7:20	83:24;133:6	costing (2)	Currently (4)
87:19;89:24;90:2;	confirm (1)	continually (1)	39:5,11	7:2;55:24;125:20;
95:2	73:18	135:17	costlier (1)	126:11
completely (1)	confirming (2)	continue (9)	117:2	customer (4)
67:6	4:21;7:24	76:17;103:19;	costly (2)	11:15,17;19:5;
completes (2)	conflict (2)	107:20;109:7;	19:1;142:2	85:10
40:19;80:7	17:16,22	128:20;138:14,21;	costs (42)	customers (5)
completing (1)	confused (1)	146:16;147:17	17:10;19:13,16;	19:7;29:4;59:7;
132:10	124:19	continued (2)	23:23;24:4;26:2,4;	82:11,13
completion (7)	connectivity (6)	58:3;119:18	27:6;34:1,4;35:5;	cut (7)
15:16;35:12;65:6,	34:24;66:22;81:21;	continues (1)	36:2;38:9,10;39:13;	19:7;53:18;72:2;
16,17;113:20,21	85:16;125:14;138:4	45:16	40:15;61:19;68:14;	86:8,10;120:11;
complexity (1)	consent (1)	continuing (2)	87:12,13,14,17,22;	130:15
62:14	17:12	30:18;144:14	88:7;89:11,20;90:1,	cut-off (1)
components (2)	consider (3)	continuous (1)	24;91:15,16,17,18;	46:19
110:14;118:5	39:9;108:5;146:18	57:6	97:8;98:11,16;	cutouts (1)
compressed (1)	considerable (1)	continuously (2)	115:12;116:23;	108:10
67:6	140:22	71:9;72:20	119:11;123:8;	_
comprise (1)	consideration (9)	contractor (1)	141:11,12;143:19	D
110:14	41:16,22;42:1;	87:8	count (1)	
compromised (1)	71:2;114:2;115:2;	contractors (1)	58:19	daily (2)
18:22	117:11;143:10;147:6	63:6	couple (9)	33:22;83:20
computer (1)	considered (7)	control (2)	10:5;56:12,15;	data (12)
37:24	52:14,15;57:12;	43:13;83:3	57:7;60:1;86:9;	62:23,24;75:19;
conceptual (1)	71:24;85:1,7;111:4	conversation (3)	94:20;134:23;143:13	97:24;98:19;105:24;
100:24	considering (2)	8:16;146:22;	<b>coupling (1)</b> 53:18	106:20;121:6;125:4;
concern (5)	129:15;139:23	147:13		126:1;128:18;136:21
44:8;57:24;108:1; 131:16,17	consistent (2) 97:3;101:8	conversations (1) 147:7	<b>couplings (3)</b> 52:8,12;53:9	date (24)
concerned (2)	consolidated (1)	conversion (3)	course (7)	35:12,14;36:5,8; 47:13;58:6;59:9;
36:11;53:12	74:9	63:3;101:4;142:4	23:3;28:18;35:24;	66:14;98:4,4;102:23;
concerns (9)	constant (2)	conveyed (1)	85:9;86:5,11;123:6	103:2;104:3,20;
17:17;19:23;20:5;	94:18;109:11			
			Court (10)	106.5.108.23.111.2
36.9.48.9.63.15.		23:22 coordinate (7)	Court (10) 8.6.64.24.66.23.	106:5;108:23;111:2, 5 10:113:16:114:5:
36:9;48:9;63:15; 108:4:111:7:142:14	constantly (2)	coordinate (7)	8:6;64:24;66:23;	5,10;113:16;114:5;
108:4;111:7;142:14	constantly (2) 23:8;54:14	coordinate (7) 17:7;33:3;49:1;	8:6;64:24;66:23; 73:1;81:22;85:18;	5,10;113:16;114:5; 133:23;134:10;
108:4;111:7;142:14 concluded (1)	constantly (2) 23:8;54:14 construction (54)	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12;	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23;	5,10;113:16;114:5; 133:23;134:10; 144:24
108:4;111:7;142:14 <b>concluded (1)</b> 147:24	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15	5,10;113:16;114:5; 133:23;134:10; 144:24 <b>dates (2)</b>
108:4;111:7;142:14 concluded (1) 147:24 Concord (34)	constantly (2) 23:8;54:14 construction (54)	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12;	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23;	5,10;113:16;114:5; 133:23;134:10; 144:24 <b>dates (2)</b> 37:1;122:17
108:4;111:7;142:14 <b>concluded (1)</b> 147:24	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1)	5,10;113:16;114:5; 133:23;134:10; 144:24 <b>dates (2)</b>
108:4;111:7;142:14 concluded (1) 147:24 Concord (34) 6:12;7:2;16:19;	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1)	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 <b>covered (1)</b> 43:19	5,10;113:16;114:5; 133:23;134:10; 144:24 <b>dates (2)</b> 37:1;122:17 <b>date's (1)</b> 131:12
108:4;111:7;142:14 concluded (1) 147:24 Concord (34) 6:12;7:2;16:19; 20:14,22;30:11;	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3)	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1)	5,10;113:16;114:5; 133:23;134:10; 144:24 <b>dates (2)</b> 37:1;122:17 <b>date's (1)</b>
108:4;111:7;142:14 concluded (1) 147:24 Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2,	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9,	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10)
108:4;111:7;142:14 concluded (1) 147:24 Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21;	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2)	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2)	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8,
108:4;111:7;142:14 concluded (1) 147:24 Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16;	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2) 13:2;16:18	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1) 139:17	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8,
108:4;111:7;142:14  concluded (1) 147:24  Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16; 99:10,11;104:7,9,23;	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10; 65:19;66:1;75:10,12,	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2)	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1)	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8,
108:4;111:7;142:14  concluded (1) 147:24  Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16; 99:10,11;104:7,9,23; 129:11	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10; 65:19;66:1;75:10,12, 23,24;76:6,7,17;77:7;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2) 13:2;16:18 Corp (2) 6:19;14:3	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1) 139:17 creep (2) 44:2,7	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8, 8 days (3) 45:11;55:19;57:7 dead (1)
108:4;111:7;142:14  concluded (1) 147:24  Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16; 99:10,11;104:7,9,23; 129:11  Concord's (1)	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10; 65:19;66:1;75:10,12, 23,24;76:6,7,17;77:7; 78:20;81:20;82:1;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2) 13:2;16:18 Corp (2) 6:19;14:3 corrections (2)	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1) 139:17 creep (2) 44:2,7 crew (3)	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8, 8 days (3) 45:11;55:19;57:7 dead (1) 19:7
108:4;111:7;142:14  concluded (1) 147:24  Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16; 99:10,11;104:7,9,23; 129:11  Concord's (1) 44:23	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10; 65:19;66:1;75:10,12, 23,24;76:6,7,17;77:7; 78:20;81:20;82:1; 86:6;87:12,21;88:13;	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2) 13:2;16:18 Corp (2) 6:19;14:3 corrections (2) 13:11;93:10	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1) 139:17 creep (2) 44:2,7 crew (3) 80:12;82:1;101:18	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8, 8 days (3) 45:11;55:19;57:7 dead (1) 19:7 deadline (5)
108:4;111:7;142:14 concluded (1) 147:24 Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16; 99:10,11;104:7,9,23; 129:11 Concord's (1) 44:23 concrete (2)	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10; 65:19;66:1;75:10,12, 23,24;76:6,7,17;77:7; 78:20;81:20;82:1; 86:6;87:12,21;88:13; 105:2;139:15	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2) 13:2;16:18 Corp (2) 6:19;14:3 corrections (2) 13:1;93:10 correctly (1)	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1) 139:17 creep (2) 44:2,7 crew (3) 80:12;82:1;101:18 crews (9)	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8, 8 days (3) 45:11;55:19;57:7 dead (1) 19:7 deadline (5) 15:16,19;16:22;
108:4;111:7;142:14  concluded (1) 147:24  Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16; 99:10,11;104:7,9,23; 129:11  Concord's (1) 44:23 concrete (2) 79:17,18	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10; 65:19;66:1;75:10,12, 23,24;76:6,7,17;77:7; 78:20;81:20;82:1; 86:6;87:12,21;88:13; 105:2;139:15 Consumer (1)	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2) 13:2;16:18 Corp (2) 6:19;14:3 corrections (2) 13:11;93:10 correctly (1) 79:5	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1) 139:17 creep (2) 44:2,7 crew (3) 80:12;82:1;101:18 crews (9) 21:13;28:13;54:2;	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8, 8 days (3) 45:11;55:19;57:7 dead (1) 19:7 deadline (5) 15:16,19;16:22; 17:1;19:24
108:4;111:7;142:14 concluded (1) 147:24 Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16; 99:10,11;104:7,9,23; 129:11 Concord's (1) 44:23 concrete (2) 79:17,18 concurrently (1)	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10; 65:19;66:1;75:10,12, 23,24;76:6,7,17;77:7; 78:20;81:20;82:1; 86:6;87:12,21;88:13; 105:2;139:15 Consumer (1) 6:24	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2) 13:2;16:18 Corp (2) 6:19;14:3 corrections (2) 13:11;93:10 correctly (1) 79:5 cost (43)	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1) 139:17 creep (2) 44:2,7 crew (3) 80:12;82:1;101:18 crews (9) 21:13;28:13;54:2; 81:4,20;82:4,10,21;	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8, 8 days (3) 45:11;55:19;57:7 dead (1) 19:7 deadline (5) 15:16,19;16:22; 17:1;19:24 deadlines (1)
108:4;111:7;142:14 concluded (1) 147:24 Concord (34) 6:12;7:2;16:19; 20:14,22;30:11; 35:21;44:22;45:1,2, 10,11,14,22;46:21; 50:6;54:11;63:2,5; 74:4;76:1,11,16,18; 77:2;78:1,14,16; 99:10,11;104:7,9,23; 129:11 Concord's (1) 44:23 concrete (2) 79:17,18	constantly (2) 23:8;54:14 construction (54) 15:8,11;17:19; 18:16,17,18,20;19:2; 20:11,18,23;21:5; 27:4,7;28:13;29:2; 30:3,4;32:20,24;33:9, 14,17;34:18;36:2; 38:11,23;42:7;43:13; 45:20;61:2;62:21; 63:10,10;64:10; 65:19;66:1;75:10,12, 23,24;76:6,7,17;77:7; 78:20;81:20;82:1; 86:6;87:12,21;88:13; 105:2;139:15 Consumer (1)	coordinate (7) 17:7;33:3;49:1; 75:10;82:10,12; 111:22 coordinated (1) 77:20 coordinating (3) 17:8;19:15;135:18 coordination (2) 112:12;129:13 core (2) 13:2;16:18 Corp (2) 6:19;14:3 corrections (2) 13:11;93:10 correctly (1) 79:5	8:6;64:24;66:23; 73:1;81:22;85:18; 94:2,6;109:23; 125:15 covered (1) 43:19 COVID-19 (1) 4:12 create (2) 82:9;102:19 creating (1) 139:17 creep (2) 44:2,7 crew (3) 80:12;82:1;101:18 crews (9) 21:13;28:13;54:2;	5,10;113:16;114:5; 133:23;134:10; 144:24 dates (2) 37:1;122:17 date's (1) 131:12 day (10) 40:14;57:1,2;69:3; 83:7;115:7;116:1,2,8, 8 days (3) 45:11;55:19;57:7 dead (1) 19:7 deadline (5) 15:16,19;16:22; 17:1;19:24

		1		
deal (2)	dependent (1)	diameter (8)	69:2	57:1,6;115:13
41:21;61:24	111:15	16:2,9;46:9,12,19;	divide (1)	due (12)
dealing (1)	depends (3)	62:6;100:8;103:24	102:14	4:10;16:11;20:10;
131:19	45:18;109:5;112:2	Dianne (1)	division (5)	28:22;30:5;37:1;
decade (1)	depreciation (1)	6:1	11:23;12:1;99:4,5,	48:3,7;60:5;63:23,
118:12	26:14	Diehl (1)	11.23,12.1,77.4,3,	23;87:20
decades (1)	depth (3)	7:6	division's (1)	dug (1)
132:20	18:17;41:21,21	difference (1)	143:4	43:6
December (3)	derive (1)	87:10	Docket (8)	duly (1)
66:8,11,19	100:18	differences (1)	4:4;7:21;12:18;	8:5
decide (2)	describe (2)	61:14	37:3;51:10,17;93:4;	duplicate (1)
28:5;123:6	65:13;121:5	different (11)	122:5	112:1
decided (4)	described (9)	39:7;40:6;71:5,7;	dockets (2)	during (32)
110:24;135:6;	19:9;29:23;30:6;	82:15;91:14,18;	100:13,14	5:1,7;15:8;18:15;
139:1;144:13	57:8;61:8;75:4;88:7;	95:22;111:19;	document (2)	23:3,5,10;29:23;
decimal (1)	119:4;144:11	124:21;134:4	55:11,12	30:3;31:13,24;32:19,
74:16	describes (1)	difficult (6)	documented (3)	21,23;33:5;43:21,23;
decision (3)	23:18	41:18;61:22;62:14;	44:14;56:4,5	52:2,10,22;54:1,4;
29:5;47:2;84:2	description (3)	96:22;97:7;115:8	documents (1)	55:19;56:23;57:1;
decisions (1)	87:16;107:19;	difficulty (2)	23:17	67:19;72:20;77:13;
33:13	122:14	62:16;75:6	dollars (5)	86:5;123:13;127:21;
declared (1)	design (2)	dig (4)	11:20;89:12;	146:19
4:11	12:22;65:20	31:12;40:14;54:16;	123:12;136:22;144:3	
decline (1)	designed (1)	116:10	done (30)	${f E}$
60:7	78:19	digging (4)	8:21;20:2;23:17;	
deep (1)	desire (2)	22:20;40:17;42:11;	34:7;42:6;48:4;	E22 (4)
	46:1,3			` '
69:2		49:2	63:18;66:1,6,15;	107:18,23;125:20;
Deerfield (1)	desk (1)	dining (1)	67:21;74:11;80:22;	145:24
6:3	10:20	21:24	98:13;101:16;102:2,	E22s (1)
default (1)	destined (1)	direct (10)	7;105:2;115:21;	126:2
93:1	31:8	8:14;9:3;14:4,5;	116:3;120:6,6;121:8;	eagle (1)
defer (2)	detail (11)	38:9;87:8;88:8,9;	129:9,11;132:17;	43:20
49:23;67:5	23:18;82:18;108:5;	92:4,8	133:15;135:19;	earlier (8)
deferred (1)	117:20;122:14;	direction (1)	138:4,7	20:13;35:20;71:1;
135:7	123:18;125:23;	35:3	DOT (3)	81:4;95:6;112:23;
deferring (1)	126:7;136:17;	director (4)	77:5,14;79:15	117:14;139:17
71:12	145:10,20	14:2;22:11;92:15,	down (25)	
				early (5)
defers (1)	detailed (3)	20	29:1;36:2;51:22;	55:19;62:3;63:18;
120:24	50:5;126:9;140:24	disagree (2)	52:22;67:18;81:8;	65:23;128:19
definitely (4)	details (1)	111:8;115:4	82:22;88:16;89:14;	earnest (1)
22:21;114:1,10,14	145:3	discontinuance (1)	101:14,19,24;102:13;	132:3
definition (1)	detained (1)	59:24	103:11,11;115:14,16;	earnestly (1)
126:5	80:23	discount (1)	117:8;129:20;	133:11
degradation (10)	determine (2)	19:17	131:14,14;134:12,12;	easiest (1)
38:8;57:20;58:5;	25:16;114:4	discovery (4)	135:13;136:17	95:12
87:18;88:1,3;97:11;	detour (2)	101:18;108:16;	downtown (4)	easily (1)
98:6,8,9	21:9,12	126:1;136:18	16:15,18;116:21;	104:17
degree (1)	detours (2)	discuss (4)	144:21	east (3)
43:14	20:9,10	32:22;33:1;58:8,10	dozen (1)	17:13;111:11;
delay (4)	develop (2)	discussed (8)	69:21	139:16
102:19,21;118:24;	34:2;57:3	20:13;30:23;32:20;	drain (1)	echo's (1)
119:1	developed (3)	47:18;58:7;75:6;	139:18	85:20
delayed (5)	12:21;15:8;147:12	111:13;146:12	drawing (1)	economically (2)
63:22,23;64:4;	developing (2)	discussion (3)	113:21	22:6;71:3
74:24;111:17	37:7;147:4	33:4;34:19;95:6	drawings (1)	effect (3)
delaying (1)	developments (1)	discussions (1)	113:21	88:12;121:11;
114:24	15:11	50:5	dresser (4)	137:18
delays (2)	develops (1)	distorts (1)	52:8,12;53:8,18	effective (1)
66:7;117:3	55:15	106:20	drive (1)	50:10
demonstrated (1)	deviating (1)	distribution (3)	57:4	effects (1)
	84:10	31:5;119:19;	driven (1)	21:1
68:13				
68:13 <b>Department (2)</b>	DG (1)	141:23	102:6	efficient (1)

efforts (1) 46:14 either (9) 23:2;29:14;58:15,	119:23 EnergyNorth (1) 6:19 Engineer (1)	even (17) 20:21;44:2;55:18; 72:17;82:23;90:20;	120:12 <b>Exhibits (6)</b> 7:15,15;117:13;	extract (3) 42:1;60:24;128:2
efforts (1) 46:14 either (9) 23:2;29:14;58:15,	6:19			
46:14 either (9) 23:2;29:14;58:15,	****	72.17.82.23.90.20.	7.15 15.117.13.	4 4 (4)
either (9) 23:2;29:14;58:15, e	Inginoor (1)	12.11,02.23,70.20,	7.15,15,117.15,	extracts (1)
23:2;29:14;58:15, <b>e</b>	ingineer (1)	92:16;97:8;98:8,19;	140:9,10,11	71:16
	12:20	106:19;111:20;	exist (3)	extras (2)
	engineering (3)	113:15;120:8;	43:7;54:12;110:15	43:20,23
16;82:23;84:4;	32:5;54:19;145:2	132:24;135:12;146:1	existence (1)	extremely (2)
	enhanced (1)	evening (1)	141:17	51:13;73:6
electronic (2)	145:23	115:21	existing (5)	eye (2)
	enough (2)	event (1)	29:3;83:23;126:10;	43:20;83:17
electronically (1)	57:24;64:9	5:8	132:24;146:13	
•	ensure (2)	events (1)	expect (10)	$\mathbf{F}$
elevated (3)	65:24;141:14	21:20	47:5,8;67:17;	
	entered (1)	Eventually (1)	103:11;123:10;	FABRIZIO (22)
eliminate (1)	93:8	137:6	127:20;128:17;	7:7,8;8:23;24:14,
	entire (1)	everybody (1)	132:8,11;141:19	15,18;92:3,5,9;93:19,
eliminated (1)	28:14	35:19	expectation (3)	22;94:9,10;109:18;
	environmental (7)	everybody's (1)	44:10;48:20;	137:24;138:4,6,9,12;
eliminating (2)	31:11,23;32:6;	138:17	135:22	141:6,7;147:23
60:9:130:14	41:24;42:23,23;	everyone (4)	expectations (1)	facilitating (1)
else (3)	68:24	4:3;121:17;146:4;	50:8	31:22
	equal (4)	147:21	expected (8)	facilities (1)
146:11	46:8;76:9;100:7;	evidenced (1)	35:11;41:7;49:7;	17:23
elsewhere (2)	103:23	60:6	77:7;89:24;91:16,17;	facility (2)
	equally (1)	evolved (1)	142:3	50:3;57:21
embers (1)	76:8	145:12	expenditure (3)	fact (4)
	equation (1)	exact (3)	59:12;64:11;90:14	
emergencies (1)	122:3	35:14;36:5;80:10	expenditures (2)	16:21;110:22; 113:13;143:14
			136:22;145:19	
	escalates (1) 34:21	exactly (3)		factor (7)
emergency (6)	especially (6)	41:18;76:8;124:23 <b>EXAMINATION (4)</b>	expense (1) 125:16	19:9;114:2,3,10,
4:11,13,20,21; es 23:3;85:6	23:6;41:12;52:6,			14;116:19;117:10
	21;79:15;86:1	9:3;80:2;92:8; 138:11	expenses (1) 60:8	factors (3)
<b>emergent (1)</b> 144:7 <b>e</b>				29:24;111:4,9
	establish (1) 123:8	<b>examining (1)</b> 92:23	expensive (3)	failures (1)
<b>emphasize (1)</b> 125:18 <b>e</b>			19:22;43:9;104:15	60:5
	establishing (3)	example (9)	experience (1)	fair (25)
enable (1) 142:12 es	16:24;47:12;58:5	17:4;18:2;21:15;	68:24	16:14;19:14;22:24;
	estimate (18)	31:19;35:4;58:21;	explain (6)	61:17,24;62:1;80:14;
encapsulate (1)	34:5;38:6;41:9,19,	59:9;116:5;145:3	29:20;51:7;73:12;	81:13;83:7,9;85:12;
53:17	23;43:17;44:12;	excavation (1)	82:18;84:19;107:2	86:2,3;88:14;89:13;
encounter (1)	63:16;68:22,22;	79:2	explained (1)	90:10,17;91:5,10;
31:13	69:23;87:11,13;	Excellent (1)	32:7	116:21;121:22;
encountered (2)	88:13;90:12;91:15;	7:24	explains (1)	123:9,20;124:8,9
30:11;42:8	101:17;127:12	exception (2)	67:4	fairly (1)
	estimated (10)	46:8;100:7	explanation (2)	39:24
30:8	29:22;38:9,10;	excerpt (2)	73:5;76:23	familiar (5)
encourage (1)	88:8,10,12;89:5,10,	117:18;120:10	explore (1)	57:7,9;77:24;78:2,
135:17	21;99:2	excerpted (1)	20:6	11
, ,	estimates (4)	120:13	explored (1)	fan (1)
66:17	39:21;44:14;90:4;	excluded (2)	21:1	109:1
end (27)	122:18	101:14;106:3	express (1)	far (9)
	estimating (9)	Excuse (1)	122:22	22:22;33:19;35:18;
27:4;31:20,21;45:6;	30:2;32:12;43:10;	48:11	extend (2)	36:5;51:24;54:14,21;
52:17;58:6;85:6,21;	44:20;62:12,17,24;	execution (1)	35:13;131:18	136:3;145:20
98:4;100:5;101:15;	68:18;70:10	75:17	extended (3)	fast (6)
	et (2)	Executive (1)	105:1;120:8;	20:3;47:13,15;
104:20;106:5;	23:20,21	4:14	131:12	102:24;103:1;112:14
	evacuated (1)	exercise (1)	extent (2)	feared (1)
123:17;141:18,22;	56:17	24:1	132:3;137:16	143:21
	evaluates (1)	Exhibit (13)	externally (2)	feasible (2)
endeavor (1)	71:9	9:16;12:8;13:7;	102:6,7	22:7;71:3
	evaluation (1)	14:8;93:4,7,8;96:2;	extra (2)	federal (2)
ended (1)	49:19	106:12,15;118:21,22;	98:16;103:8	111:15;113:24

feed (1)	4:7;12:4,10;97:4,4	focused (1)	51:12	24:6;89:14;109:18;
58:24	finds (1)	99:12	Frink (10)	120:9;124:11;139:2
feel (3)	85:9	follow (2)	7:11;117:15;	future (5)
105:3;136:1;	fine (3)	76:1;96:7	120:18,22;122:2;	15:14;70:8;89:24;
140:21	61:16;87:15;	<b>following (2)</b> 87:23;117:22	128:17;129:18;	143:7;145:13
feels (1) 50:7	144:14 <b>finer (1)</b>	8/:23;11/:22 follow-on (1)	130:1;136:5;137:14 Frink's (2)	<b>FY (1)</b> 26:1
fees (8)	145:2	75:21	117:16;118:22	20.1
38:8;87:18;88:1,3;	finish (5)	follow-up (4)	front (1)	G
97:11;98:6,8,10	28:14;48:22;87:22;	18:2;72:21;79:23;	53:5	9
feet (3)	131:6,9	140:3	FROST (121)	gaps (1)
23:19;42:12;	finished (7)	follow-ups (1)	8:4,8;10:22;12:15,	72:16
121:14	61:4,4;87:11;88:2;	77:15	19,20;13:4,9,13,17,	Gas (23)
few (15)	93:20;113:15;115:23	foot (5)	20;14:13,17,20;15:1,	6:19;14:2;18:18,
24:19;41:3;47:14;	finishes (1)	29:21;44:18;62:7;	3,10,18;16:5,17,24;	19,21;19:3;22:11;
61:3;70:17;84:13;	87:21	89:6;131:14	18:6,14;19:2,15;	27:4;29:3;31:5;52:4;
104:5,9;110:8;	fires (1)	footage (1)	20:5;21:7,18;22:3;	58:22;62:4;64:13;
113:16;117:13,22;	57:18	134:11	23:5,16;24:3;26:1;	77:23;82:6;85:11;
118:4;120:11;144:10	fire's (1)	foot-by-foot (1)	28:4,19,24;29:9,13,	101:3;105:1,17,19,
field (5)	144:9	32:15	23;30:23;32:2,19;	23;142:5
32:7;34:11;44:10;	fire-type (1)	footnote (1)	33:5;36:18,22;37:22;	gave (5)
115:11;143:20	55:21	99:24	40:20;42:16,17;	5:4;75:2;122:23;
fighting (1)	firm (3)	footwork (1)	43:11;44:6,19;45:3,	130:17;135:11
144:2	16:21;17:1;19:24	31:16	15;46:5,23;47:10;	general (6)
figure (4)	first (18)	force (1)	48:1,19,23;49:14;	12:17;39:16;41:11;
65:11;79:19;96:17;	4:7;8:14;22:17;	20:3	50:11;51:9;53:22;	53:17;62:22;113:5
117:3	42:12;49:19;76:18;	forecasting (1)	54:4;55:6,7;56:21;	generally (10)
<b>file (5)</b> 27:10,22;108:8;	84:1;86:16;94:12; 110:11;111:1;115:9;	69:20	58:3,21;60:16,23; 61:16;62:2,16;64:1,	15:4;27:3;32:5;
128:21;147:1	117:23;119:3;	forever (4) 112:4;113:7;	6;65:5,10;68:12;	37:21;39:6,19;42:21; 72:4;109:13;142:1
filed (6)	123:13;139:16;	132:21;133:19	69:12;70:4,11;71:7;	geographically (1)
13:5;14:13,14;	142:19;143:3	formal (1)	72:9;73:6,13,23;74:3,	83:11
87:11;93:2;101:9	fiscal (17)	139:22	13;75:4;76:5,24;	gets (8)
filing (9)	24:24;25:2;26:8,	format (2)	77:12,18;78:8,13,15,	19:18;34:18,22;
9:15;11:22;12:23;	17,22,23;27:15;	126:10;127:19	18,24;79:8,13;86:3,	65:24;75:19;101:14;
13:2,5,24;14:4;	61:13;74:8,14,17,19;	forms (1)	17;87:2,7,17;88:15,	102:2;128:7
27:17;143:4	88:24;89:20;91:20;	13:2	20;89:2,8,18;90:6,14,	Giaimo (17)
fill (3)	141:10,11	forth (2)	22;91:11;111:3;	6:10,11,12;48:13,
42:22;116:7,11	fitters (2)	75:15,17	130:18;139:14,14;	14,18;50:15;59:17,
filled (1)	81:1,23	forward (4)	146:1	18,22;60:23;67:3;
79:16	five (17)	31:8;121:12;	Frost's (2)	70:12;134:21,22;
final (9)	17:24;18:4,12;	142:24;146:3	14:5;99:23	137:15;145:21
12:2,3,6;33:12;	20:20;44:24;47:5;	forward-looking (2)	froze (1)	giant (3)
62:19;97:4;112:14;	48:21;75:5;90:20;	32:23;33:6	61:10	95:23;96:1;126:17
116:20;146:7	102:14;112:24;	fought (1)	fruit (2)	gigantic (2)
finalized (1)	131:9;132:12,15;	144:4	61:22;62:11	26:2;129:19
108:14 <b>finalizing (1)</b>	133:13,14;134:3 <b>five- (1)</b>	<b>found (5)</b> 30:9;43:2,3;53:1;	frustrated (1) 37:9	GIS (2)
17:12	58:7	86:7	full (6)	108:12;130:19
finally (2)	five-year (1)	foundation (1)	27:10,17;59:11;	gist (1) 118:10
135:23;136:18	47:11	93:21	92:10;119:9;140:11	Given (7)
financial (5)	fix (1)	four (5)	fully (5)	16:21;18:6,14;
90:11;95:17;107:9;	52:16	18:11;82:21;83:6;	21:1;25:10;44:14;	79:10;83:7;97:19;
122:3;130:8	flagpole (1)	90:19,20	73:7;77:22	140:21
find (13)	84:5	fractures (1)	function (1)	gives (7)
4:10;35:2;40:4;	flexibility (1)	105:18	61:20	107:9;120:18;
41:5;57:2;67:11;	80:16	frame (3)	functioning (1)	127:8,10,10;129:7;
72:21;86:4;88:22;	flipping (1)	11:20;85:4;139:12	67:24	134:10
97:7;132:1,19;	99:16	frames (1)	funding (1)	gluing (1)
133:17	flow (2)	67:7	111:15	46:15
finding (1)	27:6;50:19	franchise (1)	funds (1)	goal (9)
46:6	focus (1)	143:13	31:10	66:9;68:9;69:6;
findings (5)	118:16	freezing (1)	further (6)	75:4,15;100:5;
-	1	1	1	1

	E GIEEE REI EIIGEN	EI I I I I I I I I I I I I I I I I I I	218	5 une 10, 2020
108:20;131:17;		5:17;21:24;56:7;	47:16;55:4;75:7,	109:3
141:20	H	73:18;129:6,12	13;85:15	inception (1)
goals (1)		helped (1)	hundred-year-old (1)	100:23
111:6	half-hour (1)	143:18	59:3	inches (1)
goes (8)	83:15	helpful (7)	hypothetical (1)	103:24
27:19;53:22;54:21;	Hampshire (8)	7:21;27:9;30:16;	48:16	incidents (2)
55:16;57:5;71:3;	6:8,12;7:2;14:4;	35:6;62:12;126:7;	_	56:12;57:8
130:20;133:18	16:20;77:5,14;79:15	140:1	I	include (4)
Good (18)	hand (3)	herself (1)	(2)	74:5;100:21;101:1;
4:2;6:11,17,22;7:7;	5:15;48:13;78:18	84:5	ID (2)	106:19
12:19;14:1;32:13;	happen (7)	high (3)	140:9,10	included (10)
42:17;50:11;59:18; 60:23;64:18;69:14;	35:1;40:6;42:15;	10:12;22:12;39:24 higher (10)	idea (2) 48:10;129:7	26:5;27:15,20; 37:18;39:5;46:9;
75:4;94:2;134:24;	49:13;81:3;120:21;	34:21;35:5;39:15,	ideal (1)	73:9;93:15;97:9,10
139:14	137:1	17;51:6;56:3;57:20;	65:12	includes (2)
good-faith (1)	happened (2)	62:9;76:15;90:4	ideally (1)	15:10;87:12
44:12	27:8;118:12 happening (2)	high-level (2)	69:22	including (1)
Governor (1)	52:9;132:10	18:7;19:23	identification (1)	100:24
4:11	happens (5)	highlighted (1)	7:16	incorporate (3)
Governor's (2)	34:9;53:24;63:8;	125:12	identified (1)	32:11;70:7;137:18
4:13,19	64:7;113:8	historical (4)	14:8	increase (7)
Grade (7)	happy (1)	30:12;62:23,24;	identify (5)	11:13,19;27:18;
23:10;52:14,15;	57:14	68:23	5:24;7:5;9:6;	39:13;103:8;116:19;
53:6;85:1,4,6	hard (12)	historically (2)	13:11;49:17	141:9
graded (1)	30:1;47:13,15;	46:13;101:21	III (1)	increased (3)
54:6	48:6;56:21;70:5;	history (23)	12:20	24:4;39:1;53:10
grading (3)	72:9;102:23;103:1;	33:11;46:24;49:18,	imagine (3)	increases (2)
52:5,21;84:23 graph (3)	112:14;128:15;144:4	20;55:15,18,23;56:4, 6,9,18;57:13,23;62:9;	39:14;45:15;47:10 immediate (1)	39:23;120:22 increasing (1)
74:18,19,20	havoc (1)	68:20;71:11,13;	58:11	116:23
great (3)	82:9	86:14,18;95:20;	immediately (5)	incremental (4)
23:18;59:21;	hazard (3) 31:1;49:23;58:12	108:13;130:20;145:4	53:13;54:19;85:8;	10:17;11:6,13;
134:17	hazardous (1)	hitting (3)	135:3;136:8	25:11
greater (4)	85:7	69:13,23;98:15	impact (5)	incurred (7)
46:8;100:8;103:24;	head (3)	hold (3)	11:12,14;36:9;	23:23;24:1;87:18,
105:6	48:5;64:21;78:11	33:7,12;90:8	107:10;111:9	23;89:19;90:7;91:15
ground (19)	heads (1)	hole (5)	impacted (1)	indefinite (1)
5:12;23:7;30:9;	59:20	72:17;86:5;116:7,	132:6	36:8
31:7;35:1;38:24;	hear (2)	10,11 holes (2)	impacts (3)	indicate (1)
40:4;41:5;53:23; 55:3;56:2;59:11;	115:15;117:11	31:12;85:22	19:11,11;33:11	44:19 indicated (2)
66:17;72:15;79:8;	heard (18)	home (3)	importance (1) 142:6	45:24;107:24
84:18;85:15;103:5,7	29:10;35:7;48:19;	6:3,7;7:1	important (3)	indicates (3)
groundwater (1)	54:7;68:7;71:1; 73:24;94:11,19,20;	homes (1)	127:8;134:9;	32:9;69:4,15
72:15	96:14,17;98:2;109:7;	82:2	146:16	indicating (1)
grout (1)	111:2;112:23;	hooked (1)	impose (4)	69:17
79:17	133:22;135:15	29:4	115:5,6;116:3;	indication (1)
grown (1)	hearing (18)	horizontally (1)	144:23	90:3
98:18	4:18,23;5:1,6,7,9,	86:22	imposed (1)	individual (3)
growth (1)	10;7:21;8:18;50:19;	horses (1)	116:16	68:23;97:17;
125:22	59:20;67:2;68:17;	131:20	imposing (1) 115:12	104:13
guess (10) 39:12;69:19,21;	108:15;112:17;	hour (2) 30:6;83:15	impossible (2)	industry (1) 72:5
72:10;73:21;79:9;	117:19;130:15;	hours (2)	66:2;72:23	inform (1)
112:22;129:6;130:2;	147:24	115:7,24	impression (1)	142:13
132:13	hearings (1) 30:23	house (2)	43:15	information (39)
guessing (1)	hearing's (1)	43:1,2	inability (1)	5:5;10:21;25:24;
113:23	127:2	Hudson (5)	63:17	26:13;37:18,19;55:8;
guidance (2)	heart (2)	30:10;41:6,8,12;	incentive (1)	75:2;107:13;113:3,
62:22;103:18	116:24;117:1	42:3	138:22	11;117:18;121:12,
guys (1)	heavy (1)	huge (2)	incentives (2)	21;122:4,6,8,16;
112:12	35:22	126:17;130:13	108:22;109:1	123:3,7,14;125:6,11,
	help (6)	hundred (5)	incentivized (1)	19;126:2,15,16;
	1	1	1	l

2020 CAST IRON/DAN	T STEEL KEI LACENI	ENT I KOGRAM RESC	J <b>L13</b>	June 10, 2020
127:8,8,24;128:9,13;	intermingle (1)	31:19,23;36:14;62:2;	129:15;130:2,7,8;	107:6
136:13,21;137:4,7;	130:9	144:7	131:10;133:24;	large-diameter (2)
139:7,11;145:14	internal (1)	item (3)	134:1,5;136:15,16,19	58:9;141:24
infrastructure (2)	143:2	20:12;71:14;	kinds (1)	largely (1)
57:19;146:18				144:8
,	internally (2)	107:19	117:4	
in-ground (1)	143:23;144:2	items (1)	Knepper (112)	larger (4)
138:15	internally-driven (1)	31:1	7:10;8:5,10,21;	16:9;18:18;45:23;
initial (1)	102:5	<b>T</b>	14:14;15:19;36:20;	46:11
77:12	INTERROGATORIES (2)	J	46:5;58:9;70:19;	last (39)
initially (1)	41:1;124:16		71:15;73:4,10,17,19,	15:8,11;16:5;
133:22	interrupt (4)	<b>job</b> (11)	21;92:6,10,12,14,20;	23:16,17,24;44:24;
initiated (2)	48:12;50:18,23;	33:22;34:5,7;	93:1,5,9,13,17;94:11,	47:19,22;49:8;51:10,
98:7,10	64:20	43:21,23;44:1;50:11;	15;95:8,14;96:1,11,	17;55:3;59:1,23;
initiating (1)	interrupting (2)	68:11;83:14,22;87:8	22;99:16,19,21;	61:1;67:13;68:8;
102:11	31:20;77:10	jobs (3)	100:11;102:21;	71:22;80:4;86:19;
inner (1)	interrupts (6)	33:20;40:15;44:9	104:3;105:10;106:7;	89:14,21;107:5;
20:2	64:24;66:23;73:1;	joint (2)	107:4;108:5,24;	109:8;117:13,19;
in-person (1)	81:22;85:18;125:15	14:5;28:9	109:16,19;110:11,17,	118:11;119:12;
8:18	into (24)	joints (3)	21;111:11;113:9,18;	120:11;124:3;127:3;
in-progress (1)	10:24;29:3;32:12;	46:14;105:13,14	114:6,21;115:10,15,	131:14;135:1;139:1;
64:12	35:15;41:16;58:24;	juggle (3)	17;116:13,22;117:6;	143:20;144:8;146:7,
inputs (2)	66:8,11,19;67:16;	50:13;63:5,6	118:2,7,10,15,21,24;	8
25:5,7	69:2;70:8;71:4;74:7;	juggling (1)	119:8,15,21;120:2,4,	late (4)
inside (3)	77:7,23;86:7;114:2;	63:9	16;121:3,10,24;	28:11;66:12;67:10,
81:1;82:1,14	115:2;121:5;139:21;	jumped (2)	122:6,8,11;123:10,	15
insignificant (1)	144:15,20,21	63:13,14	22;124:9,22;125:1,7,	later (6)
51:19	introduce (3)	June (1)	10,16;126:21;127:1,	59:9;66:14;98:3;
	12:16;13:22;92:6			
inspections (1)		93:3	17;128:15;129:2;	111:24;121:15;
115:11	introducing (1)	justice (1)	130:2;131:4,11;	133:16
inspector (5)	93:20	122:23	132:8,16;133:17,21;	latter (1)
34:10;82:20;83:5,	investment (5)	TZ	134:24;135:5,9,11,	113:9
10;84:1	10:17,24;25:12;	K	21;136:9;137:2,8,10,	layers (1)
inspectors (2)	140:22;145:16		12;138:13,16,24;	108:12
33:19;82:16	involved (6)	Kathryn (1)	142:9	laying (2)
inspector's (1)	22:22;34:18;54:19;	6:7	Knepper's (10)	82:5;93:21
83:14	65:14,18;77:19	Katie (1)	14:16,17,20;15:1,	lead (1)
install (2)	involvement (3)	7:6	5;36:23;45:24;46:7;	92:22
19:6;21:24	9:8;12:17;13:23	Keene (12)	145:23;147:10	leads (1)
installation (1)	involves (2)	73:2,8,24;74:2,6;	knew (1)	56:8
77:21	32:8;139:17	100:9,21,21;106:4,7;	144:19	leak (36)
installed (6)	iron (28)	142:2,4	knowledge (3)	51:3,5,9,11,13,18,
17:20;32:15;59:1,	16:7;21:22;31:2;	Keene's (3)	27:12;41:11;113:6	22;52:3,10,19;53:21;
8;71:20;87:20	46:17,20,24;48:1;	74:6;106:16,21	known (2)	54:1;55:11,15,18,23;
instance (1)	51:14;52:1,23;55:3,	keep (6)	41:15;129:3	56:4,5,9,18;57:22;
40:11	11,19;58:10;59:3,7,	33:20;43:20;50:12;	knows (2)	62:9;71:11,12;84:23;
instead (2)	11;61:11;62:3,4,10;	109:22;127:18;	113:7;128:1	85:1,2,6;86:14,17;
67:21;107:16	66:16;74:7;100:19;	129:23	,	103:10;105:12,17,19;
integrity (2)	105:16,18;106:17;	keeping (1)	$\mathbf{L}$	108:12;130:20
18:21;22:19	127:9	83:17	_	leakage (4)
intend (2)	Iron/Bare (8)	keeps (2)	label (1)	23:7;46:16;49:18,
27:10;146:24	4:6;53:2;54:10;	36:2;40:6	102:24	20
intended (2)	56:10;57:4;108:10;	kind (45)	lack (1)	leak-detection (1)
35:8;64:18	136:11;146:17	23:2;39:15;43:4;	64:4	57:5
interceptor (1)	issue (16)		Lake (2)	leaking (5)
	18:9;21:10;34:24;	45:8;46:15;61:6;	77:8;78:9	55:13;70:22;72:17;
133:8		96:23;97:7;98:17;		
interest (2)	62:20;66:22;69:15,	99:3,12;101:13;	land (1)	85:23;86:1
17:3;50:14	17,18;77:6;80:24;	102:22;105:11;	10:20	leak-prone (13)
interested (1)	81:21;85:17;89:12;	106:21;107:9,10;	landowner (1)	22:5,14,18,24;
54:8	125:14;138:4;145:20	111:16;112:11,20,20,	79:12	23:6;52:1,24;62:8;
interferes (1)	issued (2)	24;113:22;114:21;	large (11)	103:22;138:19;
133:4	12:2,3	116:3;118:16;125:7,	17:5;18:17;20:7;	140:23;142:1;144:12
interject (1)	issues (8)	11,18,19;126:6,21;	37:3,5;43:16;45:11;	leaks (23)
48:16	16:21;20:1;30:21;	127:13;128:2;	79:16;96:4;103:3;	23:1;52:7,14,15,15,
	1			

			222	04110 10, 1010
21;53:1,8;54:24;	141:18,21;142:7;	look (43)	Madam (7)	36:13;47:23;72:5
	143:12			
56:16,23;57:2,13;	= -	35:16;41:13;56:11,	24:15;59:15;70:12;	many (25)
60:5,7;71:9,23;72:1,	Liberty's (4)	18;67:8,20,22;68:18,	92:6;134:19;138:9;	15:23;17:15;20:10;
3,22;85:4,9;86:7	63:9;92:23;96:2;	20;70:9;75:9;88:5;	141:7	21:13;23:19;28:15,
leaky (1)	146:15	91:6;96:24;97:8,14,	Main (32)	15,16;29:7;37:5,15;
144:12	life (1)	18;98:22,23,24;99:4;	21:19,23;35:3;	63:13,22;64:3;91:18;
learn (1)	18:1	100:12;101:5;103:2;	38:6;41:21;42:11;	94:13;100:11;
31:18	likely (3)	104:13;105:24;	45:23;46:20;47:6;	105:23;111:3;
least (4)	113:12;139:8,11	106:9,13,13,14,15,	49:4,17,20;51:14;	122:15;129:8;
63:18;100:14;	limit (2)	16;114:21;121:24;	54:20;58:23;59:7,8,	130:21,21,21,21
113:13;147:4	26:5;68:15	125:1;129:18;130:2,	8;81:4,19,24;82:4,5;	map (1)
leave (4)	limited (1)	9;133:5,6,9,11;	83:23;104:7,22,23;	42:6
28:4;40:14;66:16,	142:10	145:16	105:1,23;116:15;	mapped (1)
16	line (12)	looked (1)	136:12;139:18	16:12
leaves (1)	50:13;88:17;89:9;	51:5	mains (15)	mapping (4)
43:4	90:8;106:15;107:19;	looking (25)	16:7;46:8,12,17;	16:6,11;55:12;61:1
leaving (1)	119:3,3,8;121:3;	22:9;25:15;35:15;	49:17;51:24;54:23;	mappings (1)
79:6	122:21;136:14	36:3,7;53:20;64:15,	72:19;100:7,9;	41:13
led (4)	Lines (3)	21;65:1;73:22;74:13,	103:23;105:6;106:4;	maps (2)
12:21,22;29:20;	28:9:89:15:99:20	18;76:24;90:12;	142:2,3	16:8;61:5
30:20	lingering (1)	95:24;96:19;97:6;	maintain (2)	March (1)
Ledge (4)	132:20	104:11;107:3;	16:10;37:22	27:6
77:18;78:4,7;98:16	list (1)	111:18;122:24;	maintains (1)	mark (1)
left (19)	20:14	126:14;127:24;	37:24	58:7
16:8;35:17;44:21,	listed (3)	130:3,7	major (5)	marked (6)
22;45:1,5,13;48:15;	30:19;99:1;125:19	looks (7)	75:8;83:22;98:11,	9:16;12:7;93:3;
60:18;64:9;70:17;	listen (2)	56:22;72:11;88:17;	14;139:16	99:18;117:13;120:10
79:8;88:7,21;100:20;	4:17;5:3	99:5,20;121:3;	majority (3)	marketing (1)
101:6;129:11;131:7;	lists (2)	124:24	45:10;98:12;	108:9
140:22	95:16,18	loss (3)	105:13	MARTIN (44)
length (3)	little (18)	70:21;85:16;	maker (1)	4:2;6:1,9,14,20;
41:19;80:11;	30:10;35:5;37:5;	143:21	84:2	7:4,14,23;8:11,24;
127:10	47:4;52:19;56:8;	lost (3)	makes (4)	14:22;23:12;24:8,13;
	63:20;80:9;82:9,18;	37:11;123:22;	45:16;66:1;104:14;	40:21;48:11,17;
Leone (1)				
7:12	101:24;107:19;	138:5	115:8	50:24;59:16;66:24;
less (22)	124:18;125:8;126:4;	lot (32)	making (4)	70:15,18;79:21;92:1;
16:1;17:23;19:20,	129:20;131:22;	35:20;37:6,7;40:3;	5:15;35:23;54:23;	93:19,23;94:4,7;
21;22:21;39:9;46:17;	136:17	41:4;42:18;43:3;	147:1	109:20,24;110:5;
53:7;62:7;65:16,18;	live (3)	46:17;51:12;53:23;	managed (2)	123:23;124:13;
69:11;76:10,11;90:7,	19:3;137:12;146:2	56:1;62:6,17,21;	38:18;39:10	134:20;137:22;
19;127:4,7;134:13,	loaded (9)	66:11;68:20;70:6,16;	management (2)	138:5;139:4;140:2,6,
14;142:1;145:20	38:9;86:23;87:5,7;	72:12;76:11;91:12;	65:19;78:20	16,20;141:4;142:16;
letting (1)	88:10,12;89:11;99:2,	94:11;98:16,20;	manager (1)	147:15
50:24	3	125:23;127:4,7;	34:18	massive (3)
level (17)	local (1)	128:3;134:4;136:21,	manages (1)	13:1;37:19;129:22
10:12;22:12;32:4,	144:3	22;142:22	56:22	match (1)
		low (4)		
14,14,15;38:18,19;	locally (1)		managing (3)	50:2
42:21;84:19;91:5;	144:1	52:3;54:6;63:15;	58:13;90:23;91:2	material (1)
97:16,17;104:1;	located (3)	72:12	Manchester (30)	42:22
123:17;140:24;	5:23;16:18;71:6	low-cost (1)	16:19;17:11;18:2;	materials (4)
145:10	location (4)	95:1	20:15,24;35:21;	30:8;31:4,14;
levels (2)	4:17;21:5;33:22;	lower (3)	40:11;47:24;48:1,15,	105:21
38:22;84:20	132:5	17:9;82:23;89:16	21;49:5;50:6,19,20;	matter (6)
liaises (1)	locations (2)	low-hanging (2)	54:11;58:22;76:12,	6:18;12:8;31:14;
32:2	71:17,18	61:21;62:11	14;87:24;88:2;99:9;	37:11;38:2;147:19
Liberty (27)	long (6)	low-pressure (1)	111:5,12;113:4;	matters (1)
4:5;6:18;12:20;	51:6;54:11,14;	86:2	129:12,15;133:15;	7:20
13:23;14:3;17:16;	55:2;103:21;111:18	Lynn (4)	139:15;145:4	may (12)
19:2,18;27:10;36:10;	longer (4)	7:8;92:13;95:8;	Manchester's (1)	14:18;18:23,24;
47:2;68:1;71:2;	58:19;110:15;	99:16	48:4	20:3;42:11;67:10,20;
94:13,15;100:4,11;	120:21;143:1	3.5	mandate (3)	69:16;75:7;81:9;
105:3,15,24;126:2;	longstanding (1)	M	120:5,7;133:18	118:7;136:5
133:22;138:14;	49:15		manner (3)	<b>maybe</b> (13)

17:16;39:6;47:14,				
	mid-October (1)	modernize (1)	84:8,16,19,23;85:13;	104:9;111:6;112:8;
17;50:1;55:20;58:8;	65:24	57:18	111:3;116:5	115:18;132:12
71:20;75:20;95:4;	might (13)	modified (2)	Mostone's (1)	Natural (3)
129:20;137:17,17	17:2;30:20;31:20,	107:21,23	99:23	6:19;101:3;142:5
McNAMARA (37)	21;47:16,21;50:18;	money (1)	mouse (1)	near (1)
8:3,7;9:5,5,9,10,14,	61:14;66:21;72:2,7;	113:24	126:13	104:9
18,21;10:1,4,6,11,17,	84:6;128:20	monitor (5)	move (13)	necessarily (4)
21;11:5,11,16,21,24;	Mike (5)	33:22;34:7;83:22;	18:24;19:3;31:8;	34:14,15;44:7;85:3
12:3,9,13;23:22;	6:12,17;91:11;	85:2;104:20	77:9;80:19,22;81:7;	necessary (5)
24:20,23;25:4,9,20,	115:15;123:22	monitored (1)	82:8;111:23;131:24;	5:3,5;10:23;58:19;
		85:4		
24;26:11,20;27:2,13,	milages (1)		132:4,4;139:21	141:14
18;28:3;107:8	109:7	monitoring (6)	moved (3)	need (42)
McNamara's (1)	mile (1)	23:8;34:3;54:15,	82:10;114:19;	4:7;5:17;7:17;
124:6	101:10	22,23;58:4	133:3	14:18;27:3;31:6;
mean (9)	mileage (9)	month (1)	movement (3)	44:3,11,13,19;56:1;
8:14;56:21;62:16;	16:17;20:12;45:22;	66:20	23:7;112:2;139:24	64:8,12;68:10;70:9;
91:6;112:17;114:23;	48:3;61:9,11;64:16,	monthly (1)	moving (1)	84:3,12;85:19;86:11;
116:18;130:3;131:3	17;72:23	77:15	133:4	101:2;103:17;105:8;
meaning (2)	miles (46)	months (12)	much (28)	109:2,12;114:16;
76:4;82:20	15:24;16:7,8,13,14,	22:20;23:5,11;	16:2;19:17;22:19;	117:19,21;121:11,20;
means (6)	23;20:13,15,20;45:2,	32:21,24;52:10,17;	23:9,19;26:17,23;	122:16,18,20;123:18;
58:17;72:13;83:5;	13;58:16;60:17,22;	54:1;61:3;66:8;	38:8,9;41:17,20;	128:11;131:21;
87:5;115:21;116:1	61:18;65:2;72:7;	67:16;85:5	44:2;57:11;66:6;	132:23;136:5,5,7;
meant (1)	74:11,15,19,21;	more (51)	73:13;87:14;98:6;	137:3;140:8,13
73:24	100:19;101:1,6,11,	15:24;23:9;38:12,	105:21,22;111:7,22,	needs (9)
measurements (1)	13,16,23;102:1,2,14,	19;41:3;55:8,17,21;	23;116:17;129:9,11;	18:19;20:1;49:6;
71:17	17;106:17;109:8;	58:14;61:22,22,23,	131:2;133:6;134:17	54:18;76:5;85:7;
		23;62:8,13,13;63:20;	mud (1)	122:3;127:18;144:23
meet (4)	114:24;117:7,8;			
4:16;44:11;111:10;	122:13;129:11;	66:21;69:11,18;	85:24	negative (1)
141:20	131:7,8;132:12;	75:13;76:9,22;80:6,	multiple (2)	97:1
meeting (1)	134:13,13;143:15,16	10,15;82:18;103:12,	77:15;91:14	neighborhood (3)
136:2	miles' (1)	16;109:3;113:12;	municipal (3)	32:14;45:7;147:2
meetings (1)	121:13	115:8,12,12;116:20,	17:13;101:20;	neighborhoods (1)
32:16	million (8)	20,24,24;117:1;	109:9	139:21
members (1)	11:7;25:21,22,23;	122:13,20;126:2,5;	municipalities (2)	New (16)
4:23	107:15,15;122:13;	128:3;130:13,21;	79:13;102:8	6:8,12;7:2;14:3;
mention (3)	125:16	136:17;138:7;142:1,	municipality (4)	16:19;19:6,7;29:2;
	mind (4)			
73:2,8;78:21	1111111(1 (4)		62.0.70.11.102.10.	60.2.77.5 5 14.
4 <sup>1</sup> 1 (10)		9;145:3	63:9;79:11;102:10;	69:3;77:5,5,14;
mentioned (10)	14:22;35:14;38:20;	morning (18)	111:16	79:15;81:11;122:6,8
47:8;56:24;74:23;	14:22;35:14;38:20; 65:5	morning (18) 4:2,4;6:11,17,22;	111:16 <b>must (1)</b>	79:15;81:11;122:6,8 <b>next (11)</b>
47:8;56:24;74:23; 76:21;78:8;80:17;	14:22;35:14;38:20; 65:5 minds (2)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19;	111:16	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16;
47:8;56:24;74:23;	14:22;35:14;38:20; 65:5	morning (18) 4:2,4;6:11,17,22;	111:16 <b>must (1)</b>	79:15;81:11;122:6,8 <b>next (11)</b>
47:8;56:24;74:23; 76:21;78:8;80:17;	14:22;35:14;38:20; 65:5 minds (2)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19;	111:16 must (1) 95:23	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16;
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13;	79:15;81:11;122:6,8 <b>next (11)</b> 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24;
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11;	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10)	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3)	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19,	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24;	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2)	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3)	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20;	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59)	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6)	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20;	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59)	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6)	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1)	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19 Michael (1)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19 mitigate (1)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13; 36:10,18;38:15,21;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23 Nashua (35)	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19 Michael (1) 86:23	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19 mitigate (1) 22:21	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13; 36:10,18;38:15,21; 39:12;40:2,20;41:3,	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10;	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19 Michael (1) 86:23 micromanaging (1)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19 mitigate (1) 22:21 mitigated (1)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13; 36:10,18;38:15,21; 39:12;40:2,20;41:3, 11;42:5;48:8;51:4,	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19 Michael (1) 86:23 micromanaging (1) 121:21	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19 mitigate (1) 22:21 mitigated (1) 42:14	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13; 36:10,18;38:15,21; 39:12;40:2,20;41:3, 11;42:5;48:8;51:4, 24;53:4,15;54:13;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19, 21;30:9;35:21;47:4,	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19 Michael (1) 86:23 micromanaging (1) 121:21 microscopic (3)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19 mitigate (1) 22:21 mitigated (1) 42:14 mix (2)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13; 36:10,18;38:15,21; 39:12;40:2,20;41:3, 11;42:5;48:8;51:4, 24;53:4,15;54:13; 56:24;60:13;66:5;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19, 21;30:9;35:21;47:4, 9,10;50:6;52:6;53:9,	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19 Michael (1) 86:23 micromanaging (1) 121:21 microscopic (3) 91:4,4;97:16	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19 mitigate (1) 22:21 mitigated (1) 42:14 mix (2) 19:20,21	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13; 36:10,18;38:15,21; 39:12;40:2,20;41:3, 11;42:5;48:8;51:4, 24;53:4,15;54:13; 56:24;60:13;66:5; 67:8;68:4;78:2,4,7,	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19, 21;30:9;35:21;47:4, 9,10;50:6;52:6;53:9, 14;54:10;56:11,15;	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19 Michael (1) 86:23 micromanaging (1) 121:21 microscopic (3)	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19 mitigate (1) 22:21 mitigated (1) 42:14 mix (2) 19:20,21 model (1)	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13; 36:10,18;38:15,21; 39:12;40:2,20;41:3, 11;42:5;48:8;51:4, 24;53:4,15;54:13; 56:24;60:13;66:5;	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19, 21;30:9;35:21;47:4, 9,10;50:6;52:6;53:9,	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3)
47:8;56:24;74:23; 76:21;78:8;80:17; 82:15;97:5;100:15; 118:2 merely (1) 105:7 Merrimack (1) 17:14 message (1) 143:23 Messrs (1) 40:20 method (1) 38:11 mic (1) 14:19 Michael (1) 86:23 micromanaging (1) 121:21 microscopic (3) 91:4,4;97:16	14:22;35:14;38:20; 65:5 minds (2) 122:1;136:2 minimum (2) 82:19;83:3 minor (1) 141:23 minus (15) 16:11;44:12;60:19, 20;61:7;69:5,8,14,24; 89:16,18;90:3,20; 94:21;96:16 minutes (2) 84:13;118:4 misunderstanding (1) 29:19 mitigate (1) 22:21 mitigated (1) 42:14 mix (2) 19:20,21	morning (18) 4:2,4;6:11,17,22; 7:7;10:3,10;12:19; 13:12;14:1,11;42:17; 59:18;60:23;94:12; 115:20;133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6, 21;14:1,2,9,12,18; 22:4,8,11,16;28:4; 33:19;34:3,14;35:13; 36:10,18;38:15,21; 39:12;40:2,20;41:3, 11;42:5;48:8;51:4, 24;53:4,15;54:13; 56:24;60:13;66:5; 67:8;68:4;78:2,4,7,	111:16 must (1) 95:23 mute (7) 5:14;14:23;23:13; 38:21;85:19;92:11; 123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19; 14:1;92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19, 21;30:9;35:21;47:4, 9,10;50:6;52:6;53:9, 14;54:10;56:11,15;	79:15;81:11;122:6,8 next (11) 27:6;56:8;73:16; 103:19;114:13; 132:12,15;139:20,24; 146:10,15 Nice (1) 4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8

-				
nonetheless (1)	51:16;60:2,3;70:6	one-year (1)	53:18,22;54:3,4,22;	overview (1)
22:4	observe (2)	102:21	56:2;57:17;58:18;	15:5
non-hazardous (1)	4:17;54:16	ongoing (2)	59:11;61:21;62:18;	own (4)
85:2	obviously (1)	33:1;112:6	63:13,14;66:9,18;	36:1;37:20;102:13;
normal (1)	47:7	only (18)	67:11;72:2,17;75:10;	106:22
			76:6,9,18;79:19;	
17:24	OCA (1)	17:18;20:23;25:5,		owner (1)
normally (1)	140:20	7;26:4;43:18;55:22;	85:14;86:8,10,15;	79:19
115:22	occur (4)	57:9;75:19;80:24;	87:21;88:22;103:22;	_
North (5)	18:1;20:24;72:22;	95:16;105:15;	107:17;111:17;	P
45:4,6,7;104:8;	76:1	107:17;130:24;	113:16;128:16;	
139:19	occurred (5)	135:21;141:23;	130:15;131:16;	Page (30)
Northern (2)	30:15,18;38:5;	145:9,11	132:1;133:24;134:2,	9:17;13:8;26:15;
118:12;119:10	61:15,19	onto (1)	13;136:14;143:20;	28:8;46:7;64:22;
Northern's (2)	occurring (1)	59:7	144:8,10;147:20	73:14,19,21;88:5;
119:4,17	119:13	open (5)	outages (1)	94:24;95:10,14;96:3,
nose (1)	off (8)	40:13;50:12;81:1;	19:5	
				9,11;99:13,18;100:6;
69:24	14:19;34:10;48:5;	86:19;132:11	outdoor (1)	106:11,12,14;118:17,
note (6)	54:3;64:21;67:15;	opening (1)	21:24	23;120:13,17,24;
4:16;20:12;31:15;	78:11,18	78:24	outlined (2)	121:1,5;126:3
71:14;100:1;103:10	office (2)	opens (1)	124:6;142:9	pages (4)
noted (6)	6:13,24	132:15	outreach (3)	99:17;120:12,12;
46:5,7;61:13;	offices (1)	operate (1)	32:1;33:2,5	130:21
64:19;71:8;91:1	6:13	72:12	outset (2)	paid (1)
notes (2)	officially (1)	operating (2)	43:17;62:9	38:8
		74:6;101:2		
15:10;73:15	62:20		outside (3)	pandemic (1)
notice (3)	officials (4)	operational (1)	81:2;82:2;102:3	4:12
5:4,6;135:12	31:17,17,23;32:17	130:4	over (37)	panel (1)
noticed (1)	offset (1)	Operations (2)	17:6;18:4,8;19:6;	8:12
115:10	35:4	14:2;22:12	23:20;31:12;39:15,	paragraph (1)
November (1)	often (11)	opinion (3)	24;41:10;44:17;	121:16
65:24	12:24;14:21;16:10;	23:23;130:12;	47:20;55:9;56:15;	parallel (1)
number (26)	30:2;32:9;33:7;37:5;	133:21	68:8,16;69:10;76:13;	59:6
10:19;17:6;18:4;	49:24;63:8;71:16,18	Opposing (1)	79:2;80:22;81:7;	part (24)
	oftentimes (1)	122:8		
20:18;24:21;28:11;			82:10;86:22;91:8;	25:12;33:6;45:22;
38:3,10;39:24;43:1,2,	18:19	optimal (1)	95:19;97:23;98:18;	55:24;57:9;58:20;
18;69:4;70:20;74:10;	old (3)	106:5	99:7,10;101:21;	64:18;71:1;82:11;
89:3;97:12;98:24;	17:24;19:8;71:18	oral (1)	122:13;125:7;	93:6;97:12;98:8;
99:4;100:18;106:11;	One (46)	13:15	131:19;138:18;	100:22,23;105:8;
107:7;110:23;113:1;	20:11;34:4;35:3;	orally (1)	143:12,16;145:12;	106:4,8;117:11;
143:16;144:6	37:13;42:18;47:20,	9:23	146:22	118:15;120:20;
numbers (21)	21;49:8;51:15;55:14;	Order (14)	overage (1)	142:24;143:7,17,21
20:17;23:22;37:6,	58:14;59:23;61:20;	4:14,14,20,21;5:6;	70:1	participate (1)
				5:4
8,10,11,12;38:2;	62:2;63:15;64:18;	84:9;108:16;110:15;	overages (3)	• • •
44:11;53:4;60:17,24;	66:15;71:14;75:11,	126:8;128:9;136:7;	34:12;39:18;66:10	particular (7)
94:11,21;96:5,6;	20;77:24;80:17,19;	146:8,21;147:20	overall (14)	21:4,5,6;35:4;
97:6;98:23;101:8;	82:20;88:6;89:15,16;	ordered (1)	22:23;50:12;52:1;	53:10;89:9;124:8
109:10;126:5	94:17;95:22;99:8,8;	135:6	68:14;69:16;90:11,	parties (4)
	107:7;112:8;117:24;	orderly (1)	23;91:2;96:15,23;	36:24;37:9;140:13;
O	118:3;119:4;130:12,	47:23	97:2,6;98:23;99:1	146:19
	22;132:19;135:7;	orders (1)	overestimate (2)	parties' (1)
object (1)	136:14;138:7;	129:2	44:1,4	63:10
112:19	139:20;144:6;146:7;	original (7)	overhead (1)	past (11)
			` '	- ' '
objected (2)	147:12	9:15;13:5;14:13;	87:9	17:21;30:13;33:10;
110:22;143:11	ones (4)	84:10;87:10;91:15;	overnight (1)	40:1;42:7;43:6;
objection (3)	88:6;97:18;99:12;	131:12	81:12	52:14;53:6;56:15;
5:16;124:7;140:10	104:19	Otherwise (2)	overrun (1)	71:19;100:11
objective (1)	one-to-four (4)	7:22;144:14	41:4	patched (1)
objective (1)	33:21;82:17,20;	out (61)	overruns (1)	88:2
69:9	33.21,02.17,20,		, ,	
69:9		15:7;17:5:18:8:	40:1	pause (1)
69:9 <b>obligation</b> (1)	83:4	15:7;17:5;18:8; 22:18:31:2.6:33:20:	40:1 oversee (1)	pause (1)
69:9 <b>obligation (1)</b> 84:22	83:4 one-to-three (1)	22:18;31:2,6;33:20;	oversee (1)	70:1
69:9 obligation (1) 84:22 observation (3)	83:4 one-to-three (1) 82:23	22:18;31:2,6;33:20; 34:11;35:17;36:12,	oversee (1) 33:17	70:1 pavement (1)
69:9 <b>obligation (1)</b> 84:22 <b>observation (3)</b> 61:17;70:4,9	83:4 one-to-three (1) 82:23 one-to-two (1)	22:18;31:2,6;33:20; 34:11;35:17;36:12, 16;37:10;40:14;	oversee (1) 33:17 oversight (2)	70:1 pavement (1) 88:2
69:9 obligation (1) 84:22 observation (3)	83:4 one-to-three (1) 82:23	22:18;31:2,6;33:20; 34:11;35:17;36:12,	oversee (1) 33:17	70:1 pavement (1)

2020 CAST IKON/BAN	E STEEL KEI LACENI	ENT I ROGRAM RESC		June 10, 2020
104:24	84:1,13;94:17	9,22;79:14;94:14,16;	64:6	prevent (4)
paving (12)	perspective (2)	138:22	portion (5)	18:21;19:5;49:2;
19:10,12,13,16,17;	15:6;113:7	places (1)	59:5;70:23;98:11,	86:1
67:12;75:1;87:18;	pertaining (1)	104:9	14;101:13	previous (3)
111:6;112:9;132:14;	38:23	plan (15)	portions (2)	53:7;97:22;100:13
144:22	phase (2)	28:14;32:24;33:9;	13:10;14:6	previously (3)
pay (1)	17:22;30:2	66:5;75:10,13,18;	poses (1)	5:4;26:6;86:9
132:14	phased (1)	80:6;84:3,10;101:4;	102:19	primary (1)
penalties (3)	20:19	108:11,14;128:4;	posing (1)	142:21
108:22;109:4,12	phasing (1)	139:16	104:1	printout (1)
pencil (1)	45:21	planned (6)	position (6)	96:5
68:11	phrase (2)	21:17;28:15;29:8;	9:7;12:16;13:22;	prior (14)
people (4)	85:15;87:5	80:15,20;95:1	92:18;131:7;140:21	30:23;34:6;35:7;
26:3;56:16;59:19;	physical (1)	planning (11)	possibility (1)	57:13;65:14;67:4;
94:17	4:17	30:22;31:24;33:2,	67:8	71:20;73:3,10;74:12;
per (14)	pick (1)	5;65:21;66:3;73:3,	possible (9)	77:13;90:17,24;
11:17,20;20:8,19,	37:10	10;111:23;130:11;	22:10;32:10;36:12,	130:16
20,20;29:21;44:18;	picked (1)	142:15	16;71:11;129:17;	priorities (2)
48:4;62:7;74:11;	52:7	plans (6)	135:19;143:9;145:1	49:8;112:9
89:6;143:15,16	picture (1)	21:10,13;32:23;	posted (1)	prioritize (1)
percent (55)	90:11	113:15;130:18;142:8	108:16	81:16
11:18;26:5,12,13;	piece (4)	plant (2)	potential (3)	prioritizing (1)
39:15,19;44:13,17;	34:21;47:20;	26:14;104:10	23:6;30:20;63:15	86:15
47:16;65:7,11,17;	120:10;143:5	plastic (3)	practical (2)	priority (3)
68:6,8,9,9;69:5,8,9,	pin (1)	45:10;56:3;104:17	134:6;143:9	105:4;143:23;
10,11,13,14,15,24;	54:1	plate (1)	practically (1)	144:1
70:1,21;75:7,14;	pipe (53)	40:13	22:6	probably (14)
76:13;85:16;89:5,9,	18:13,14;19:6,7,8;	platform (1) 5:1	practice (2) 32:6;116:6	71:23;98:15;
16,17,18,22;90:10, 15,20;91:21;94:21,	20:8,22;22:5,9,14,16, 18;23:6;29:2;31:2,3;	Please (12)	precluding (1)	101:16;103:8; 104:20;107:7;
22;96:16,17;97:12;	36:12;41:8;42:3;	4:16;5:8,17,22,24;	146:14	104.20,107.7, 111:13;113:23;
98:24;99:6,8,9,9,10,	45:10;48:7;52:1,24;	9:6;12:15;13:21;	predict (1)	122:17,19;123:12,18;
14;113:21;134:15	54:17;55:12;56:3;	92:10;120:15;	33:10	133:9;134:14
percentage (8)	59:3,12;60:5;62:8;	123:14;139:12	predominantly (1)	probe (1)
52:4;72:7,10,24;	71:12,18;72:11,17;	pleased (1)	16:17	63:20
76:15;86:24;87:6;	74:7;76:10,13,15,18;	65:20	preference (1)	problem (3)
94:24	79:8,16;84:18;85:14;	plus (14)	8:16	5:7;50:22;58:2
percentages (1)	86:8;87:19;103:22;	16:11;44:12;60:18,	preliminary (4)	problematic (1)
39:14	114:19;133:1,4;	19;61:7;69:5,8,13,24;	7:17;10:5;31:16;	61:23
perfect (1)	138:19;140:23;	87:8;90:1;91:16;	108:11	problems (5)
58:21	144:12;145:13	94:21;96:16	premarked (1)	30:20;43:18,19;
perform (1)	pipeline (4)	pm (1)	7:16	144:16,20
21:4	24:4;32:15;79:6;	147:24	prepare (1)	proceed (6)
performed (1)	133:7	pockets (1)	93:2	7:22;9:1;94:8;
10:23	pipes (41)	45:6	prepared (1)	113:12;139:9,11
period (5)	17:15,17;19:3;	<b>point</b> (19)	9:12	proceeding (6)
18:8;95:19;101:21;	22:24;45:8;46:15,16;	5:13;20:21;29:6;	pre-piping (3)	7:11;8:12;9:8;
111:18;120:19	53:3,14;54:10;55:13,	36:8;59:23;64:13;	81:5,10;82:3	108:1;127:21;142:21
permanent (1)	17,22;56:1,10,14,19;	67:22;70:21;74:17;	pre-planning (1)	proceedings (1)
53:19	58:4;59:5;61:23;	75:24;77:24;103:7;	81:13	35:7
permissions (1)	62:7;70:20,24;71:7,	118:17;128:20;	presence (1)	process (12)
114:15	10;72:12;78:21;	132:22;134:7,16;	5:22	31:24;33:16;43:14;
permit (9)	79:14;82:1;85:22;	141:15;145:2	present (7)	68:18;81:10;82:12;
30:6;33:7;62:20;	86:2,4,11,15;103:4;	pointing (2)	17:1,2;43:12;56:2;	84:4,11,15;120:21;
77:4,6,11,13;79:1;	105:20;131:19,21,24;	15:6;88:6	58:11;145:14,15	121:22;128:19
80:18 permits (1)	138:15;139:24	points (2) 24:21;71:18	presenting (1) 49:23	produce (1) 128:23
54:5	<b>piping (5)</b> 18:19,21;54:21;	polyethylene (1)		Program (102)
permitting (1)	82:14;141:24	132:24	presents (1) 14:21	4:6;12:21;15:6,7,
68:24	o2.14,141.24 pitting (1)	pops (1)	pressure (2)	11,16;16:6;20:21;
persist (1)	32:8	34:5	72:12,16	23:9,17;24:2;45:19;
53:23	place (10)	population (4)	pretty (1)	46:2,4,7,10;47:2;
person (3)	30:3,4;33:17;65:8,	51:15;56:5;62:11;	134:16	49:16;52:3;55:9,16,
r(*)		,50.5,02.11,		,,.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

20;56:1;57:3;58:20;	68:22;69:1;76:21;	5:14;9:20;59:7;	41:10;43:14;69:1;	128:24;135:2,2;
60:1;61:10;62:3;	80:4,6,15;81:8,18;	65:8;104:20;113:2;	129:1	142:23
65:15;67:24;68:14,	82:7;83:6,11;95:1;	126:4;131:20;	rating (1)	recommendations (3)
19;69:4,12,16,21;	96:24;98:12;99:7;	133:18;145:2,12	52:20	15:14;117:14;
70:8;74:11,18;78:19;	101:20;102:5,6,7;	puts (1)	ratio (3)	142:24
88:24;89:11,21,23;	104:16;111:17;	107:8	33:21;82:17,20	recommended (8)
90:14,24;91:2,19;	115:8,13;117:2;	putting (6)	reach (1)	15:15;17:21;36:20,
92:24;94:13,15;	123:5;127:6;129:9;	35:15;38:24;57:17;	64:13	23;100:3;106:23;
96:21;98:7,10;100:6,	139:16;144:21,22;	114:18;128:6;144:8	reactions (1)	125:5;145:22
		114.16,126.0,144.6		
22;102:4,4,12,12,18;	145:9,9	_	36:19	recommending (3)
103:14;104:23;	propane (1)	$\mathbf{Q}$	read (9)	117:15;138:13,20
105:9;106:8;107:4;	142:5		15:1,17,18;63:12;	recommends (4)
		4:6 (A)		
109:4,15;110:13,14,	properly (1)	quantify (4)	70:19;95:7;96:5,6;	15:20;141:8,21;
19,24;117:16;118:1,	109:6	30:1,24;43:4;72:9	119:9	142:6
13;119:4,5,18,23;	property (4)	quantifying (1)	reading (1)	record (4)
123:1;125:12;127:2,	25:8,14;26:8,11	31:10	43:4	9:20;39:6;92:11;
3;136:11;138:17,18,	proposal (3)	quantity (4)	ready (1)	147:18
23;141:10,14,17,19;	146:15,19;147:2	20:1,6,7;37:10	7:22	recorded (1)
142:6,11;143:1,2,12,	propose (1)	quick (7)	real (2)	105:23
14;144:5;145:11;	126:21	36:16;48:16;58:4;	58:1;84:11	records (8)
146:9,14;147:3	proposed (3)	82:6;84:19;92:13;	realistic (3)	32:4,9,11,13;
programs (1)	65:3;111:2;141:9	134:23	43:18;58:6;144:18	37:20;42:24;43:6;
62:10	proposing (2)		really (16)	61:4
		quickly (5)		
program's (1)	122:6,10	22:9;36:12;66:18;	5:16;38:2;50:14;	recover (4)
105:10	protocols (1)	80:19;135:19	57:14;63:14;85:23;	26:19,24;119:10;
progress (3)	67:12	quite (2)	96:8;100:22;106:8,	123:2
47:9;129:24;	provide (11)	103:20;129:22	16;118:16;120:4;	recovered (1)
142:13	37:6;55:8;72:21;	quote (8)	124:18;130:3;	27:23
project (80)	95:5;123:3,14;	46:6;112:4;121:7,	133:12;139:5	recovery (5)
17:9;18:12;19:10,	127:15;128:9,12;	12,13;146:10,13,20	reason (11)	10:16;105:8;
		12,13,140.10,13,20		
12;21:5,17,23;23:19;	139:12;142:7	_	19:10;61:15;66:21;	109:15;119:22;
29:2;31:8;32:12;	provided (5)	R	80:10,23;97:24;	138:22
33:17;34:9;35:11;	10:21;25:24;122:7,		105:11;116:23;	re-digging (1)
		• (1)		
39:5,10;41:20;43:15;	9;126:3	raise (1)	117:24;135:11;144:7	49:3
48:5,22;49:6,9;63:4;	provides (2)	18:10	reasonable (6)	REDIRECT (3)
64:1,8;67:5,9;68:19,	10:7;58:24	ramp (1)	68:9;104:2;107:16;	80:2;138:3,11
23;69:3;74:4,5;75:1;	providing (1)	143:13	114:18;122:11;141:1	redone (1)
77:2,19,24;78:3,4,6,	126:17	ran (1)	reasons (6)	104:24
7,9,10,13;80:12,18,	prudency (2)	16:5	49:21;106:1;	reduce (1)
22;81:2,6,12;83:15,	123:8,19	RANDALL (3)	110:23;118:3;128:6;	97:2
18,20;90:12;91:7,7;	prudent (4)	8:4,10;92:14	144:6	reduced (7)
94:20;96:16;97:19;	24:1,3;31:9;64:11	Randy (3)	recall (4)	28:11,17,20;60:6,
111:6,13;112:5,6;	prudently (1)	7:10;92:6,11	90:21,22;118:14;	9;64:1;117:7
113:4;114:5,8,16,17;	23:24	rate (47)	143:10	reduces (2)
				` ,
129:14;131:6;132:3,	Public (12)	20:21;25:6,8,8,13,	receive (1)	101:19;115:24
5,9,19;133:5,9;135:3;	4:9,15;5:2,5,9;6:2;	13,14,17,21;26:8,9,	145:10	reduction (1)
139:6,8;145:4,18	22:17;36:15;50:14;	12;27:10,17,21,24;	received (2)	95:2
project-by-project (3)	60:4;102:20;141:15		33:8;114:15	reduction-only (1)
		45:16;46:16;51:3,5,9,		
97:15;123:15;	PUC (2)	14,18,22;52:19;	recent (3)	28:20
130:10	6:13;143:1	57:20;112:22;	21:15;90:18;113:4	reductions (2)
projecting (3)	pull (1)	120:22;123:3,5,13,	recently (3)	29:14,17
	_ , ,			
35:13,17;48:6	42:13	17;124:5;127:21;	17:4;21:20;53:2	redundancy (1)
projections (1)	pulled (1)	128:11;130:1;137:5;	recess (1)	49:2
18:7	26:14	142:22;143:18;	5:17	refer (5)
projects (66)	purposes (1)	145:13,15;146:6,12,	recited (1)	95:13;99:14;
16:12;17:7,8;	24:20	15,20,24;147:13	118:4	103:23;108:7;117:21
28:11,15,16,17,19,	pursuant (2)	ratepayers (2)	recognized (4)	reference (3)
21;29:8,13,17;30:22;	4:14,19	7:1;17:3	5:15;31:3,4,6	73:14;96:12;99:24
31:20;32:18;33:1;	push (2)	rates (7)	recommend (1)	referenced (5)
38:4,5;39:22;40:9,	66:18;113:15	9:10,10;51:11;	54:20	37:2;60:24;71:15;
18;50:9;62:15;63:2,	pushing (1)	74:8;103:10;115:13;	recommendation (9)	74:14;116:6
16,22;64:13;65:2,7,	102:18	127:22	46:5;60:4;108:19;	references (2)
22;66:7;67:14,19,20;	put (11)	rather (4)	110:18;118:1;	38:16;39:4
22,00.7,07.14,19,20;	put (11)	1 auter (4)	110.10,110.1;	30.10,37.4
	l	1	I .	1

2020 CAST IRON/BAR	E STEEL REPLACEM	ENT PROGRAM RESU	LIS	June 18, 2020
referred (1)	repair (5)	15:15;36:19,23;	responses (1)	54:8,9;56:3;74:7;
26:3	53:15,19;71:21,22;	106:24;108:2;125:5;	70:13	102:19;104:1
	72:22			
referring (7) 25:20;39:3;95:9,		136:3;140:24;142:8;	responsibility (1) 28:7	risks (1)
	repaired (5)	145:8,22;146:3,23;		60:5 <b>River (1)</b>
22,23;108:18;118:18	55:1;72:4;85:3,7;	147:9	responsible (3)	` '
refined (1)	86:9	reports (6)	14:7;21:8;92:23	17:14 Dead (5)
19:21	repairs (2)	16:5;37:2;42:19,	rest (1) 119:16	Road (5)
<b>reflected (1)</b> 27:17	23:9;54:3	23;85:11;101:9		58:22,23;59:4;
regarding (11)	repave (2) 17:5;75:15	represent (1) 6:18	restate (1) 67:1	77:5;78:24
15:14,19;19:24;	repaving (1)			roadway (1) 79:7
42:20;71:14;94:19;	87:22	request (11) 77:12;78:24;	restaurants (1) 22:1	<b>ROBERT (5)</b>
95:1;107:1;108:1;	repeat (3)	109:14;124:8;125:4;	restore (1)	8:4,9;10:22;14:1;
111:1;142:14	22:12;26:20;96:12	126:1,1;128:18;	19:19	99:22
regardless (1)	repeatedly (1)	138:1;139:22;142:21	restrictions (3)	Robidas (6)
71:6	141:16	requested (1)	30:7;33:8;69:1	8:1;67:1;93:24;
regular (1)	rephrase (1)	141:1	Result (4)	94:1;109:21;147:16
8:18	39:7	requesting (3)	4:7,12;20:9;62:14	role (3)
regulator (1)	replace (22)	27:19;66:13;124:4	results (6)	34:13,14,15
77:20	20:7;46:20,23;	require (8)	12:23;17:9;32:11;	roll (1)
Regulatory (2)	49:18,22;55:14,24;	15:20;79:16;100:4;	37:23;92:24;95:7	5:19
9:11;60:8	62:7;71:10;86:11;	106:24;125:6;	retains (1)	room (4)
re-laid (1)	103:12,15;104:2,14,	128:24;141:21;142:7	37:20	7:3;92:15,16,16
127:12	16,17;105:1;130:11;	required (4)	returns (1)	rough (1)
related (5)	132:12;138:18;	52:16;82:19;83:21;	88:18	41:23
75:1;78:22;108:22;	140:23;146:17	142:10	revenue (15)	rougher (1)
138:2;139:5	replaced (14)	requirement (19)	9:13;10:8,14;11:3,	19:20
reliably (1)	18:10,15;20:23;	9:13;10:9,14;11:1,	5,6,8;25:1,3,17;	roughly (1)
58:12	38:6;49:21;54:20;	3,5,7,9;25:1,3,18;	26:18,23;27:16;	139:18
relies (1)	58:16;74:18;85:5;	26:18,24;27:16;	141:9,13	rounded (1)
86:14	105:6;106:17;	116:7;129:23;	review (9)	20:17
relocated (1)	121:13,14;133:1	141:10,13;146:3	14:15,17;39:20;	routinely (1)
18:20	Replacement (37)	requirements (10)	84:14;94:22;96:18;	145:19
reluctant (1)	4:6;17:15,23;20:4;	15:15;30:4;36:20;	141:12;142:8;143:4	row (1)
44:4	21:22;31:21,22;35:9;	62:19;107:1;115:5,7;	reviewing (1)	125:13
remain (1)	46:2,4,10;49:7,12;	116:4;136:3;147:10	34:4	rubber (1)
145:6	51:8;56:7;57:10,11,	requires (1)	rid (1)	52:11
remaining (26)	14,19;58:20;61:12,	24:2	129:20	rules (2)
15:21,24;16:3,13;	18;62:6;73:2,9,24;	re-ran (1)	right (55)	5:12;68:21
20:12;45:2,20;48:2;	74:1;102:12;108:20;	60:16	6:15;7:14;8:1,11;	run (7)
54:9;56:10,19;57:23;	112:22;119:11,17;	rescheduled (1)	9:1;11:10;24:8,13;	57:17;66:8,19;
70:24;76:10,13,15;	125:22;138:14;	5:10	28:2;36:6;40:21;	67:16;76:18;144:15,
84:18;102:1;129:8;	139:23;141:14;	research (5)	45:3;54:18;55:1;	20
130:24;137:24;	142:15	32:4,4,8,9,12	59:16;62:20;63:23;	running (4)
140:22,23;144:9,11,	replacements (3)	residential (3)	66:21;67:7;68:2;	59:6;82:7;84:5;
12	35:21;62:13;112:2	7:1;11:14,16	69:8,11;70:15;76:12;	144:20
remember (3)	replacing (12)	resolve (3)	79:20;84:16;89:1,7;	rush (2)
75:2;102:4,22	17:17;18:13;19:4;	77:14;136:6;	92:1,17;94:2,5;96:11,	115:20,21
reminder (1)	53:14;55:17,22;	145:20	12;98:9;102:5,15;	
5:13	59:12;101:22;102:9;	resolved (1)	105:9,11;116:13;	S
remotely (1)	107:17;136:12;143:8	34:22	124:13,24;126:23;	-
4:8	report (11)	respect (3)	127:1;129:5;130:6;	safe (2)
removal (2)	12:2,4,5,7,11;	50:10;65:21;136:2	134:20;135:20;	36:13;64:14
15:21;16:22	26:15;93:6;108:9;	respond (4)	136:11,12;137:8,22;	safety (17)
remove (8)	121:7;126:9;145:24	70:5;73:5,11;84:22	140:8;141:4;142:16	22:17;24:4;31:1,4;
18:23;22:9;27:24;	reported (2)	responded (1)	right-of-way (1)	36:9;48:9;49:21,23;
131:21;132:22;	86:13,17	72:3	79:19	58:11;60:4;84:17;
134:9;141:22;142:2	Reporter (10)	responds (1)	ripped (1)	92:15,20;102:20;
removed (1)	8:6;64:24;66:23;	28:5	46:21	141:15;144:6,7
103:5	73:1;81:22;85:18;	response (1)	rise (2)	Salmon (1)
removing (5)	94:2,6;109:23;	125:4	38:19;62:8	139:18
22:5,14,16;119:24;	125:15	response] (1)	risk (9)	same (17)

reporting (14)

145:7

140:15

9:22,24;13:16,17,

31:4;49:16;53:13;

21;20:10,11;34:2;	seem (1)	sewers (1)	82:16	18;126:13;135:10;
36:3;76:3;93:14,16;	38:12	17:15	situation (1)	137:11;146:8
104:1;113:1;116:2;	seems (5)	shaded (3)	49:11	sort (4)
117:17;124:24	37:8;44:23;56:14;	88:18,23;89:15	six (4)	8:17;13:1;103:17;
	112:24;141:1	shades (1)	52:16;85:5;90:20;	126:8
samples (7)				
71:15,16;72:2;	segment-by-segment (1)	88:22	133:1	sounds (1)
85:14;86:8;95:18;	127:23	share (2)	sizable (1)	68:2
130:15	segments (1)	19:13,16	77:19	source (1)
satisfactory (1)	104:12	sharpening (1)	size (1)	23:1
21:12	self-initiated (1)	68:11	105:19	sourcing (1)
satisfied (2)	109:10	Sheehan (31)	slight (2)	99:22
65:16;134:16	send (1)	6:16,17,18;7:19;	44:8;61:14	South (5)
satisfy (2)	143:22	8:15;9:1,2,4;14:24;	slightly (5)	45:3;78:10,13,15;
129:22,24	sense (7)	23:12,14,15;24:6;	19:21;38:17,20,22;	104:8
saw (1)	47:18,21;70:23;	79:23,24;80:3;91:23;	39:4	speak (3)
67:14	72:6;77:23;104:14;	110:6,7,10;123:23;	slow (1)	5:16;128:16;
saying (9)	106:19	124:1,2,11;137:17;	81:8	136:12
18:23;42:24;44:1;	sent (1)	139:7;140:2,5;	slowing (2)	speaking (4)
57:22;76:2;81:11;	139:15	142:18,19;147:22	115:14,16	
				27:3;37:21;39:6;
121:19;122:12;	sentence (5)	Sheehan's (1)	slowly (2)	137:14
144:17	119:4,5,9,16;	138:3	5:16;119:10	special (1)
scattered (2)	121:16	shift (1)	small (5)	30:4
45:9;104:6	separate (1)	21:19	16:10;21:14;45:5;	specific (6)
scenario (1)	106:21	shooting (1)	96:9;101:12	27:2;75:3;79:3;
43:9		69:23	smaller (3)	104:12;113:3;139:10
	separation (7)			
scenarios (1)	17:13;18:4;111:12;	show (9)	56:6;62:6;67:21	specifically (6)
40:6	112:5;132:2,5,9	42:9;55:15;58:5;	smell (1)	26:24;32:17;60:3;
schedule (5)	series (1)	71:10;87:4,10;97:1;	85:11	64:22;65:1;104:22
20:4;50:2;77:7;	111:1	116:10;145:5	smolders (1)	specifics (4)
82:4,13	Service (4)	showed (2)	144:9	114:6,7,9,22
scheduled (1)	14:3;16:16;26:14;	126:22;130:18	Smyth (3)	spend (2)
82:8	58:18	shown (1)	58:21,23;59:3	31:9;122:12
scope (8)	services (7)	58:11	snow (1)	spending (10)
28:11,17;29:14,17;	38:3,11;42:24;	shows (3)	32:22	25:9,11;26:19;
31:1;64:1;95:3;	79:2;82:5;122:15;	42:6;89:5,6	snuck (1)	27:1,14,20;33:18;
127:13	129:8	shut (1)	64:5	44:2,6;107:14
screens (1)	session (1)	67:18	soil (2)	spent (3)
126:14	108:14	Shute (10)	85:24;86:7	37:7;119:23;
scroll (5)	set (5)			142:22
		6:21,22,23;7:6;	somebody (2)	
86:22;88:16,21;	75:15,17;100:4;	24:10,11;110:2,3;	44:21;51:7	spool (1)
89:14;120:23	108:20;147:11	140:18,19	someone (3)	29:1
se (1)	sets (1)	side (8)	34:23;80:17;83:10	spot (3)
20:19	134:8	17:13;64:7;65:19,	something's (1)	42:19,23;48:6
seal (5)	setting (2)	20;111:12;116:16;	80:23	spread (3)
46:14,15;52:13;	111:5;114:5	122:3;139:16	sometime (1)	45:19;76:6,9
		,		spreadsheet (38)
53:16;71:23	settlement (1)	signed (2)	27:5	
season (7)	142:11	34:10;84:9	sometimes (6)	13:1;26:3;37:2,4,
15:9,12;32:21;	setup (1)	significant (3)	30:7;37:9;43:12;	13,16,19,23;38:1;
63:24;64:10;66:2;	54:22	51:21;60:7;102:19	86:4;87:20;115:6	76:24;86:20;87:3;
75:12	Seven (10)	significantly (3)	somewhat (1)	94:23;95:11,15,24;
second (7)	11:20;28:20;29:17;	52:23;91:8,9	147:5	96:1,19;98:18;103:3;
88:4;106:11;119:3,	63:21,22;64:1;96:24;	similar (8)	somewhere (1)	107:6;108:6;121:6;
5,9;121:4;138:6	114:20;132:10,17	19:8;63:7;79:17;	101:22	124:19,22;126:3,18;
Section (1)	several (2)	81:6;108:4;123:14;	soon (6)	127:5,20;128:7,12,
97:5	46:22;84:17	127:24;145:14	22:6;55:1;71:11;	21;129:19;130:12,17,
sections (1)	severe (1)	simply (3)	143:8;144:24;147:20	22;131:3;145:17
98:15	57:23	18:24;138:21;	sooner (2)	spreadsheets (1)
Security (1)	sewer (22)	144:17	49:21,22	107:8
92:21	17:13,18;18:4,15,	single (7)	sorry (19)	Spring (3)
			23:14;25:6;26:21;	
seeing (3)	17,20;31:20;48:4,22;	20:8;74:5;98:13;		78:10,14,15
52:18,19;140:16	49:6,9;111:6,12;	107:19;122:20;	38:21;48:12;50:17;	staff (34)
seeking (3)	112:4;129:14;132:2,	125:13;131:15	73:6,23;74:2,4;77:6;	6:23;7:8,9;8:13,16,
10:9,15;11:4	5,9;133:8,8;139:6,8	site (1)	119:6;123:22;124:1,	22;14:14;17:20;46:1;

51:16,21;55:10;	21;100:20;108:10;	submits (1)	137:1;138:16	81:12
59:23;70:7;87:11;	119:11,13,17,18;	105:24	surrounding (1)	tax (4)
91:1,3;92:4;93:3;	120:1;127:9;129:8;	subset (1)	85:24	25:8,14;26:8,11
108:3;110:18;124:7;	136:11;146:17	126:19	survey (2)	tea (1)
127:21;128:1;129:7;	step (6)	substantial (1)	23:8;52:3	43:4
141:1,8,16,20;142:6,	59:24;60:9;95:4;	65:6	surveys (3)	team (3)
8,12,13,20	119:12,13;146:10	substantially (4)	72:19,21;85:10	12:22;35:15;70:10
Staff's (10)	Steve (1)	47:14;60:6;64:10,	Sutton (1)	tech (1)
92:7;93:6;97:21;	7:11	17.11,00.0,01.10,	6:8	108:14
112:19;117:14,24;	still (8)	subtracting (1)	swear (2)	technical (3)
135:1;140:20;	22:4;35:15;43:24;	61:12	7:18;8:2	42:20;46:11,18
142:23;143:4	98:20;107:14;	success (1)	switch (1)	technically (1)
stage (4)	109:21;128:11;	91:1	81:11	52:9
33:2,6;113:19,24	131:20	successful (2)	sworn (8)	technologies (1)
standpoint (4)	stop (2)	65:13;90:23	8:5,7,8,9,10;10:2;	111:19
70:1;130:5;137:10,	21:22;116:11	successfully (2)	13:18;14:11	telling (1)
12	stoppages (1)	38:17;39:10	sympathetic (1)	128:3
start (25)	30:5	sudden (2)	131:22	temporary (2)
5:19;9:5;24:19;	stops (1)	42:13;136:23	system (35)	71:21,21
42:10,11;63:21;67:5;	130:19	sufficient (3)	16:3;22:15,18,19,	ten (11)
69:16;77:1;81:4,17,	story (1)	72:15;123:7;	22,23,23;29:3;30:12;	18:5,8;28:19;
18;82:5,5;84:4,14;	128:3	142:12	31:5;37:24;52:5,9,20,	29:13;47:5;48:21;
98:4;103:14;115:18,	straggler (2)	suggest (1)	23;53:16,17;54:8,15;	49:10;64:6;119:5,12;
19,22,23;128:5,6;	58:10;112:18	49:12	55:12;60:7;61:1,5;	133:16
139:23	stragglers (3)	suggested (3)	64:14;77:23;84:20;	tend (9)
started (17)	47:15;75:7;134:3	59:23;145:21;	100:9,20;101:3;	31:15;32:20;33:7,
10:13;28:16;29:8,	street (34)	146:9	103:13;119:19;	12;97:14,18;105:22;
11,15,18;61:10;64:3;	17:5;18:11;21:19,	suggesting (2)	133:7;134:15;	106:1;130:9
76:22;78:6,17;80:5;	23;32:14;43:1;45:4,	105:5;135:24	141:23;142:4	tended (1)
81:9;89:4;98:2;	4,7,23;46:21;47:6;	suggestions (1)	111.23,112.1	62:8
112:7;136:14	49:5;59:5;77:2,8,18;	107:22	T	tends (3)
starting (1)	78:4,7,9,15;87:22;	sum (1)	_	30:24;68:18,20
			tackle (1)	
6:15	104:7,8,8,23;114:11,	87:7	tackle (1) 50:19	ten-year (2)
6:15 starts (7)	104:7,8,8,23;114:11, 13;116:15,17;	87:7 summarizing (2)	50:19	ten-year (2) 58:7;114:17
6:15 starts (7) 66:12;69:17;75:13;	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11;	87:7 summarizing (2) 18:9;120:20	50:19 talk (2)	ten-year (2)
6:15 <b>starts</b> (7) 66:12;69:17;75:13; 84:11;120:23;126:4;	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19	87:7 summarizing (2) 18:9;120:20 summer (5)	50:19 talk (2) 51:3;111:3	ten-year (2) 58:7;114:17 term (1) 64:5
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11;	87:7 <b>summarizing (2)</b> 18:9;120:20 <b>summer (5)</b> 32:23;54:5;72:21;	50:19 talk (2) 51:3;111:3 talked (6)	ten-year (2) 58:7;114:17 term (1)
6:15 <b>starts</b> (7) 66:12;69:17;75:13; 84:11;120:23;126:4;	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12)	87:7 summarizing (2) 18:9;120:20 summer (5)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3)
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9)	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9;	87:7 <b>summarizing (2)</b> 18:9;120:20 <b>summer (5)</b> 32:23;54:5;72:21; 139:17;147:1	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9) 4:11;5:22;28:10;	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 <b>streets (12)</b> 20:10;44:22;45:9; 47:22;57:12;58:10;	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13)	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5)
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4;	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 <b>streets (12)</b> 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12;	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4;
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8 stated (4)	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1)	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2)
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8 stated (4) 29:9,13;35:19;	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8 stated (4) 29:9,13;35:19; 117:4 statements (7) 60:10,11,14;94:19;	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19  streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21  Street's (1) 104:24  stretch (1) 18:8  stretched (1)	87:7  summarizing (2) 18:9;120:20  summer (5) 32:23;54:5;72:21; 139:17;147:1  superfluous (1) 38:12  supervisor (3) 34:11,16,22  supervisors (1) 44:10  supervisor's (1) 34:15	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1)	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3)
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8 stated (4) 29:9,13;35:19; 117:4 statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19  streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21  Street's (1) 104:24  stretch (1) 18:8  stretched (1) 111:17	87:7  summarizing (2)  18:9;120:20  summer (5)  32:23;54:5;72:21;  139:17;147:1  superfluous (1)  38:12  supervisor (3)  34:11,16,22  supervisors (1)  44:10  supervisor's (1)  34:15  support (5)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1)	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19  streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21  Street's (1) 104:24  stretch (1) 18:8  stretched (1) 111:17  Strike (4)	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20;	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18)	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1)
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21;	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1)	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19  streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21  Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4)
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19  streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21  Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1)	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12;
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2)	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19  streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21  Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1)	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2)
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  stay (2)	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12	87:7  summarizing (2)  18:9;120:20  summer (5)  32:23;54:5;72:21;  139:17;147:1  superfluous (1)  38:12  supervisor (3)  34:11,16,22  supervisors (1)  44:10  supervisor's (1)  34:15  support (5)  109:14;142:20;  143:5,19;145:15  supporting (1)  123:5  supportive (2)  135:16,21  supports (1)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  stay (2) 69:9;109:11	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1)	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21 supports (1) 140:20	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8)	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1)
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  stay (2) 69:9;109:11  steam (5)	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1) 134:7	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21 supports (1) 140:20 supposed (2)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8) 31:17,18;102:23;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1) 8:21
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  stay (2) 69:9;109:11  steam (5) 30:12;63:2,6;	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1) 134:7 struggling (1)	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21 supports (1) 140:20 supposed (2) 43:16;65:8	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8) 31:17,18;102:23; 103:1;104:3;112:15;	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1) 8:21 testifying (1)
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  stay (2) 69:9;109:11  steam (5) 30:12;63:2,6; 73:24;74:4	104:7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1) 134:7 struggling (1) 49:3	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21 supports (1) 140:20 supposed (2) 43:16;65:8 sure (18)	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8) 31:17,18;102:23; 103:1;104:3;112:15; 134:10;144:24	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1) 8:21 testifying (1) 8:19
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  stay (2) 69:9;109:11  steam (5) 30:12;63:2,6; 73:24;74:4  Steel (27)	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1) 134:7 struggling (1) 49:3 studies (1)	87:7  summarizing (2)  18:9;120:20  summer (5)  32:23;54:5;72:21; 139:17;147:1  superfluous (1) 38:12  supervisor (3) 34:11,16,22  supervisors (1) 44:10  supervisor's (1) 34:15  support (5) 109:14;142:20; 143:5,19;145:15  supporting (1) 123:5  supportive (2) 135:16,21  supports (1) 140:20  supposed (2) 43:16;65:8  sure (18) 5:13;25:10;35:24;	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8) 31:17,18;102:23; 103:1;104:3;112:15; 134:10;144:24 targeting (2)	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1) 8:21 testifying (1) 8:19 testimony (78)
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  stay (2) 69:9;109:11  steam (5) 30:12;63:2,6; 73:24;74:4  Steel (27) 4:6;16:7;31:2;	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1) 134:7 struggling (1) 49:3 studies (1) 31:11	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21 supports (1) 140:20 supposed (2) 43:16;65:8 sure (18) 5:13;25:10;35:24; 39:3;44:8;51:15,21;	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8) 31:17,18;102:23; 103:1;104:3;112:15; 134:10;144:24 targeting (2) 112:21;141:18	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1) 8:21 testifying (1) 8:19 testimony (78) 9:12,14,19;10:2,7;
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  staty (2) 69:9;109:11  steam (5) 30:12;63:2,6; 73:24;74:4  Steel (27) 4:6;16:7;31:2; 48:2;52:8;53:2;54:8,	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1) 134:7 struggling (1) 49:3 studies (1) 31:11 stuff (5)	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21 supports (1) 140:20 supposed (2) 43:16;65:8 sure (18) 5:13;25:10;35:24; 39:3;44:8;51:15,21; 54:2,23;64:9,12;	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8) 31:17,18;102:23; 103:1;104:3;112:15; 134:10;144:24 targeting (2) 112:21;141:18 targets (1)	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1) 8:21 testifying (1) 8:19 testimony (78) 9:12,14,19;10:2,7; 13:6,10,15,18;14:5,7,
6:15  starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19  state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8  stated (4) 29:9,13;35:19; 117:4  statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2  states (1) 5:21  station (1) 77:20  statistically (2) 51:19,20  statistically (2) 69:9;109:11  steam (5) 30:12;63:2,6; 73:24;74:4  Steel (27) 4:6;16:7;31:2; 48:2;52:8;53:2;54:8, 10;55:19;56:10;57:4;	104·7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1) 134:7 struggling (1) 49:3 studies (1) 31:11 stuff (5) 38:7;106:21;	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisor's (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21 supports (1) 140:20 supposed (2) 43:16;65:8 sure (18) 5:13;25:10;35:24; 39:3;44:8;51:15,21; 54:2,23;64:9,12; 69:7;95:8;96:14;	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8) 31:17,18;102:23; 103:1;104:3;112:15; 134:10;144:24 targeting (2) 112:21;141:18 targets (1) 146:23	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1) 8:21 testifying (1) 8:19 testimony (78) 9:12,14,19;10:2,7; 13:6,10,15,18;14:5,7, 10,11,14,15,16,17,20;
6:15 starts (7) 66:12;69:17;75:13; 84:11;120:23;126:4; 130:19 state (9) 4:11;5:22;28:10; 45:4,4;74:3;77:4; 92:10;104:8 stated (4) 29:9,13;35:19; 117:4 statements (7) 60:10,11,14;94:19; 96:14;140:17;141:2 states (1) 5:21 station (1) 77:20 statistically (2) 51:19,20 staty (2) 69:9;109:11 steam (5) 30:12;63:2,6; 73:24;74:4 Steel (27) 4:6;16:7;31:2; 48:2;52:8;53:2;54:8,	104.7,8,8,23;114:11, 13;116:15,17; 121:15;132:11; 139:19,19 streets (12) 20:10;44:22;45:9; 47:22;57:12;58:10; 63:7;104:5,12; 116:14,20;131:21 Street's (1) 104:24 stretch (1) 18:8 stretched (1) 111:17 Strike (4) 89:13;123:21; 140:9,10 strives (1) 71:9 strong (1) 57:12 strongest (1) 134:7 struggling (1) 49:3 studies (1) 31:11 stuff (5)	87:7 summarizing (2) 18:9;120:20 summer (5) 32:23;54:5;72:21; 139:17;147:1 superfluous (1) 38:12 supervisor (3) 34:11,16,22 supervisors (1) 44:10 supervisor's (1) 34:15 support (5) 109:14;142:20; 143:5,19;145:15 supporting (1) 123:5 supportive (2) 135:16,21 supports (1) 140:20 supposed (2) 43:16;65:8 sure (18) 5:13;25:10;35:24; 39:3;44:8;51:15,21; 54:2,23;64:9,12;	50:19 talk (2) 51:3;111:3 talked (6) 26:22;45:20;58:15; 87:14;91:12;144:16 talking (13) 5:14;31:16;39:13; 50:20;56:20;84:23; 85:20;102:15; 112:18;114:23; 115:1;127:3;129:13 talks (1) 125:21 target (18) 100:4,10,15;104:2; 106:5;108:20,23; 111:2,5,10;114:5; 117:5;133:14,18; 141:22;144:18,24; 147:11 targeted (8) 31:17,18;102:23; 103:1;104:3;112:15; 134:10;144:24 targeting (2) 112:21;141:18 targets (1)	ten-year (2) 58:7;114:17 term (1) 64:5 terminate (3) 110:19,24;118:1 terminated (5) 107:5;109:4; 118:13;135:4;142:12 terminating (2) 146:8,13 termination (2) 117:16;143:11 terms (3) 39:10;133:10,12 territory (1) 16:16 test (4) 27:11,21;31:12; 32:8 testified (2) 35:8;146:1 testify (1) 8:21 testifying (1) 8:19 testimony (78) 9:12,14,19;10:2,7; 13:6,10,15,18;14:5,7,

2020 CAST IRON/BAR	E STEEL REPLACEM	ENT PROGRAM RESU	JLTS	June 18, 2020
24:22;28:8,10;29:24;	tighter (2)	town (5)	15:13;17:19;19:23;	68:16;71:23;80:12;
36:21;38:15;41:6;	22:20,23	31:17,23;32:17;	24:7;45:18;47:20,22;	81:18;83:24;84:5;
45:24;51:17,18;	timeline (6)	48:20;112:8	55:14;63:14;71:20;	89:23;97:1;115:13;
58:15;61:8;63:13;			75:11;76:2;83:6;	
	47:11;71:4,6,8;	town-by-town (1) 134:1		116:10,12;128:11;
64:15;70:19;73:4,10;	74:24;75:3		89:14;99:6;107:10;	132:12,15;143:13,15
74:13;86:13,20;93:2,	timely (1)	towns (14)	112:18;130:8;139:20	upcoming (1)
7,11,15;94:23;95:10,	115:9	30:2;31:18;32:2;	type (4)	147:13
12;96:3;97:21,22;	times (9)	33:3,7,12;35:18;36:1,	17:22;19:2;108:6;	updated (1) 25:12
99:13,22,23;100:7;	41:16;42:18;53:24;	15;40:8;62:18;66:13; 67:11;112:9	111:20	= -
106:9;108:16;	54:23;56:15;62:21;	,	types (3)	<b>upfront (2)</b> 123:16;129:5
110:12;112:23; 113:2;114:8;115:5;	79:14;83:1;91:3 <b>timing (1)</b>	track (2) 129:23;142:13	30:14;32:19;91:18	upon (6)
117:17,18;118:22;	131:5	tracking (1)	typical (2) 11:14,16	20:9;30:4;109:5;
120:11,14;122:5,22;	titled (1)	106:18	typically (25)	111:15;112:3;140:3
124:6,20,22;126:15,	86:23	traffic (11)	17:9;18:16;19:3,	upwards (2)
19;128:10;145:23;	today (18)	20:9,9;21:9,12;	16,19;27:7;30:9;	43:14;107:14
147:10	7:10;9:13,20,23;	30:6;33:9,11,13;	32:13,22;33:1,20;	urban (1)
Thanks (7)	11:4,9;13:16,19;	35:22;111:7;116:17	46:11;51:11;55:13;	16:18
33:24;60:15;63:12;	87:15;93:16;96:15,	transcript (1)	68:21;75:8,20;76:5,	use (7)
103:23;106:3;	18;98:2;112:24;	121:1	7;78:18;79:13;82:21,	25:17;61:6;62:23,
103.23,100.3,	114:19;142:9;	treading (1)	24;87:17;105:12	24;94:1;97:13;
Thanksgiving (3)	144:16;146:2	57:16	24,87.17,103.12	126:10
65:23;66:6,10	today's (1)	trench (1)	U	used (4)
that'll (1)	7:11	18:16	U	26:1;42:21;112:15,
123:12	together (6)	trenches (1)	ultimate (1)	16
thawing (1)	35:16;37:1;46:16;	19:19	21:3	using (4)
51:13	63:4;83:12;107:9	tries (2)	ultimately (1)	11:17;26:11;27:11;
therefore (4)	told (3)	17:7;43:17	110:24	126:11
18:18;20:17;31:7;	127:13;132:16;	trim (1)	unable (1)	usually (1)
62:10	136:15	129:20	5:9	27:5
therms (1)	tolerance (1)	trouble (3)	uncertain (1)	Utilities (8)
11:17	52:4	67:2;73:13;126:13	75:21	4:5,10;6:2,19;
thicker (2)	tone (1)	troublesome (1)	uncompleted (1)	12:21;14:3;17:9;
46:12;105:21	134:8	17:20	96:24	118:12
thickness (2)	took (3)	truck (1)	under (12)	utilizing (1)
46:12;85:16	17:4;143:12,13	57:5	23:20;33:21;41:10;	4:22
thinking (1)	top (4)	true (4)	44:4;69:9,10;74:9,	
81:3	48:5;64:21;78:11;	23:2;60:10,12,14	19;91:9;138:23;	$\mathbf{V}$
third (2)	120:17	try (20)	142:10;147:19	
78:6;136:18	topic (2)	32:11;33:10;36:16;	underestimating (1)	vacations (1)
though (2)	80:4;82:15	39:20;41:15;49:17;	63:16	83:1
55:18;72:6	topics (1)	66:5,16,18;76:7,9;	understands (1)	value (2)
thought (8)	32:19	80:21,22;81:15,20,	137:9	37:6;38:13
29:10;48:19;50:18;	torn (2)	24,24;82:21;83:19;	understood (2)	variability (1)
51:20;68:7;97:20;	18:11;44:23	111:22	43:11;118:9	51:11
135:15;146:7	total (18)	trying (21)	underway (1)	variance (19)
thousands (2)	10:13,15;23:21;	20:3;37:10;40:10;	32:18	38:19;86:24;87:6;
37:12,17	38:3,4,5;50:14;56:6;	50:12,13;57:2,17;	unfamiliar (1)	88:9,11;89:4,10,19,
three (20)	57:10,11,13;61:18;	66:2,14;69:19;76:16;	77:3	23;90:1,11,15;91:5,
28:21;29:9,10,11,	65:7;69:4;88:1;89:2,	87:4,9;106:12,18;	unless (1)	13,18,20;95:1;96:15,
11,17;45:11,18;	22;91:19	111:7;112:21;	5:15	20
56:19;64:2,3;74:12;	totally (1)	113:23;122:21;	unmuting (2)	variances (9)
76:21;83:6;84:20,21;	97:9	125:24;126:6	92:12;126:14	38:16;39:5;90:18,
100:14;109:8;116:9,	totals (2)	turkey (2)	unquote (1)	21;91:16;94:20;95:6;
12	38:12;88:24	107:12;136:20	112:4	97:1;122:19
throughout (2)	total-wide (1)	turn (4)	up (41)	various (1)
104:6;141:17	90:14	10:24;14:18;28:3;	5:15;18:11,12;	61:20
tie (3)	touch (2)	128:16	22:20;28:4;29:4;	vary (2)
19:6;79:2;83:23	83:14;135:23	turning (2)	31:20,21;34:5,20;	32:20;97:19
tied (1)	tough (2)	12:15;38:15	39:22;40:7;43:21,23;	verbal (1)
29:3	54:13;55:2	twice (3)	44:2,7,23;46:21;	140:15
tie-over (2)	towards (2)	18:13,15;131:24	48:13;51:14;52:7,19;	version (1)
82:6;83:21	41:24;69:18	two (19)	58:9;61:19;64:5;	119:22

versus (10)			T	
	what's (9)	18:3;19:8;20:1;	108:20;109:9;	10 (22)
32:14;38:7,9,10;	12:7;40:9;44:21;	21:19;23:17;29:5;	110:16;114:12,13,20;	39:15;44:13;46:7;
57:13,16;89:21;	52:9;60:20;66:3;	30:5,18;31:13;35:18,	117:7,8,14,15;	68:6,9;69:5,8,9,10,
90:13;99:2;116:16	83:17;137:13;144:3	23,24;37:1;40:10;	118:11;120:11;	11,13,14;70:1;74:19;
veto (2)	WHEREUPON (1)	44:20;47:23;49:24;	131:8;132:12;135:1,	94:21;96:16;100:6;
21:3,7	8:3	63:7;66:4;67:10;	7;136:10;139:1,24;	103:19,24;117:7;
view (2)	whole (6)	74:23;76:6;79:1,18;	141:10,11,18,22;	118:23;143:16
34:1;121:7	41:19;62:5;68:19;	89:23;90:2;102:11;	143:15,16,21	100 (2)
vision (1)	101:4;114:16;146:22	109:10;111:8,20;	year-end (4)	42:12;70:21
72:11	whomever (1)	113:14;115:24;	12:23;25:21;35:9;	106 (1)
volume (1)	79:10	116:8,10,11;127:13;	61:12	126:4
19:17	width (1)	132:1;133:14;	yearly (1)	10-inch (10)
19.17	18:16	135:17;146:5	120:22	16:2,9;45:23;46:9;
$\mathbf{W}$	wild (2)	working (18)	years (69)	100:8;101:12;104:7;
	62:17;63:1	19:11;30:13;35:19;	17:6,24;18:5,8,12;	105:5,11,20
wait (5)	willing (1)	37:13;39:21;40:7;	43:6;44:24;45:18;	11 (6)
47:21;59:19;112:3;	147:17	42:19;45:3,21;47:1;	46:22;47:5,21,22;	74:20;106:15;
	Wind (1)	55:10;63:1,3;81:2;	48:22;49:10,10;53:7;	109:8;117:8;122:13;
113:13;132:21	5:11	83:7;114:11,12;		
walk (1)		116:15	55:4,10,14;59:2;	131:8
25:18	winding (1) 135:13		62:3;65:14;68:1,3,	11.1 (2)
wall (3)		works (1)	17;69:21;70:8;71:23;	65:3;74:15
46:12;70:21;85:16	window (1) 116:9	113:6	74:12;75:5,11;86:9;	11.13 (1) 58:16
wants (2)		worries (1)	90:17,18,19,24;	
45:19;136:4	wings (1)	73:8	94:13,16;98:18;	12 (6)
wasteful (1)	7:12	worst (1)	100:12;102:1,15;	4:14;68:2;74:21;
18:1	winter (23)	43:8	103:6,19,20;105:1;	94:16;95:19;126:12
water (4)	23:5,10;27:5;	writing (1)	109:8;111:14;	12- (1)
57:16;111:12;	28:23;32:21;51:23;	9:23	112:24;113:16;	105:20
129:14;133:8	52:10,22;53:10,11;	written (3)	114:24;119:6,12,24;	12.6 (1)
way (11)	54:1;56:24;57:1;	11:1;13:15;14:10	126:12,17;131:10;	65:2
17:18;18:19;31:14;	63:24;64:4,14;66:1;	wrong (1) 143:22	132:10,15,17;133:2,	<b>128 (1)</b> 103:6
67:15;83:16;88:21;	67:16;72:20;77:8,13,		13,14,16;134:3;	
105:16;111:24;	13;81:19	wrote (2)	139:20;143:13,17; 145:12	12-inch (2)
123:1;133:2,3	winters (1)	114:8;117:15		101:12;104:6
ways (1)	51:12	X	years' (1) 100:13	12th (1)
91:14	wise (4)	Λ		93:3 <b>12-year (1)</b>
•	113:12,17,18; 114:3	V way: (1)	year's (6) 51:17;85:5;117:19;	101:21
	within (24)	X-ray (1) 72:10	125:12;127:3;146:8	13 (4)
1117 <sub>0</sub> (1)	10:19;16:18;17:6;	72:10	York (1)	68:1,2,9;121:3
'We (1) 121:12		Y	77:5	
121:12	20:2;37:23;46:1,10;	1	/ /)	
				14 (3)
<b>1X</b> 7	49:15;52:16;53:21;	waar (105)	<b>Yup</b> (6)	25:22,23;68:1
W	55:14;58:6;59:1;	year (105)	<b>Yup (6)</b> 73:19;94:6;116:22;	25:22,23;68:1 <b>14- (2)</b>
	55:14;58:6;59:1; 68:6,15,17,19;69:10;	11:18,21;12:24;	<b>Yup</b> (6)	25:22,23;68:1 <b>14- (2)</b> 101:10;105:20
weather (4)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20;	11:18,21;12:24; 17:19;18:10;20:8,20;	<b>Yup (6)</b> 73:19;94:6;116:22; 121:10;135:5,9	25:22,23;68:1 14- (2) 101:10;105:20 146 (1)
weather (4) 51:10,13;63:23;	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24;	<b>Yup (6)</b> 73:19;94:6;116:22;	25:22,23;68:1 <b>14- (2)</b> 101:10;105:20 <b>146 (1)</b> 99:9
weather (4) 51:10,13;63:23; 67:17	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5)	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18,	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1)
weather (4) 51:10,13;63:23; 67:17 Webex (1)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1;	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11,	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9 Z zoom (1)	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1) 104:11
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1) 104:11 15 (9)
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3)	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9 Z zoom (1) 96:8	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1) 104:11 15 (9) 68:8;69:15;89:5,9;
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9 Z zoom (1)	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1) 104:11 15 (9) 68:8;69:15;89:5,9; 94:21;96:17;98:24;
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5)	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1) 104:11 15 (9) 68:8;69:15;89:5,9; 94:21;96:17;98:24; 99:9,20
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7;	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1 1 (13)	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1) 104:11 15 (9) 68:8;69:15;89:5,9; 94:21;96:17;98:24; 99:9,20 151 (1)
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6,	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1 1 (13) 7:15;9:16;13:7,8;	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1) 104:11 15 (9) 68:8;69:15;89:5,9; 94:21;96:17;98:24; 99:9,20 151 (1) 99:8
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4)	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9;	25:22,23;68:1 14- (2) 101:10;105:20 146 (1) 99:9 14-inch (1) 104:11 15 (9) 68:8;69:15;89:5,9; 94:21;96:17;98:24; 99:9,20 151 (1) 99:8 16-inch (4)
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13 well-accepted (1)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4) 60:20;73:11;79:4;	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8; 71:20;74:8,11,14,15,	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9; 85:6;96:2;101:10;	25:22,23;68:1  14- (2)
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13 well-accepted (1) 22:13	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4) 60:20;73:11;79:4; 136:1	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8; 71:20;74:8,11,14,15, 17,20;75:18,18,20,	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9; 85:6;96:2;101:10; 106:12,15;140:10	25:22,23;68:1  14- (2)
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13 well-accepted (1) 22:13 weren't (3)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4) 60:20;73:11;79:4; 136:1 word (1)	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8; 71:20;74:8,11,14,15, 17,20;75:18,18,20, 21;80:7;87:19,23;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9; 85:6;96:2;101:10; 106:12,15;140:10 1.6 (3)	25:22,23;68:1  14- (2)     101:10;105:20  146 (1)     99:9  14-inch (1)     104:11  15 (9)     68:8;69:15;89:5,9;     94:21;96:17;98:24;     99:9,20  151 (1)     99:8  16-inch (4)     101:11;104:10,17;     105:20  17 (4)
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13 well-accepted (1) 22:13 weren't (3) 98:8,9,11	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4) 60:20;73:11;79:4; 136:1 word (1) 112:15	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8; 71:20;74:8,11,14,15, 17,20;75:18,18,20, 21;80:7;87:19,23; 88:4,24;89:21,22,24;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9; 85:6;96:2;101:10; 106:12,15;140:10 1.6 (3) 11:7,8,13	25:22,23;68:1  14- (2)
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13 well-accepted (1) 22:13 weren't (3) 98:8,9,11 whatever' (1)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4) 60:20;73:11;79:4; 136:1 word (1) 112:15 word-for-word (1)	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8; 71:20;74:8,11,14,15, 17,20;75:18,18,20, 21;80:7;87:19,23; 88:4,24;89:21,22,24; 90:2;91:20;92:24;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9; 85:6;96:2;101:10; 106:12,15;140:10 1.6 (3) 11:7,8,13 1.75 (1)	25:22,23;68:1  14- (2)     101:10;105:20  146 (1)     99:9  14-inch (1)     104:11  15 (9)     68:8;69:15;89:5,9;     94:21;96:17;98:24;     99:9,20  151 (1)     99:8  16-inch (4)     101:11;104:10,17;     105:20  17 (4)     89:16,18;90:3;     99:20
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13 well-accepted (1) 22:13 weren't (3) 98:8,9,11 whatever' (1) 121:15	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4) 60:20;73:11;79:4; 136:1 word (1) 112:15 word-for-word (1) 118:7	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8; 71:20;74:8,11,14,15, 17,20;75:18,18,20, 21;80:7;87:19,23; 88:4,24;89:21,22,24; 90:2;91:20;92:24; 95:19;98:13;100:5;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9; 85:6;96:2;101:10; 106:12,15;140:10 1.6 (3) 11:7,8,13 1.75 (1) 102:1	25:22,23;68:1  14- (2)     101:10;105:20  146 (1)     99:9  14-inch (1)     104:11  15 (9)     68:8;69:15;89:5,9;     94:21;96:17;98:24;     99:9,20  151 (1)     99:8  16-inch (4)     101:11;104:10,17;     105:20  17 (4)     89:16,18;90:3;     99:20  17.2 (1)
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13 well-accepted (1) 22:13 weren't (3) 98:8,9,11 whatever' (1) 121:15 whatnot (1)	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4) 60:20;73:11;79:4; 136:1 word (1) 112:15 word-for-word (1) 118:7 work (44)	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8; 71:20;74:8,11,14,15, 17,20;75:18,18,20, 21;80:7;87:19,23; 88:4,24;89:21,22,24; 90:2;91:20;92:24; 95:19;98:13;100:5; 101:15;102:17;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9; 85:6;96:2;101:10; 106:12,15;140:10 1.6 (3) 11:7,8,13 1.75 (1) 102:1 1:30 (1)	25:22,23;68:1  14- (2)     101:10;105:20  146 (1)     99:9  14-inch (1)     104:11  15 (9)     68:8;69:15;89:5,9;     94:21;96:17;98:24;     99:9,20  151 (1)     99:8  16-inch (4)     101:11;104:10,17;     105:20  17 (4)     89:16,18;90:3;     99:20  17.2 (1)     20:16
weather (4) 51:10,13;63:23; 67:17 Webex (1) 4:22 week (2) 16:5;61:1 weekly (2) 32:3,16 weeks (1) 33:13 well-accepted (1) 22:13 weren't (3) 98:8,9,11 whatever' (1) 121:15	55:14;58:6;59:1; 68:6,15,17,19;69:10; 85:3,5;86:9;89:20; 99:7;133:15 without (5) 59:11;95:2;123:1; 131:17;140:9 witness (3) 7:11;92:7;93:20 witnesses (5) 7:18;8:2,19;24:7; 70:13 wondering (4) 60:20;73:11;79:4; 136:1 word (1) 112:15 word-for-word (1) 118:7	11:18,21;12:24; 17:19;18:10;20:8,20; 21:6,18;23:4,18,24; 24:24;25:2;26:8,18, 19,22,23;27:1,7,11, 11,14,16,21,22; 28:12,18;29:22; 30:13;32:19;36:5; 40:1;44:17;47:6; 48:4;52:17;53:6; 56:13,15;59:23;67:6, 10,14,19;68:8,8; 71:20;74:8,11,14,15, 17,20;75:18,18,20, 21;80:7;87:19,23; 88:4,24;89:21,22,24; 90:2;91:20;92:24; 95:19;98:13;100:5;	Yup (6) 73:19;94:6;116:22; 121:10;135:5,9  Z  zoom (1) 96:8  1  1 (13) 7:15;9:16;13:7,8; 14:8;23:10;28:9; 85:6;96:2;101:10; 106:12,15;140:10 1.6 (3) 11:7,8,13 1.75 (1) 102:1	25:22,23;68:1  14- (2)     101:10;105:20  146 (1)     99:9  14-inch (1)     104:11  15 (9)     68:8;69:15;89:5,9;     94:21;96:17;98:24;     99:9,20  151 (1)     99:8  16-inch (4)     101:11;104:10,17;     105:20  17 (4)     89:16,18;90:3;     99:20  17.2 (1)

				· · · · · · · · · · · · · · · · · · ·
110.24	121 12 141 22		0 (10)	
119:24	131:13;141:22		8 (10)	
1892 (1)	2029 (1)	5	73:21;89:17,22;	
3 6	49:13	3		
103:5			90:10,15;91:21;	
1s (1)	2-1/2 (1)	5 (8)	94:22;97:12;101:16;	
53:6	26:13		102:2	
33.0		26:5;69:24;99:6;		
	22-inch (1)	101:13;102:1;	809 (1)	
2	130:11		11:17	
<b>_</b>		118:21;121:2;134:13		
	24-hour (1)	50 (8)	88 (2)	
2 (8)	70:21	16:13;43:2,6;59:1;	65:7,11	
52:15;85:4;86:20;	26 (1)	76:13;88:17;101:15;	8-inch (1)	
93:4,7;97:5;101:23;	146:21	106:14	104:18	
134:15	2667 (1)			
		55 (2)		
2,000 (3)	146:21	100:19;101:6	9	
97:23,24;123:15	27 (1)			-
		550 (1)	0 (4)	
2,000-cell (4)	99:14	121:14	9 (4)	
127:4,20;128:12,	271-2431 (1)	56 (4)	26:15;28:8;73:15,	
	5:8			
21	3.8	60:17,22;72:7;	19	
2.71 (1)		131:7	9:00 (1)	
26:12	3		115:23	
		56.63 (1)		
20 (7)		16:7	90 (2)	
39:19;69:18;94:24;	3 (5)	10.7	65:17;113:21	
		_	*	
95:10,14;103:19;	12:8;52:14;85:1;	6	95 (1)	
111:14	93:8;143:15		120:13	
	1			
200 (1)	3.7 (1)	6 (6)	96 (3)	
42:12	101:11	7:16;28:9;120:12;	120:24;121:1,5	
2000 (3)	3:00 (1)		97 (1)	
		129:11;134:13;		
119:7,14,23	115:24	140:11	121:5	
20-049 (1)	30 (6)			
, ,		6.7 (3)		
4:4	43:1;44:17;71:23;	20:13;45:2,13		
2018 (6)	86:21;96:3,9	6.75 (1)		
26:12;51:5;74:20;	30-something (1)	, ,		
		101:1		
119:20;120:6,6	143:20	60 (3)		
2018-2019 (1)	31 (1)			
, ,		11:18;43:6;59:1		
53:11	9:17	603 (1)		
2019 (12)	31.8 (1)	5:8		
25:2;26:10,12,19;	20:15			
		60-pound (2)		
27:1,8,11,15;29:22;	32 (1)	53:17;58:22		
40:2;51:22;74:17	92:16			
		66 (1)		
2019-2020 (1)	35 (1)	127:5		
53:11	102:14			
2020 (18)	38 (1)	6A (1)		
		125:10		
4:5;25:1;26:2,9,18,	99:10	6B (1)		
23;27:16;40:2;74:8,	39 (2)			
		125:19		
14;88:24;89:21;	127:5,6	6-inch (1)		
91:20;93:3;109:15;		104:18		
119:6;141:10,11	4	107.10		
2020-04 (1)		7		
4:15	4 (5)	_		I .
	4(5)			
	4 (5)			
2021 (1)	101:13;118:21,22;	7 (15)		
<b>2021</b> (1) 102:15	101:13;118:21,22; 120:13;143:15	99:13,18;100:1;		
<b>2021</b> (1) 102:15 <b>2022</b> (1)	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b>			
2021 (1) 102:15 2022 (1) 102:16	101:13;118:21,22; 120:13;143:15	99:13,18;100:1; 101:16;102:2,17;		
2021 (1) 102:15 2022 (1) 102:16	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1,		
2021 (1) 102:15 2022 (1) 102:16 2023 (1)	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b>	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10;		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1,		
2021 (1) 102:15 2022 (1) 102:16 2023 (1)	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10)	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24 <b>42 (1)</b>	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 7:00 (1)		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10;	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24 <b>42 (1)</b> 101:20	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15;	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24 <b>42 (1)</b> 101:20 <b>48 (1)</b>	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 <b>7:00</b> (1) 115:22		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15;	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24 <b>42 (1)</b> 101:20 <b>48 (1)</b>	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 7:00 (1) 115:22 76 (1)		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15; 102:16;131:12;	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24 <b>42 (1)</b> 101:20 <b>48 (1)</b> 88:17	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 7:00 (1) 115:22 76 (1) 89:15		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15; 102:16;131:12; 141:18;144:17	101:13;118:21,22; 120:13;143:15 4.3 (1) 16:8 40 (3) 25:21;114:24,24 42 (1) 101:20 48 (1) 88:17 49 (1)	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 7:00 (1) 115:22 76 (1)		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15; 102:16;131:12;	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24 <b>42 (1)</b> 101:20 <b>48 (1)</b> 88:17	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 7:00 (1) 115:22 76 (1) 89:15 79 (1)		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15; 102:16;131:12; 141:18;144:17 2025 (11)	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24 <b>42 (1)</b> 101:20 <b>48 (1)</b> 88:17 <b>49 (1)</b> 88:17	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 7:00 (1) 115:22 76 (1) 89:15		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15; 102:16;131:12; 141:18;144:17 2025 (11) 100:5,10,17;	101:13;118:21,22; 120:13;143:15 4.3 (1) 16:8 40 (3) 25:21;114:24,24 42 (1) 101:20 48 (1) 88:17 49 (1) 88:17 4-inch (1)	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 <b>7:00 (1)</b> 115:22 <b>76 (1)</b> 89:15 <b>79 (1)</b> 89:15		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15; 102:16;131:12; 141:18;144:17 2025 (11) 100:5,10,17; 102:16,18;108:21;	101:13;118:21,22; 120:13;143:15 <b>4.3 (1)</b> 16:8 <b>40 (3)</b> 25:21;114:24,24 <b>42 (1)</b> 101:20 <b>48 (1)</b> 88:17 <b>49 (1)</b> 88:17	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 <b>7:00 (1)</b> 115:22 <b>76 (1)</b> 89:15 <b>79 (1)</b> 89:15		
2021 (1) 102:15 2022 (1) 102:16 2023 (1) 102:16 2024 (10) 15:22;16:22;35:10; 74:24;100:12,15; 102:16;131:12; 141:18;144:17 2025 (11) 100:5,10,17;	101:13;118:21,22; 120:13;143:15 4.3 (1) 16:8 40 (3) 25:21;114:24,24 42 (1) 101:20 48 (1) 88:17 49 (1) 88:17 4-inch (1)	99:13,18;100:1; 101:16;102:2,17; 117:8;124:23;125:1, 3,24;126:19;128:10; 129:1;137:13 7:00 (1) 115:22 76 (1) 89:15 79 (1)		

## In Re:

DG 20-049 LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS)
2020 CAST IRON/BARE STEEL REPLACEMENT PROGRAM RESULTS

## HEARING ON THE MERITS June 18, 2020

SUSAN J. ROBIDAS, N.H. LCR 30 James Pollock Drive Manchester, New Hampshire 03102 (603) 540-2083 shortrptr@comcast.net

Original File 061820 DG 20-049hrg.txt

Min-U-Script® with Word Index

	F	Page 1			Page 3
1	STATE OF NEW HAMPSHIRE	1	-	EXHIBITS	
2	PUBLIC UTILITIES COMMISSION	2	EXHI	BIT NO.	PAGE NO.
3		3	3 1	Joint testimony of Robert Mostone	Premarked
4	June 18, 2020 - 10:10 a.m.	4		and Brian Frost with attachments,	
	[Remote hearing conducted via Webex]	_	=	and Direct testimony of McNamara with attachments.	
5		5	2	Direct testimony of Randall	Premarked
6	RE: DG 20-049	6	5	Knepper with attachments	
7	LIBERTY UTILITIES (ENERGYNORTH NAT GAS) CORP., D/B/A LIBERTY UTILITIE		3	Attachment 9 to Direct testimony of Randall Knepper (Final Audit	Premarked
8	2020 CAST IRON/BARE STEEL REPLACEM		3	Report)	
9	PROGRAM RESULTS (Hearing on the Merits)	9	4	Testimony of Stephen Frink in	Premarked
10		10	)	Docket DG 19-054.	
11		11	. 5	Staff Recommendation in	Premarked
12	PRESENT: Chairwoman Martin, Presiding Commissioner Kathryn M. Bailey	12	2	Docket DG 19-054.	
13	Commissioner Michael S. Giaimo	13		Engage of Engageint from	Premarked
	Jody Carmody, Clerk			Excerpt of Transcript from 6/6/19 hearing in	Premarked
14	Eric Wind, PUC Remote Hearing Host			Docket DG 19-054.	
15		15			
16	APPEARANCES: Reptg. Liberty Utilities (EnergyNorth	16	5		
17	Natural Gas) Corp. d/b/a Liberty Utilities:	17	,		
18	Michael J. Sheehan, Esq.	18	3		
19	Rptg. Office of Consumer Advocat	e: 19	)		
20	Christa Shute, Esquire	20	)		
21	Reptg. PUC Staff: Lynn Fabrizio, Esq.	21	_		
22	• • • • • • • • • • • • • • • • • • • •	22			
23	Court Reporter: Susan J. Robidas, NH LCR No				
24	Court Reporter: Susan U. Robidas, NH LCR NO	. 44 23			
24		24			
	{DG 20-049} [HEARING ON MERITS] {06-18-20}			(DG 20-049) [HEARING ON MERITS] {06-18-	-20}
	. , , , , , , , , , , , , , , , , , , ,			-1(	-,
	F	Page 2			Page 4
1	INDEX			PROCEEDINGS	Page 4
1 2		1		PROCEEDINGS CHAIRWOMAN MARTIN: Go	-
	INDEX	1 2	2	CHAIRWOMAN MARTIN: Go	ood morning,
2	INDEX WITNESSES: CATHERINE A. MCNAMARA BRIAN R. FROST	1 2 3	ev	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you aga	ood morning,
2	I N D E X WITNESSES: CATHERINE A. McNAMARA	1 2 3 4	ev W	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you aga 'e're here this morning in Docket DG	ood morning,
2 3 4	INDEX WITNESSES: CATHERINE A. MCNAMARA BRIAN R. FROST	1 2 3 4	ev W w	CHAIRWOMAN MARTIN: Goveryone. Nice to see some of you again the see this morning in Docket DG which is Liberty Utilities 2020 Cast	ood morning, ain. 6 20-049,
2 3 4 5 6	INDEX  WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan 9	1 2 3 4 5	ev W S W	CHAIRWOMAN MARTIN: Goveryone. Nice to see some of you agaze're here this morning in Docket DGhich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement P.	ood morning, ain. 6 20-049, Program
2 3 4 5 6 7	INDEX  WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS:	1 2 3 4 5 6	e ev W W S W	CHAIRWOMAN MARTIN: Goveryone. Nice to see some of you agaze're here this morning in Docket DGhich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Pesult. I first need to make some find	ood morning, ain. 6 20-049, Program
2 3 4 5 6 7 8	WITNESSES: CATHERINE A. MCNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo 48	1 2 3 4 5 6 7	e ev W W W Ird	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you agare're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find ecause we're doing this remotely.	ood morning, ain. 6 20-049, Program
2 3 4 5 6 7 8	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Bailey (cont'd) By Commissioner Giaimo 51	1 2 3 4 5 6	e ev W W W Ird	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you agree're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement P esult. I first need to make some find excause we're doing this remotely.  As Chairwoman of the Public	ood morning, ain. 6 20-049, Program ings
2 3 4 5 6 7 8 9	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Mr. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Bailey (cont'd)  48	1 2 3 4 5 6 7	ev W W W W W W W R R W R W	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you again the here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Presult. I first need to make some find exause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to	ood morning, ain. 6 20-049, Program ings
2 3 4 5 6 7 8 9 10	WITNESSES: CATHERINE A. MCNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio 24 INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey 41 By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  80	1 2 3 4 5 6 7 8	2 ev	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agare're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due that of emergency declared by the Go	ood morning, ain. G 20-049, Program ings
2 3 4 5 6 7 8 9 10 11	WITNESSES: CATHERINE A. MCNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Bailey (cont'd) By Commissioner Giaimo Sy Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin 70	1 2 3 4 5 6 7 8 9	even when we will be with a second of the weight of the we	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you again the hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to the are of emergency declared by the Go a result of the COVID-19 pandemic	ood morning, ain. G 20-049, Program ings to the overnor e, and in
2 3 4 5 6 7 8 9 10	WITNESSES: CATHERINE A. MCNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio 24 INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey 41 By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  80	1 2 3 4 5 6 7 8 9	even when we will be with a second of the weight of the we	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agare're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due that of emergency declared by the Go	ood morning, ain. G 20-049, Program ings to the overnor e, and in
2 3 4 5 6 7 8 9 10 11	WITNESSES: CATHERINE A. MCNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio 24 INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey 41 By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  80	1 2 3 4 5 6 7 8 9 10	e eva w w w w w w w w w w w w w w w w w w w	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you again the hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to the are of emergency declared by the Go a result of the COVID-19 pandemic	ood morning, ain. 6 20-049, Program ings to the overnor e, and in gency
2 3 4 5 6 7 8 9 10 11 12 13	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  * * * * *  WITNESS: RANDALL S. KNEPPER Direct Examination by Ms. Fabrizio 92	1 2 3 4 5 6 7 8 9 10 11 12	e ev	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you agree're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement P esult. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to at each of emergency declared by the Go a result of the COVID-19 pandemic ecordance with the Governor's Emergerder No. 12 pursuant to Executive Or	ood morning, ain. 6 20-049, Program ings to the overnor e, and in gency rder
2 3 4 5 6 7 8 9 10 11 12 13	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Bailey (cont'd) By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  * * * * *  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Ms. Sheehan INTERROGATORIES BY COMMISSIONERS:	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 ev W W S Irr R B be D U St. ass acc as acc acc acc acc acc acc acc	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you agare're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to a result of the COVID-19 pandemic coordance with the Governor's Emergrater No. 12 pursuant to Executive Or 2020-04, this public body is authorized.	ood morning, ain. G 20-049, Program ings to the overnor e, and in gency rder d to
2 3 4 5 6 7 8 9 10 11 12 13 14 15	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio 1NTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  * * * * *  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan 110 INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Bailey By Commissioner Bailey By Commissioner Giaimo 124	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	2	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you again the property of t	ood morning, ain. G 20-049, Program ings to the overnor e, and in gency rder d to here
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  * * * * *  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey 124	1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15	2 ev   3 ev   4 W   5 w   6 W   6 W   7 R   8 be   9 U   9 st.   9 as   9 ac	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you agree're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to attend of emergency declared by the Go a result of the COVID-19 pandemic ecordance with the Governor's Emergeder No. 12 pursuant to Executive Of 220-04, this public body is authorized eet electronically. Please note that the no physical location to observe and	ood morning, ain. 6 20-049, Program ings to the overnor e, and in gency rder d to here listen
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Bailey (cont'd) By Commissioner Bailey (cont'd) By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  * * * * *  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Bailey By Commissioner Giaimo Redirect Examination by Ms. Fabrizio 134	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	2	CHAIRWOMAN MARTIN: Go veryone. Nice to see some of you agree're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find cause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to at each of emergency declared by the Go a result of the COVID-19 pandemic coordance with the Governor's Emergeder No. 12 pursuant to Executive Or 220-04, this public body is authorized eet electronically. Please note that the no physical location to observe and contemporaneously to this hearing which	ood morning, ain. 6 20-049, Program ings to the overnor e, and in gency rder d to here listen
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  *****  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Bailey By Commissioner Bailey By Commissioner Giaimo Redirect Examination by Ms. Fabrizio Redirect Examination by Ms. Fabrizio By Chairwoman Martin  *****	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	2 ev W W S Irr R B bee D U St. ass acc acc acc acc	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agare're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to a result of the COVID-19 pandemic cordance with the Governor's Emergater No. 12 pursuant to Executive Or 200-04, this public body is authorized eet electronically. Please note that the no physical location to observe and ontemporaneously to this hearing what thorized pursuant to the Governor's	ood morning, ain. 6 20-049, Program ings to the overnor e, and in gency rder d to here listen ich was
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan No.  *****  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan INTERROGATORIES BY COMMISSIONERS: By Commissioner Giaimo Redirect Examination by Ms. Fabrizio 134 Redirect Examination by Ms. Fabrizio By Commissioner Giaimo Redirect Examination by Ms. Fabrizio 134 Redirect Examination by Ms. Fabrizio 135 By Chairwoman Martin  ******	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	2	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agare're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Pleault. I first need to make some find ecause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to a result of the COVID-19 pandemic ecordance with the Governor's Emergency December 12 pursuant to Executive Or 120-04, this public body is authorized eet electronically. Please note that the no physical location to observe and softemporaneously to this hearing which the covernor's emergency Order. However, in according the contemporaneously to the Governor's emergency Order. However, in according the contemporaneously of the covernor's emergency Order.	ood morning, ain. G 20-049, Program ings to the overnor e, and in gency rder d to here listen ich was dance with
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan No.  *****  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Chairwoman Martin  *****  CLOSING STATEMENTS: By Ms. Shute  140	1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	2 ev   3 ev   4	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agare're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find cause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to ate of emergency declared by the Go a result of the COVID-19 pandemic cordance with the Governor's Emergeder No. 12 pursuant to Executive Of 2020-04, this public body is authorized eet electronically. Please note that the no physical location to observe and ontemporaneously to this hearing which the corder. However, in accorder Emergency Order. However, in accorder Emergency Order, I am confirming	ood morning, ain. G 20-049, Program ings to the overnor e, and in gency rder d to here listen ich was dance with
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  *****  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Chairwoman Martin  ******  CLOSING STATEMENTS: By Ms. Shute By Ms. Fabrizio 141	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	2	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agree're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find cause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to attend of emergency declared by the Go a result of the COVID-19 pandemic coordance with the Governor's Emergeder No. 12 pursuant to Executive Or 220-04, this public body is authorized eet electronically. Please note that the no physical location to observe and ontemporaneously to this hearing when thorized pursuant to the Governor's emergency Order. However, in according tilizing Webex for this electronic	ood morning, ain. 6 20-049, Program ings to the overnor c, and in gency rder d to here listen ich was dance with g that we
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan No.  *****  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Chairwoman Martin  *****  CLOSING STATEMENTS: By Ms. Shute  140	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	2	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agree're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find cause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to a result of the COVID-19 pandemic cordance with the Governor's Emergander No. 12 pursuant to Executive Or 2020-04, this public body is authorized eet electronically. Please note that the no physical location to observe and intemporaneously to this hearing which thorized pursuant to the Governor's mergency Order. However, in according tilizing Webex for this electronic earing. All members of the Commission	ood morning, ain. 6 20-049, Program ings to the overnor e, and in gency rder d to here listen ich was dance with g that we sion have
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  *****  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Chairwoman Martin  ******  CLOSING STATEMENTS: By Ms. Shute By Ms. Fabrizio 141	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	2	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agree're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find cause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to attend of emergency declared by the Go a result of the COVID-19 pandemic coordance with the Governor's Emergeder No. 12 pursuant to Executive Or 220-04, this public body is authorized eet electronically. Please note that the no physical location to observe and ontemporaneously to this hearing when thorized pursuant to the Governor's emergency Order. However, in according tilizing Webex for this electronic	ood morning, ain. 6 20-049, Program ings to the overnor e, and in gency rder d to here listen ich was dance with g that we sion have
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	WITNESSES: CATHERINE A. McNAMARA BRIAN R. FROST ROBERT A. MOSTONE  EXAMINATION Direct Examination by Mr. Sheehan Cross-examination by Ms. Fabrizio INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo By Commissioner Giaimo By Commissioner Giaimo By Chairwoman Martin Redirect Examination by Mr. Sheehan  *****  WITNESS: RANDALL S. KNEPPER  Direct Examination by Ms. Fabrizio Cross-examination by Mr. Sheehan INTERROGATORIES BY COMMISSIONERS: By Commissioner Bailey By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Commissioner Giaimo Redirect Examination by Ms. Fabrizio By Chairwoman Martin  ******  CLOSING STATEMENTS: By Ms. Shute By Ms. Fabrizio 141	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	evaluation with the control of the c	CHAIRWOMAN MARTIN: Go reryone. Nice to see some of you agree're here this morning in Docket DG hich is Liberty Utilities 2020 Cast on/Bare Steel, CIBS, Replacement Plesult. I first need to make some find cause we're doing this remotely.  As Chairwoman of the Public tilities Commission, I find that, due to a result of the COVID-19 pandemic cordance with the Governor's Emergander No. 12 pursuant to Executive Or 2020-04, this public body is authorized eet electronically. Please note that the no physical location to observe and intemporaneously to this hearing which thorized pursuant to the Governor's mergency Order. However, in according tilizing Webex for this electronic earing. All members of the Commission	ood morning, ain. 6 20-049, crogram ings to the overnor e, and in gency rder d to here listen ich was dance with g that we sion have aneously

	Page 5		Pogo 7
	Page 5		Page 7
1	during this hearing through this platform,	1	residential ratepayers. I am in my home in
2	and the public has access to	2	Concord, New Hampshire. Currently my niece
3	contemporaneously listen and, if necessary,	3	is in the room with me.
4	participate. We previously gave notice to	4	CHAIRWOMAN MARTIN: Okay. And can
5	the public of the necessary information for	5	you identify her?
6	accessing the hearing in the Order of Notice.	6	MS. SHUTE: Katie Diehl.
7	If anybody has a problem during this hearing,	7	MS. FABRIZIO: Good morning,
8	please call (603) 271-2431. In the event the	8	Commissioners. Lynn Fabrizio, staff attorney
9	public is unable to access the hearing, the	9	for the Commission, on behalf of Staff. And
10	hearing will be adjourned and rescheduled.	10	with me today are Randy Knepper, who will be
11	Okay. And I know Mr. Wind went	11	a witness in today's proceeding. Steve Frink
12	through most of the ground rules at this	12	and Anthony Leone are on the wings if
13	point. So just a reminder: Make sure you	13	questions arise for them. Thank you.
14	mute yourself if you're not talking; put your	14	CHAIRWOMAN MARTIN: All right.
15	hand up to be recognized unless you're making	15	Thank you. For exhibits we have Exhibits 1
16	an objection; speak slowly, it really does	16	through 6 premarked for identification. Are
17	help. And if you need a recess, please let	17	there any other preliminary things we need to
18	me know.	18	address before we swear in the witnesses?
19	We'll start with roll call	19	MR. SHEEHAN: Just to be clear,
20	attendance of the Commission and then take	20	there are no confidential matters in this
21	appearances. When each commissioner states	21	docket, in this hearing, which is helpful.
22	their presence, please also state where you		Otherwise we are ready to proceed.
23	are located. And if anyone is with you,	22	CHAIRWOMAN MARTIN: Okay.
	please identify them.	23 24	Excellent. Thank you for confirming that.
24	please identity them.	24	Excellent. Thank you for commining that.
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
	Page 6		Page 8
1		1	
1 2	My name is Dianne Martin. I'm the	1 2	All right. Ms. Robidas, would you
2	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities	2	All right. Ms. Robidas, would you swear in the witnesses.
2	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield	2	All right. Ms. Robidas, would you swear in the witnesses. (WHEREUPON, CATHERINE A. McNAMARA, BRIAN
2 3 4	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.	2 3 4	All right. Ms. Robidas, would you swear in the witnesses. (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S.
2 3 4 5	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.	2 3 4 5	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned
2 3 4 5 6	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am	2 3 4 5 6	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)
2 3 4 5 6 7	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home	2 3 4 5 6 7	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN
2 3 4 5 6 7 8	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am  Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.	2 3 4 5 6 7 8	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN
2 3 4 5 6 7 8	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am  Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner	2 3 4 5 6 7 8	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN
2 3 4 5 6 7 8 9	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.	2 3 4 5 6 7 8 9	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN
2 3 4 5 6 7 8 9 10	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning.	2 3 4 5 6 7 8 9 10	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are
2 3 4 5 6 7 8 9 10 11	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire	2 3 4 5 6 7 8 9 10 11 12	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with
2 3 4 5 6 7 8 9 10 11 12	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.	2 3 4 5 6 7 8 9 10 11 12 13	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I
2 3 4 5 6 7 8 9 10 11 12 13 14	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All	2 3 4 5 6 7 8 9 10 11 12 13	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?
2 3 4 5 6 7 8 9 10 11 12 13 14	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with	2 3 4 5 6 7 8 9 10 11 12 13 14 15	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey. COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone. CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself. CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with Mr. Sheehan.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief conversation with Staff, and the preference
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with Mr. Sheehan.  MR. SHEEHAN: Good morning. Mike	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief conversation with Staff, and the preference would be to have to conduct it sort of
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with Mr. Sheehan.  MR. SHEEHAN: Good morning. Mike Sheehan. I represent in this matter Liberty	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief conversation with Staff, and the preference would be to have to conduct it sort of like a regular in-person hearing, with the
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with Mr. Sheehan.  MR. SHEEHAN: Good morning. Mike Sheehan. I represent in this matter Liberty Utilities (EnergyNorth Natural Gas Corp.)	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief conversation with Staff, and the preference would be to have to conduct it sort of like a regular in-person hearing, with the Company witnesses testifying, cross,
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with Mr. Sheehan.  MR. SHEEHAN: Good morning. Mike Sheehan. I represent in this matter Liberty Utilities (EnergyNorth Natural Gas Corp.)  CHAIRWOMAN MARTIN: Thank you. Ms.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief conversation with Staff, and the preference would be to have to conduct it sort of like a regular in-person hearing, with the Company witnesses testifying, cross, Commissioner questions, and then when they're
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with Mr. Sheehan.  MR. SHEEHAN: Good morning. Mike Sheehan. I represent in this matter Liberty Utilities (EnergyNorth Natural Gas Corp.)  CHAIRWOMAN MARTIN: Thank you. Ms. Shute.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief conversation with Staff, and the preference would be to have to conduct it sort of like a regular in-person hearing, with the Company witnesses testifying, cross, Commissioner questions, and then when they're done Mr. Knepper will testify. I think that
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with Mr. Sheehan.  MR. SHEEHAN: Good morning. Mike Sheehan. I represent in this matter Liberty Utilities (EnergyNorth Natural Gas Corp.)  CHAIRWOMAN MARTIN: Thank you. Ms. Shute.  MS. SHUTE: Good morning. My	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief conversation with Staff, and the preference would be to have to conduct it sort of like a regular in-person hearing, with the Company witnesses testifying, cross, Commissioner questions, and then when they're done Mr. Knepper will testify. I think that was okay with Staff as well.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	My name is Dianne Martin. I'm the Chairwoman of the Public Utilities Commission, and I am in my home in Deerfield alone.  Commissioner Bailey.  COMMISSIONER BAILEY: I am Commissioner Kathryn Bailey. I'm in my home in Sutton, New Hampshire, and I'm alone.  CHAIRWOMAN MARTIN: Commissioner Giaimo.  COMMISSIONER GIAIMO: Good morning. Mike Giaimo. I am in Concord, New Hampshire at the PUC offices in an office by myself.  CHAIRWOMAN MARTIN: Thank you. All right. Let's take appearances, starting with Mr. Sheehan.  MR. SHEEHAN: Good morning. Mike Sheehan. I represent in this matter Liberty Utilities (EnergyNorth Natural Gas Corp.)  CHAIRWOMAN MARTIN: Thank you. Ms. Shute.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	All right. Ms. Robidas, would you swear in the witnesses.  (WHEREUPON, CATHERINE A. McNAMARA, BRIAN R. FROST, ROBERT A. MOSTONE RANDALL S. KNEPPER were duly sworn and cautioned by the Court Reporter.)  CATHERINE A. McNAMARA, SWORN BRIAN F. FROST, SWORN ROBERT A. MOSTONE, SWORN RANDALL S. KNEPPER, SWORN CHAIRWOMAN MARTIN: All right. Are we proceeding with this as a panel, with Staff and the Company doing cross or I mean doing direct first?  MR. SHEEHAN: We had a brief conversation with Staff, and the preference would be to have to conduct it sort of like a regular in-person hearing, with the Company witnesses testifying, cross, Commissioner questions, and then when they're done Mr. Knepper will testify. I think that

	UCA	AST IRON/BARE STEEL REPLACEMENT PROGRAM F	KESUI	LIS	S June 18, 2020
[WI	TNES	S PANEL: McNAMARA FROST MOSTONE] Page 9	[WITN	NES	S PANEL: McNAMARA FROST MOSTONE] Page 11
1	1	right. Then Mr. Sheehan, you can proceed.	1		written requirement; is that correct?
2		MR. SHEEHAN: Thank you.	2 A	4.	Correct.
3		DIRECT EXAMINATION			And what is the annual revenue requirement
	BY	MR. SHEEHAN:	4		that we are seeking approval of today?
		I'll start with Ms. McNamara. Ms. McNamara,	5 A	Α.	(McNamara) The annual revenue requirement is
6	₹.	can you please identify yourself and your	6		\$6,161,925, which is an incremental revenue
7		position with the Company and your	7		requirement of approximately 1.6 million.
8		involvement in this proceeding?		Q.	And 1.6 is the addition to the CIBS revenue
	A.	(McNamara) Yes. My name is Catherine	9	ζ.	requirement that's being addressed today; is
10		McNamara. I am a rates analyst in the Rates	10		that right?
11		and Regulatory Affairs Department, and I	11 A	4.	(McNamara) Correct.
12		prepared testimony in the calculation of the	12 (		And have you calculated a bill impact of that
13		revenue requirement we're asking for today.	13		1.6 incremental increase, what the bill
14	O.	And Ms. McNamara, your testimony appears in	14		impact would be for a typical residential
15		the original filing the Company made, which	15		customer?
16		has been marked as Exhibit 1, beginning at	16 A	4.	(McNamara) I have. A typical residential
17		Bates Page 31; is that correct?	17	-	customer using approximately 809 therms per
	A.	(McNamara) Correct.	18		year would be \$7.03, or a .60 percent
19		And do you have any changes to that testimony	19		increase.
20		that you'd like to put on the record today?	20 (	Q.	Seven dollars per what time frame?
21	A.	(McNamara) I do not.	21 /		(McNamara) Year.
22		And if I were to ask you the same questions	22 (	Q.	Okay. Have the has the Company's filing
23	_	that are in writing orally today, would your	23	-	been audited by Commission's audit division?
24		answers be the same?	<b>24</b> A	Α.	(McNamara) Yes, it has.
		{DG 20-049} [HEARING ON MERITS] {06-18-20}			{DG 20-049} [HEARING ON MERITS] {06-18-20}
ΓWI	TNFS	SS PANEL: McNAMARA[FROST MOSTONE] Page 10	IWITN	NFS	S PANEL: McNAMARA FROST MOSTONE] Page 12
		(McNamara) Yes.	1 (		And has the guidit division completed its work
				٧.	And has the audit division completed its work
	Q.	And do you adopt that as your sworn testimony	2		and issued a final audit report?
3		here this morning?	2 3 A		and issued a final audit report? (McNamara) Yes, they issued a final audit
3 4	A.	here this morning? (McNamara) I do.	2 3 A 4		and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that
3 4 5	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you,	2 3 A 4 5	A.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.
3 4 5 6	A.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.	2 3 A 4 5 6 (	A.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report. And is it your understanding that that final
3 4 5 6 7	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara. What your testimony provides is, as you	2 3 A 4 5 6 (	A.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report. And is it your understanding that that final audit report is what's been marked as
3 4 5 6 7 8	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara. What your testimony provides is, as you said, the calculation of the revenue	2 3 A 4 5 6 (7 8	A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report. And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter?
3 4 5 6 7 8 9	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara. What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking	2 3 A 4 5 6 ( 7 8 9 A	A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report. And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.
3 4 5 6 7 8 9	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara. What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct?	2 3 A 4 5 6 ( 7 8 9 A 10 (	A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if
3 4 5 6 7 8 9 10 11	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara. What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes.	2 3 A 4 5 6 ( 7 8 9 A 10 (	A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that
3 4 5 6 7 8 9 10 11 12	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara. What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was	2 3 A 4 5 6 ( 7 8 9 A 10 ( 11 12	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct?
3 4 5 6 7 8 9 10 11 12 13	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara. What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to	2 3 A 4 5 6 (7 8 9 A 10 (11 12 13 A	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct.
3 4 5 6 7 8 9 10 11 12 13 14	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is,	2 3 A 4 5 6 ( 7 8 9 A 10 ( 11 12 13 A 14 (	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct.  Thank you.
3 4 5 6 7 8 9 10 11 12 13 14	A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking	2 3 A 4 5 6 ( 7 8 9 A 10 ( 11 12 13 A 14 ( 15	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct.  Thank you.  Mr. Frost, turning to you. Please
3 4 5 6 7 8 9 10 11 12 13 14 15 16	A. Q. A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking recovery?	2 3 A 4 5 6 (7 8 9 A 10 (11 12 13 A 14 (15 16	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct.  Thank you.  Mr. Frost, turning to you. Please introduce yourself, your position at the
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	A. Q. A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara. What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking recovery? (McNamara) The incremental investment in CIBS	2 3 A 4 5 6 (7 8 9 A 10 (11 12 13 A 14 (15 16 17	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct.  Thank you.  Mr. Frost, turning to you. Please introduce yourself, your position at the Company and your general involvement in this
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	A. Q. A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking recovery? (McNamara) The incremental investment in CIBS was \$14,885,261.	2 3 A 4 5 6 (7 8 9 A 10 (11 12 13 A 14 (15 16 17 18	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report. And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes. And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct. Thank you. Mr. Frost, turning to you. Please introduce yourself, your position at the Company and your general involvement in this docket.
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	A. Q. A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking recovery? (McNamara) The incremental investment in CIBS was \$14,885,261. And where within the Company did that number	2 3 A 4 5 6 ( 7 8 9 A 10 ( 11 12 13 A 14 ( 15 16 17 18 19 A	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct.  Thank you.  Mr. Frost, turning to you. Please introduce yourself, your position at the Company and your general involvement in this docket. (Frost) Good morning. My name is Brian R.
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	A. Q. A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking recovery? (McNamara) The incremental investment in CIBS was \$14,885,261. And where within the Company did that number come from to land on your desk?	2 3 A 4 5 6 (7 8 9 A 10 (1 11 12 13 A 14 (1 15 16 17 18 19 A 20	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct.  Thank you.  Mr. Frost, turning to you. Please introduce yourself, your position at the Company and your general involvement in this docket. (Frost) Good morning. My name is Brian R.  Frost. I am an Engineer III for Liberty
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	A. Q. A. Q.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking recovery? (McNamara) The incremental investment in CIBS was \$14,885,261. And where within the Company did that number come from to land on your desk? (McNamara) Information provided by Brian	2 3 A 4 5 6 (7 8 9 A 10 (1 11 12 13 A 14 (1 15 16 17 18 19 A 20 21	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report. And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes. And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct. Thank you. Mr. Frost, turning to you. Please introduce yourself, your position at the Company and your general involvement in this docket. (Frost) Good morning. My name is Brian R. Frost. I am an Engineer III for Liberty Utilities. I developed the CIBS program, led
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	A. Q. A. Q. A.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking recovery? (McNamara) The incremental investment in CIBS was \$14,885,261. And where within the Company did that number come from to land on your desk? (McNamara) Information provided by Brian Frost and Robert Mostone.	2 3 A 4 5 6 (7 8 9 A 10 (11 12 13 A 14 (15 16 17 18 19 A 20 21 22	A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report.  And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes.  And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct.  Thank you.  Mr. Frost, turning to you. Please introduce yourself, your position at the Company and your general involvement in this docket. (Frost) Good morning. My name is Brian R.  Frost. I am an Engineer III for Liberty Utilities. I developed the CIBS program, led design and led the team that compiled the
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	A. Q. A. Q. A.	here this morning? (McNamara) I do. Just a couple preliminary questions for you, Ms. McNamara.  What your testimony provides is, as you said, the calculation of the revenue requirement that the Company is seeking approval of this morning; is that correct? (McNamara) Yes. Can you just tell us at a high level what was the total cost that you started with to calculate the revenue requirement that is, the total CIBS cost for which we're seeking recovery? (McNamara) The incremental investment in CIBS was \$14,885,261. And where within the Company did that number come from to land on your desk? (McNamara) Information provided by Brian	2 3 A 4 5 6 (7 8 9 A 10 (1 11 12 13 A 14 (1 15 16 17 18 19 A 20 21	A. Q. A. Q. A. Q.	and issued a final audit report? (McNamara) Yes, they issued a final audit report, and there were no findings in that audit report. And is it your understanding that that final audit report is what's been marked as Exhibit 3 in this matter? (McNamara) Yes. And as you said, there were no findings, if you will, in that audit report; is that correct? (McNamara) Correct. Thank you. Mr. Frost, turning to you. Please introduce yourself, your position at the Company and your general involvement in this docket. (Frost) Good morning. My name is Brian R. Frost. I am an Engineer III for Liberty Utilities. I developed the CIBS program, led

{DG 20-049} [HEARING ON MERITS] {06-18-20}

{DG 20-049} [HEARING ON MERITS] {06-18-20}

202	UCA	IST IRON/BARE STEEL REPLACEMENT PROGRAM F	(E3	ULI	S June 18, 2020
[WI	NES	S PANEL: McNAMARA FROST MOSTONE] Page 13	[WI	TNES	S PANEL: McNAMARA FROST MOSTONE] Page 15
1		about the massive spreadsheet that sort of	1	$\mathbf{O}$	Mr. Frost, did you read Mr. Knepper's
2		forms the core of the CIBS filing. Is that	2	Q.	testimony?
3		mostly your work?		A.	(Frost) I did.
	Δ	(Frost) Yes, it is my work.	4		And is it correct to say that generally Mr.
		Okay. You filed in the original filing	5	Q.	Knepper's testimony was an overview of the
6	Q.	your testimony, along with Mr. Mostone,	6		CIBS program from his perspective, pointing
7		appears in Exhibit 1, beginning at Bates	7		out certain aspects of the program as it
		Page 1; is that correct?	8		developed during the last construction
8	٨	(Frost) Correct.	9		season?
10		And for the portions of that testimony, do	10	A.	(Frost) Yes. It includes notes of the
	Q.	you have any corrections to identify this		л.	program developments since last construction
11 12		morning?	11 12		season.
13	٨	(Frost) No, I do not.	13	$\circ$	And his testimony also contains two basic
		And if I were to ask you the questions in the	14	Q.	recommendations at the end regarding future
14	Q.				reporting requirements and a recommended
15		written testimony, would your oral answers be	15		1 0 1
16	٨	the same today?	16		deadline for completion of the CIBS program.
		(Frost) They would be the same.	17	٨	Did you read that?
18	Ų.	And do you adopt that as your sworn testimony	18		(Frost) I did read that.
19		today?	19	Q.	Regarding the deadline, Mr. Knepper
		(Frost) I do.	20		recommends that the Commission require the
21	Ų.	Mr. Mostone, same questions for you. Please	21		Company to complete removal of remaining CIBS
22		introduce yourself, your position with the	22		by 2024.
23		Liberty and your involvement with this	23		Can you tell me approximately how many
24		filing.	24		more miles of CIBS are remaining? And this
		{DG 20-049} [HEARING ON MERITS] {06-18-20}			{DG 20-049} [HEARING ON MERITS] {06-18-20}
ſWI	NES	S PANEL: McNAMARA FROST MOSTONE] Page 14	[WI	TNES	S PANEL: McNAMARA FROST MOSTONE] Page 16
	A.	(Mostone) Good morning. My name is Robert A.	1		is the CIBS that is, I believe it's less than
2		Mostone. I'm the director of Gas Operations	2		10-inch diameter is the category. How much
3		at Liberty Utilities Service Corp. of New	3		of that is remaining in our system,
4		Hampshire, and my direct filing is with Brian	4		approximately?
5	_	Frost's in the joint direct testimony.		A.	(Frost) Last week I ran some reports in the
	Q.	Are there any changes to the portions of the	6		Company's mapping program. There are
7		testimony for which you are responsible that	7		56.63 miles of cast iron and bare steel mains
8		we identified as Exhibit 1?	8		left on the maps; 4.3 miles of that is
			9		10-inch nominal diameter and larger. And the
10	Ų.	And do you adopt the written testimony as	10		Company does often maintain there's a small
11		your sworn testimony here this morning?	11		plus or minus due to mapping backlog as
		(Mostone) Yes, sir.	12	_	projects get mapped.
13	Ų.	Mr. Frost, since you filed your original	13	Q.	And of those 50 or so miles remaining, is it
14		testimony, Staff, Mr. Knepper, has filed	14		fair to say that most of those miles are in
15		testimony. Have you had a chance to review	15		the downtown areas of the cities in the
16		Mr. Knepper's testimony?	16		Company's service territory?
17		(Frost) I did review Mr. Knepper's testimony.		A.	(Frost) Yes. That mileage is predominantly
	Q.	And Mr. Mostone, I think you may need to turn	18		located within the downtown core urban areas
19		your mic off.	19		of Concord, Manchester and Nashua, New
20		Mr. Frost, Mr. Knepper's testimony, as	20	_	Hampshire.
21		he often presents in CIBS cases	21	Q.	Given that fact, are there issues with a firm
22		CHAIRWOMAN MARTIN: Never mind. It	22		deadline of 2024 to complete removal of those
23	<b>.</b> -	went away. He just went on mute.	23		miles of CIBS?
24	B.	Y MR. SHEEHAN:	24	A.	(Frost) I would think that establishing a
1		{DG 20-049} [HEARING ON MERITS] {06-18-20}			{DG 20-049} [HEARING ON MERITS] {06-18-20}

[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 17	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 19
1	firm deadline would present challenges. It	1	also a costly endeavor; is that correct?
2	could also present challenges that might not	2 A.	(Frost) In this type of construction, Liberty
3	be in the best interest of the ratepayers.	3	typically does not move live gas pipes. What
4	For example, the City of Nashua recently took	4	we would do is we would be replacing it.
5	out a large bond to repave every street	5	Again, because to prevent customer outages,
6	within the city over a number of years. The	6	we would install a new pipe, tie over all
7	Company tries to coordinate projects because	7	customers to the new pipe and then cut dead
8	coordinating projects with cities and other	8	the old pipe, similar to CIBS work.
9	utilities typically results in lower project	9 Q.	And as for the factor you described in
10	costs.	10	Nashua, the reason a city-wide paving project
11	Additionally, the City of Manchester is	11	impacts you, impacts the Company, is working
12	finalizing a consent agreement to do a	12	with that paving project will allow us to
13	municipal sewer separation on the east side	13	share paving costs with the city; is that
14	of the Merrimack River. This will cause	14	fair?
15	replacement of many sewers and pipes that	15 A.	(Frost) Correct. When coordinating with
16	Liberty had maybe in conflict. The Company	16	cities, we can typically share paving costs.
17	would have concerns that replacing pipes,	17	The city get a volume discount on paving much
18	only to have them be in the way of the sewer	18	better than what Liberty gets. Also, we can
19	construction a year or two after they're installed, could be troublesome. Staff in	19	typically restore the trenches with a binder mix of asphalt, which is a rougher, less
20 21	the past has recommended that the Company	20 21	refined asphalt mix that is slightly less
22	phase work so that this type of conflict and	22	expensive.
23	replacement of facilities that are less than	23 Q.	In addition to these two high-level concerns
24	five years old, are not beyond their normal	24	regarding a firm deadline, are there also
	·		-
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 18	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 20
1	life, does not occur because that's wasteful.	1	issues of the quantity of work that needs to
2 Q.	* *	2	be done within the inner cities that arise if
3	The work that they will have to do for their	3	you were trying to force what may be too fast
4	sewer separation is over a number of five to	4	a schedule on their replacement?
5	ten years; is that correct?	5 A.	(Frost) The Company has concerns that they
6 A.	(Frost) Yes. The city has given us very	6	would like to explore the quantity. If the
7	high-level projections that they want to	7	Company was to replace a large quantity of
8	stretch it out over a period of ten years.	8	pipe per year in a single city, it could
9 Q.	And am I correct in summarizing the issue you	9	result in having traffic detours upon traffic
10	raise is if you replaced CIBS this year on a	10	detours due to many streets in the same area
11 12	street that is going to be torn up in four or five years for that project, you would end up	11 12	having construction at the same time. One item to note is that of the remaining mileage
13	replacing the pipe twice?	13	that I discussed earlier, we have 6.7 miles
14 A.	(Frost) It's not a given that the pipe would	14	in the city of Concord in that list; in the
14 A.	be replaced twice. However, during sewer	15	city of Manchester there's 31.8 miles; and in
16			Nashua, approximately 17.2. And those are
	construction, typically the trench width for	116	
	construction, typically the trench width for sewer construction is large, and the depth is	16 17	
17	sewer construction is large, and the depth is	17	all rounded numbers. Therefore, there isn't
17 18	sewer construction is large, and the depth is larger than gas construction. So therefore,	17 18	all rounded numbers. Therefore, there isn't a balanced number for construction to be
17	sewer construction is large, and the depth is	17	all rounded numbers. Therefore, there isn't a balanced number for construction to be phased in. The Company can't say, per se, do
17 18 19	sewer construction is large, and the depth is larger than gas construction. So therefore, oftentimes gas piping is in the way and needs to be relocated before sewer construction to	17 18 19	all rounded numbers. Therefore, there isn't a balanced number for construction to be
17 18 19 20	sewer construction is large, and the depth is larger than gas construction. So therefore, oftentimes gas piping is in the way and needs	17 18 19 20	all rounded numbers. Therefore, there isn't a balanced number for construction to be phased in. The Company can't say, per se, do five miles per city per year and then end the
17 18 19 20 21	sewer construction is large, and the depth is larger than gas construction. So therefore, oftentimes gas piping is in the way and needs to be relocated before sewer construction to prevent the integrity of the gas piping from	17 18 19 20 21	all rounded numbers. Therefore, there isn't a balanced number for construction to be phased in. The Company can't say, per se, do five miles per city per year and then end the program at an even rate. At some point the
17 18 19 20 21 22	sewer construction is large, and the depth is larger than gas construction. So therefore, oftentimes gas piping is in the way and needs to be relocated before sewer construction to prevent the integrity of the gas piping from being compromised.	17 18 19 20 21 22	all rounded numbers. Therefore, there isn't a balanced number for construction to be phased in. The Company can't say, per se, do five miles per city per year and then end the program at an even rate. At some point the pipe in Concord and in Nashua is going to be

RESULTS June 18, 2020
[WITNESS PANEL: McNAMARA FROST MOSTONE] Page 23
<ul> <li>common source of the leaks that the Company</li> <li>has to address on either a true or kind of</li> <li>emergency basis during the course of the</li> </ul>
4 year?
5 A. (Frost) Yes. During the winter months
6 especially, the leak-prone pipe has potential
for leakage with ground movement, and we are
constantly monitoring that through our survey program. And we are doing much more repairs
program. And we are doing much more repairs on Grade 1 emergencies during the winter
11 months.
12 CHAIRWOMAN MARTIN: Mr. Sheehan,
13 you're on mute.
MR. SHEEHAN: I'm sorry.
15 BY MR. SHEEHAN:
16 Q. Mr. Frost, last question. Your testimony
documents the work done in the last program
year. It in great detail describes every
project, how many feet, how much it cost,
whether it was over or under budget, et cetera, et cetera, and comes to the total
numbers that you conveyed to Ms. McNamara.
23 Is it your opinion that those costs incurred
by the Company last year were prudently
{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNESS PANEL: McNAMARA FROST MOSTONE] Page 24
incurred and were a prudent exercise as this
2 program requires?
<ul><li>3 A. (Frost) Yes, I believe they were prudent</li><li>4 costs that increased pipeline safety.</li></ul>
<ul><li>4 costs that increased pipeline safety.</li><li>5 Q. Thank you.</li></ul>
6 MR. SHEEHAN: I have no further
7 questions for these two witnesses.
8 CHAIRWOMAN MARTIN: All right.
9 Thank you.
Ms. Shute.
MS. SHUTE: I do not have any
cross. Thank you.
13 CHAIRWOMAN MARTIN: All right. Ms.
14 Fabrizio. 15 MS. FABRIZIO: Thank you, Madam
15 MS. FABRIZIO: Thank you, Madam 16 Chair.
17 CROSS-EXAMINATION
18 BY MS. FABRIZIO:
<b>19</b> Q. I would like to start with a few questions
for Ms. McNamara for purposes of
for Ms. McNamara for purposes of clarification of just a number of points in
for Ms. McNamara for purposes of clarification of just a number of points in her testimony.
for Ms. McNamara for purposes of clarification of just a number of points in her testimony.  Ms. McNamara, have there been any
for Ms. McNamara for purposes of clarification of just a number of points in her testimony.

2020 CF	AST IRON/BARE STEEL REPLACEMENT PROGRAM I	KESULI	5 June 18, 2020
[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 25	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 27
1	2020 CIBS revenue requirement in comparison	1	spending in calendar year 2019?
2	to how you calculated the fiscal year 2019	2 A.	1 0
3	revenue requirement?	3	breakdown. But generally speaking, we need
4 A.	(McNamara) No.	4	to end construction on the gas company
5 Q.	Thank you. And are the only inputs that	5	usually sometime in the winter. And any of
6	changed the amount of rate base sorry.	6	the costs that flow through March of the next
7	Are the only inputs that changed the amount	7	year are typically for construction that
8	of rate base and the property tax rate?	8	happened in 2019.
9 A.	(McNamara) Well, the annual spending changes.	9 Q.	Thank you. That's helpful.
10	I'm not sure if I fully understand that	10	Does Liberty intend to file a full rate
11	question. But incremental spending our	11	case using calendar year 2019 as a test year,
12	investment is updated, which is part of the	12	to your knowledge?
13	rate base. And there's a rate base	13 A.	(McNamara) That's my understanding.
14	calculation and a property tax rate. Does	14 Q.	And how will CIBS spending in calendar year
15	that answer what you're looking for?	15	2019, and included in calculating the fiscal
16 Q.	Yes. Thank you. And how did you determine	16	year CIBS 2020 revenue requirement, be
17	the rate base amount to use in your revenue	17	reflected in the full rate filing?
18	requirement calculation? Could you just walk	18 A.	(McNamara) So assuming that this increase
19	us through that?	19	that we're requesting goes through, none of
20 A.	(McNamara) So are you referring to the	20	the spending would be included in our
21	year-end rate base of 40 million or the	21	calculation for the test year for the rate
22	14 million?	22	case that we would file this year because we
23 Q.	The 14 million.	23	would have already recovered it. So we would
24 A.	(McNamara) So that information was provided	24	remove it from the calculation in the rate
	(DC 20 040) [HEADING ON MEDITS] (06 19 20)		(DC 20 040) [HEADING ON MEDITS] (06 19 20)
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 26	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 28
1	by Mr. Frost, and we used it based on his FY	1	case.
2	2020 actual costs that were on the gigantic	2 Q.	All right. Thank you. I think that's all I
3	spreadsheet that people referred to. And	3	have for Ms. McNamara. So I will turn to Mr.
4	when it came to carryover costs, we only	4	Mostone and Mr. Frost, and I'll leave it up
5	included 5 percent, which was the limit that	5	to both of you to decide who responds just in
6	was previously allowed.	6	case I'm not clear on who has the
7 Q.	Thank you. And how do you calculate the	7	responsibility.
8	property tax rate? And does the fiscal year	8	So in your testimony at Bates Page 9 and
9	2020 rate compare how does it compare to	9	at Lines 1 through 6 so it's your joint
10	2019?	10	testimony you state that the Company
11 A.	(McNamara) So we're using the property tax	11	reduced scope on a number of projects late in
12	rate from 2019 is 2.71 percent, and in 2018	12	the year when it became apparent that
13	it was 2-1/2 percent. And the information we	13	construction crews would not be able to
14	pulled for plant in service and depreciation	14	finish the entire CIBS plan.
15	come from the annual report, Page 9 I believe	15	How many projects how many planned
16	it is.	16	projects were not started and how many
17 Q.	Okay. Thank you. And how much of fiscal	17	projects had their scope reduced in the
18	year 2020 CIBS revenue requirement is to	18	course of the CIBS year?
19	recover CIBS spending in calendar year 2019?	19 A.	(Frost) There were ten projects that were
20 A.	(McNamara) Could you repeat that question?	20	reduced; seven of those were reduction-only,
21	Sorry.	21	and three projects were not completed.
22 Q.	We talked about the CIBS fiscal year. How	22 Q.	And were they not completed due to time in
23	much of the 2020 CIBS fiscal year revenue	23	winter?
24	requirement is to recover specifically CIBS	24 A.	(Frost) Correct. They were not completed to
	(DC 20 040) [HEADING ON MEDITS] (06 18 20)		(DC 20 040) [HEADING ON MEDITS] (06 18 20)

{DG 20-049} [HEARING ON MERITS] {06-18-20}

{DG 20-049} [HEARING ON MERITS] {06-18-20}

[WITNE:	SS PANEL: McNAMARA FROST MOSTONE] Page 29	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 31
1	time. It takes some time to spool down a	1	scope items because of the safety hazard of
2	construction project, get all the new pipe	2	taking out cast iron and bare steel pipe.
3	tied back into the existing gas system and	3	You know, it's a recognized those pipe
4	have all customers hooked up to the completed	4	materials are recognized as a safety risk in
5	work. So we had to make a decision where the	5	a gas distribution system, and it's
6	break point was.	6	recognized that they need to be taken out of
7 Q.	Okay. Thank you. And how many of the	7	the ground. Therefore the Company since
8	planned projects were never started?	8	the project is destined to move forward, the
9 A.		9	Company did not think it was prudent to spend
10 Q.	Oh, I thought I heard three were completed.	10	additional quantifying funds to do such
11	So three were not started, and three were not	11	things as environmental studies where we
12	completed?	12	would, say, dig test holes all over the city
13 A.	(Frost) No. I stated there were ten projects	13	during work because we're going to encounter
14	that either contained scope reductions or	14	these materials no matter which way.
15	were not started.	15 Q.	Okay. On that note, does the Company tend to
16 Q.	Oh, okay.	16	do any preliminary footwork, say, talking
17 A.	Seven projects had scope reductions and three	17	with targeted town officials, or officials in
18	were not started.	18	targeted towns, I should say, to learn about
19 Q.	Thank you. That was my misunderstanding.	19	such issues beforehand for example, the
20	And could you explain what led to an	20	sewer projects that might end up interrupting
21	actual per foot cost of \$384 compared to an	21	a CIBS replacement or might end up
22	estimated cost of \$299 for CIBS year 2019?	22	facilitating a CIBS replacement or asking
23 A.	(Frost) I think we described during the	23	the town officials about environmental issues
24	testimony there are some factors that the	24	during the Company's planning process? Is
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE:	SS PANEL: McNAMARA FROST MOSTONE] Page 30	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 32
[WITNE:		[WITNES	
	Company it's hard to quantify at the estimating phase. The cities and towns often		there any outreach such as that?
1	Company it's hard to quantify at the	1	there any outreach such as that?
1 2	Company it's hard to quantify at the estimating phase. The cities and towns often	1 2 A.	there any outreach such as that? (Frost) Yes. The Company liaises with towns
1 2 3	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during	1 2 A. 3	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do
1 2 3 4	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon	1 2 A. 3 4	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research.
1 2 3 4 5	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes	1 2 A. 3 4 5	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering
1 2 3 4 5 6	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in	1 2 A. 3 4 5 6	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The
1 2 3 4 5 6	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua	1 2 A. 3 4 5 6 7	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know,
1 2 3 4 5 6 7 8	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of	1 2 A. 3 4 5 6 7 8 9	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does
1 2 3 4 5 6 7 8 9 10	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the	1 2 A. 3 4 5 6 7 8 9 10	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records
1 2 3 4 5 6 7 8 9 10 11	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been	1 2 A. 3 4 5 6 7 8 9 10 11 12	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating.
1 2 3 4 5 6 7 8 9 10 11 12 13	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated	1 2 A. 3 4 5 6 7 8 9 10 11 12 13	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a
1 2 3 4 5 6 7 8 9 10 11 12 13 14	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q.	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q.	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.  And when some of those barriers to	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with town officials, is that specifically for
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.  And when some of those barriers to continuing work occurred as you've just	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with town officials, is that specifically for projects that are underway?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.  And when some of those barriers to continuing work occurred as you've just listed, had the Company been aware of	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 A.	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with town officials, is that specifically for projects that are underway? (Frost) During the year the types of topics
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 20	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.  And when some of those barriers to continuing work occurred as you've just listed, had the Company been aware of potential problems that might have led to	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 A. 20	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with town officials, is that specifically for projects that are underway? (Frost) During the year the types of topics discussed tend to vary with the construction
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 20 21	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.  And when some of those barriers to continuing work occurred as you've just listed, had the Company been aware of potential problems that might have led to some of those issues at the time it was	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 A. 20 21	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with town officials, is that specifically for projects that are underway? (Frost) During the year the types of topics discussed tend to vary with the construction season. During the winter months when
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 20 21 22	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.  And when some of those barriers to continuing work occurred as you've just listed, had the Company been aware of potential problems that might have led to some of those issues at the time it was planning the projects?	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 A. 20 21 22	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with town officials, is that specifically for projects that are underway? (Frost) During the year the types of topics discussed tend to vary with the construction season. During the winter months when there's snow, we'll typically discuss
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 20 21 22 23 A.	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.  And when some of those barriers to continuing work occurred as you've just listed, had the Company been aware of potential problems that might have led to some of those issues at the time it was planning the projects?  (Frost) We've discussed in prior hearings	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 A. 20 21 22 23	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with town officials, is that specifically for projects that are underway? (Frost) During the year the types of topics discussed tend to vary with the construction season. During the winter months when there's snow, we'll typically discuss forward-looking plans. During the summer
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 20 21 22	Company it's hard to quantify at the estimating phase. The cities and towns often place, at the time of construction and during construction, place special requirements upon the Company, such as work stoppages due to traffic. That was described as permit hour restrictions. The Company sometimes encounters asbestos-containing materials in the ground. That's typically found in Nashua and Hudson. We also had a little bit of asbestos encountered in Concord because the historical steam system that we've been working around in this past year is coated with asbestos. And those types of things occurred.  Okay. Thank you. That's helpful.  And when some of those barriers to continuing work occurred as you've just listed, had the Company been aware of potential problems that might have led to some of those issues at the time it was planning the projects?	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Q. 17 18 19 A. 20 21 22	there any outreach such as that? (Frost) Yes. The Company liaises with towns on a weekly and bi-weekly basis. We also do a level of research, a records research. That's a generally accepted engineering practice for environmental contamination. However, as I explained, we don't do field research which involves test pitting. The records research often indicates, you know, possible contamination. And the Company does try to incorporate the results of records research into its project estimating. However, typically, records are good on say a street level or a neighborhood level versus a foot-by-foot level of installed pipeline. And your weekly or bi-weekly meetings with town officials, is that specifically for projects that are underway? (Frost) During the year the types of topics discussed tend to vary with the construction season. During the winter months when there's snow, we'll typically discuss

2020 GF	AST IRON/BARE STEEL REPLACEMENT PROGRAM I	KESULIS	June 18, 2020
[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 33	[WITNES	S PANEL: McNAMARA FROST MOSTONE] Page 35
1 2 Q. 3 4 5 A. 6 7 8 9 10 11 12 13 14 15 Q.	typically discuss ongoing projects.  So no outreach is made in the planning stage just to coordinate with the towns. That's what I take from your discussion.  (Frost) Outreach is made during the planning stage. That's the forward-looking part.  Often the towns tend to hold back permit restrictions until they have received a traffic plan just before construction. The Company does try to predict, based on past history, traffic impacts. However, the cities and towns tend to hold back final traffic decisions until the weeks before construction.  Okay. Thank you.	2 3 4 5 6 Q. 7 8 9 10 11 12 13 A. 14	things in the ground that could happen that they find that's going on. And you want the main to go in one direction and you have to offset something particular as an example, and the costs would be a little bit higher.  Thank you. That's helpful.  In prior CIBS proceedings, we've heard that the Company testified that it intended to complete its CIBS replacement by year-end 2024. We know that has changed. So now what does the Company project for an expected completion date?  (Mostone) The Company is projecting to extend it. I don't have the exact date in mind yet.  We're still looking into putting a team
16	What process does the Company have in		together to actually look at what we have
17	place to oversee project construction and		left and projecting out how it's going to
18	oversight of spending?		work, as far as the city and towns and
19 A.	(Mostone) As far as oversight, as inspectors		working with everybody here. As Brian stated
20	out on jobs typically, you know, we keep it		earlier, the cities, a lot of it being
21	under the one-to-four ratio. And they		replacements, Manchester, Nashua and Concord
22	monitor each job and location on a daily		are going to be a heavy traffic area. So we
23	basis.		have to work closely with them on making
24 Q.	Okay. Thanks.	24	sure. Of course we want to work with the
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 34	[WITNES:	S PANEL: McNAMARA FROST MOSTONE] Page 36
1 2 3 A. 4 5 6 7 8 9 10 11 12 13 Q. 14 A. 15 16 17 18 19 20 21 22 23	And is there a view of costs as they develop as well at the same time? (Mostone) Yes, we have a we are monitoring costs and reviewing each one if something pops up. We estimate the cost of each job prior to, and then we also have a we monitor the cost as the job is being done. If there's any add-ons or anything else that happens as the project is, they have to have it signed off by the inspector and the supervisor out in the field to have any add-ons or overages. So is that your role? (Mostone) It's not necessarily my role. It's necessarily the supervisor's role. They have to get approval from the supervisor. If there's something in question, then the construction manager gets involved with it and there will be a discussion with him. And if it's to go up, then it would go to me on that piece of it if it escalates higher.  Most of it gets resolved with the supervisor, and then there's someone there that	1 2 3 4 5 6 7 8 Q. 9 10 A. 11 12 13 14 15 16 17 Q. 18 19 20 21 22 A. 23	cities and towns as they're doing their own construction, which keeps the costs down. So we'll be looking at that also at the same time.  So as far as the date, exact year, I don't have that yet right now, but we are looking at it.  And does the indefinite date at this point, does that impact safety concerns?  (Mostone) Yes, it does. At Liberty we are concerned with that. We do want to get the pipe out as quickly as possible. But we also want to do it in a safe manner so we don't cause any other issues with the cities and towns or the public. So yes, we are we try to get them out as quick as possible. Okay. Thank you. I think I'll address this to both Mr. Frost and Mr. Mostone. What are your reactions to the CIBS reporting requirements that Mr. Knepper has recommended in his testimony?  (Frost) I believe that some of the CIBS reporting that Mr. Knepper's recommended is
24	(connectivity issue). You know, there's	24	acceptable. I think that both parties could
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}

[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 37	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 39
1	work together on the due dates of the	1	has increased because of that? So I want to
2	reports. The spreadsheet referenced as	2	just understand the question better.
3	Attachment A in this docket, the large	3 Q.	Sure. I'm referring to the Company's
4	spreadsheet, I believe that that has gotten a	4	references to "slightly elevated" cost
5	little too large. It often contains many	5	variances on project costing as included in
6	numbers that don't provide a lot of value.	6	the record. Just generally speaking. Maybe
7	The Company's spent a lot of time developing	7	I could rephrase and ask a different
8	all those numbers, and it seems that all	8	question.
9	parties sometimes get frustrated with the	9	What would you consider a less than
10	quantity of numbers and trying to pick out	10	successfully managed project in terms of
11	the numbers that matter, getting them lost in	11	costing?
12	the thousands of other numbers on that	12 A.	(Mostone) Okay. I guess the cost, the
13	spreadsheet. I think one night I was working	13	increase in costs, you're talking like
14	on it, and I calculated there was I did a	14	percentages I would imagine. So anything
15	calculation of how many cells were in the	15	over about 10 percent higher would be kind of
16	spreadsheet that I was checking, and it was	16	general. We don't want to see anything
17	in the thousands.	17	higher than that. You know, we do have
18 Q.	And is the information that's included in	18	overages that something can be around
19	that massive spreadsheet, is that information	19	20 percent. And those are generally you
20	the Company retains for its own records,	20	know, we review those and try to get our
21	generally speaking?	21	estimates better when we're working on
22 A.	(Frost) Yes, the Company does maintain the	22	projects. But as things come up and they
23	results of that spreadsheet within its	23	arise, that's where the increases come from.
24	computer system. The Company also maintains	24 Q.	And have you had a number of over fairly high
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 38	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 40
[WITNES		[WITNES	
	archives of the spreadsheet. However, at its		cost overruns this past year? (Mostone) We had some in 2019, 2020, and
1		1	cost overruns this past year?
1 2	archives of the spreadsheet. However, at its base, the numbers that really matter to the	1 2 A.	cost overruns this past year? (Mostone) We had some in 2019, 2020, and
1 2 3	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services	1 2 A. 3	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of
1 2 3 4	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and	1 2 A. 3 4	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground
1 2 3 4 5	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total	1 2 A. 3 4 5	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all
1 2 3 4 5 6	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how	1 2 A. 3 4 5 6	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the
1 2 3 4 5 6	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded	1 2 A. 3 4 5 6 7	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects
1 2 3 4 5 6 7 8	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of	1 2 A. 3 4 5 6 7 8	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we
1 2 3 4 5 6 7 8 9 10	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of	1 2 A. 3 4 5 6 7 8 9 10	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to
1 2 3 4 5 6 7 8 9 10 11 12	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than	1 2 A. 3 4 5 6 7 8 9 10 11 12	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some
1 2 3 4 5 6 7 8 9 10 11 12 13	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.	1 2 A. 3 4 5 6 7 8 9 10 11 12 13	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q.	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16 17	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to it takes time for the digging, which
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16 17 18	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully managed." At what level would a cost	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to it takes time for the digging, which adds cost to the projects.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16 17 18 19	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully managed." At what level would a cost variance rise above the level of more than	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 Q.	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to it takes time for the digging, which adds cost to the projects. Okay. Thank you. I think that completes my
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16 17 18 19 20	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully managed." At what level would a cost variance rise above the level of more than "slightly elevated" in your mind?	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 Q. 20	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to it takes time for the digging, which adds cost to the projects. Okay. Thank you. I think that completes my questions for Messrs. Frost and Mr. Mostone.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16 17 18 19 20 21 A.	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully managed." At what level would a cost variance rise above the level of more than "slightly elevated" in your mind? (Mostone) Sorry. I'm on mute.	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 Q. 20 21	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to it takes time for the digging, which adds cost to the projects.  Okay. Thank you. I think that completes my questions for Messrs. Frost and Mr. Mostone.  CHAIRWOMAN MARTIN: All right.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16 17 18 19 20 21 A. 22	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully managed." At what level would a cost variance rise above the level of more than "slightly elevated" in your mind?  (Mostone) Sorry. I'm on mute.  So, slightly above cost levels, are we	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 Q. 20 21 22	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to it takes time for the digging, which adds cost to the projects.  Okay. Thank you. I think that completes my questions for Messrs. Frost and Mr. Mostone.  CHAIRWOMAN MARTIN: All right.  Thank you.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16 17 18 19 20 21 A. 22 23	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully managed." At what level would a cost variance rise above the level of more than "slightly elevated" in your mind?  (Mostone) Sorry. I'm on mute.  So, slightly above cost levels, are we pertaining to the construction when we're	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 Q. 20 21 22 23	cost overruns this past year?  (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to it takes time for the digging, which adds cost to the projects.  Okay. Thank you. I think that completes my questions for Messrs. Frost and Mr. Mostone.  CHAIRWOMAN MARTIN: All right.  Thank you.  Commissioner Bailey.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 Q. 15 16 17 18 19 20 21 A. 22	archives of the spreadsheet. However, at its base, the numbers that really matter to the Company are the total number of services completed, the total cost of the projects and where the projects occurred and the total amount of main replaced and an estimate versus actual. Some of the other stuff about how much was paid in degradation fees, how much direct costs versus estimated, loaded costs versus estimated, the number of services by construction method, some of those totals seem to be more superfluous than of value.  Thank you.  Turning to Mr. Mostone, your testimony references variances that you characterize as "slightly elevated" as well as "successfully managed." At what level would a cost variance rise above the level of more than "slightly elevated" in your mind?  (Mostone) Sorry. I'm on mute.  So, slightly above cost levels, are we	1 2 A. 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 Q. 20 21 22	cost overruns this past year? (Mostone) We had some in 2019, 2020, and we've made adjustments to that. A lot of it's been, again, what we find in the ground and what we have to do for that. There's all different scenarios that do happen that keeps the cost up. Some of it's working with the cities and towns to you know, for the you know, what's going on with their projects and trying to work with them. You know, we got, for instance, in Manchester, we got to backfill each night when we have some something open. We just can't plate it and leave it. We have to dig out each day, which costs time. In certain jobs that we can't do that, that the city doesn't allow it, we have to it takes time for the digging, which adds cost to the projects.  Okay. Thank you. I think that completes my questions for Messrs. Frost and Mr. Mostone.  CHAIRWOMAN MARTIN: All right.  Thank you.

[WITN	ESS PANEL: McNAMARA FROST MOSTONE] Page 41	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 43
1	INTERROGATORIES BY COMMISSIONERS:	1	at house number 30 on this street asbestos
	BY COMMISSIONER BAILEY:	2	was found, at house number 50 it wasn't
3 Q		3	found. And we have to make a lot of it's
4	the cost overrun question. You say, "A lot	4	kind of reading tea leaves to quantify the
5	has to do with what we find in the ground."	5	amount of asbestos. In areas where nobody
6	But in the testimony it says in Hudson you	6	has dug in the past 50 to 60 years, records
7	expected asbestos. So why wouldn't you	7	do not exist.
8	assume that every pipe in Hudson has asbestos	8 Q.	But my question is why not assume the worst,
9	and estimate as if it did and then come in	9	the most expensive scenario in your
10	under budget rather than over budget?	10	estimating?
11 A		11 A.	(Frost) Oh, understood. That I would think
12	area in Hudson, especially where we have	12	would present challenges, too. Sometimes
13	asbestos, and we look at the mappings and	13	it's better to control the construction
14	see. If we do have something where we know	14	process going upwards to a degree rather than
15	there's known asbestos, we do try to take	15	give the impression that the project is
16	that into consideration. But there's times	16	supposed to cost a large amount at the
17	where we don't know how much and, you know,	17	outset. The Company tries to estimate a
18	where exactly it is. So it's very difficult	18	realistic number if no problems or only the
19	to just estimate the whole length of a	19	anticipated problems are covered so that we
20	project at a time and how much you're going	20	can keep an eagle eye on the amount of extras
21	to deal with. Depth of main, depth of the	21	that come up during the job.
22	asbestos is always in consideration. So it	22 Q.	But as you said, you can't do anything about
23	is a rough estimate. And then the	23	the extras that come up during the job. So I
24	environmental changes towards how we have to	24	still don't understand. I think what you're
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
	(20 20 0 10) [112/11/11/0 01/11/21/0] (00 10 20)		(= = = = = = = = = = = = = = = = = = =
[WITN	ESS PANEL: McNAMARA FROST MOSTONE] Page 42	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 44
[WITN		[WITNES	
	ESS PANEL: McNAMARA FROST MOSTONE] Page 42		SS PANEL: McNAMARA FROST MOSTONE] Page 44
1 2	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has	1	SS PANEL: McNAMARA FROST MOSTONE] Page 44 saying is that if you overestimate the job,
1 2	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?	1 2	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under
1 2 3 Q	extract it is also a consideration when you're in the area. Do you assume that all the pipe in Hudson has asbestos? (Mostone) We assume it does. But we have a	1 2 3 4 5	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?
1 2 3 Q 4	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some	1 2 3 4 5	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going
1 2 3 Q 4 5 A	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we	1 2 3 4 5 6 A.	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the
1 2 3 Q 4 5 A 6 7	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that	1 2 3 4 5 6 A. 7	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that
1 2 3 Q 4 5 A 6 7 8	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had	1 2 3 4 5 6 A. 7 8	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the
1 2 3 Q 4 5 A 6 7 8 9	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start	1 2 3 4 5 6 A. 7 8 9	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is
1 2 3 Q 4 5 A 6 7 8 9 10 11	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the	1 2 3 4 5 6 A. 7 8 9	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a
1 2 3 Q 4 5 A 6 7 8 9 10 11 12	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything,	1 2 3 4 5 6 A. 7 8 9 10 11	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus
1 2 3 Q 4 5 A 6 7 8 9 10 11 12 13	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and	1 2 3 4 5 6 A. 7 8 9 10 11 12	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be
1 2 3 Q 4 5 A 6 7 8 9 10 11 12 13 14	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So	1 2 3 4 5 6 A. 7 8 9 10 11 12 13	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go
1 2 3 Q 4 5 A 6 7 8 9 10 11 12 13 14 15	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere, or the actuals were to go
1 2 3 Q 4 5 A 6 7 8 9 10 11 12 13 14 15 16 Q	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.  I think Mr. Frost has something to add.	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere, or the actuals were to go elsewhere.
1 2 3 Q 4 5 A 6 7 8 9 10 11 12 13 14 15 16 Q 17 A	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.  I think Mr. Frost has something to add.  (Frost) Good morning, Commissioner. I think	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 Q.	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere, or the actuals were to go elsewhere.  But you're 30 percent over this year on your
1 2 3 Q 4 5 A 6 7 8 9 10 11 12 13 14 15 16 Q 17 A 18	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.  I think Mr. Frost has something to add.  (Frost) Good morning, Commissioner. I think one of the challenges is that a lot of times	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 Q. 18	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere, or the actuals were to go elsewhere.  But you're 30 percent over this year on your cost per foot.
1 2 3 Q 4 5 A 6 7 8 9 10 11 12 13 14 15 16 Q 17 A 18 19	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.  I think Mr. Frost has something to add.  (Frost) Good morning, Commissioner. I think one of the challenges is that a lot of times the Company is working with spot reports	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 Q. 18 19 A.	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere, or the actuals were to go elsewhere.  But you're 30 percent over this year on your cost per foot.  (Frost) Yes, it does indicate the need for
1 2 3 Q 4 5 A 6 6 7 8 9 10 11 12 13 14 15 16 Q 17 A 18 19 20	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.  I think Mr. Frost has something to add.  (Frost) Good morning, Commissioner. I think one of the challenges is that a lot of times the Company is working with spot reports regarding the asbestos. On a technical	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 Q. 18 19 A. 20	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere.  But you're 30 percent over this year on your cost per foot.  (Frost) Yes, it does indicate the need for work on estimating.
1 2 3 Q 4 5 A 6 6 7 8 9 10 11 12 13 14 15 16 Q 17 A 18 19 20 21	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.  I think Mr. Frost has something to add.  (Frost) Good morning, Commissioner. I think one of the challenges is that a lot of times the Company is working with spot reports regarding the asbestos. On a technical level, the asbestos was generally used as	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 Q. 18 19 A. 20 21 Q.	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere.  But you're 30 percent over this year on your cost per foot.  (Frost) Yes, it does indicate the need for work on estimating.  Okay. Can somebody tell me what's left, what
1 2 3 Q 4 5 A 6 6 7 8 9 10 11 12 13 14 15 16 Q 17 A 18 19 20	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.  I think Mr. Frost has something to add.  (Frost) Good morning, Commissioner. I think one of the challenges is that a lot of times the Company is working with spot reports regarding the asbestos. On a technical level, the asbestos was generally used as fill material in those areas. So we'll have	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 Q. 18 19 A. 20 21 Q. 22	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere, or the actuals were to go elsewhere.  But you're 30 percent over this year on your cost per foot.  (Frost) Yes, it does indicate the need for work on estimating.  Okay. Can somebody tell me what's left, what streets are left in Concord? Because it
1 2 3 Q 4 5 A 6 7 8 9 10 11 12 13 14 15 16 Q 17 A 18 19 20 21 22	extract it is also a consideration when you're in the area.  Do you assume that all the pipe in Hudson has asbestos?  (Mostone) We assume it does. But we have a map that shows if we've done some construction in the area in the past and we haven't encountered it. If we do think that there's an area that doesn't show that it had it, then we go in there. And when we start digging in the main, you may start in the first 100, 200 feet you don't see anything, and then all of a sudden we pull it out and we have to get it mitigated at that time. So it does happen.  I think Mr. Frost has something to add.  (Frost) Good morning, Commissioner. I think one of the challenges is that a lot of times the Company is working with spot reports regarding the asbestos. On a technical level, the asbestos was generally used as	1 2 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 Q. 18 19 A. 20 21 Q.	saying is that if you overestimate the job, the spending will creep up to that much even if it doesn't need to? Is that why you're reluctant to overestimate and come in under budget?  (Frost) I wouldn't say the spending is going to creep up necessarily. But that is the slight concern, that I want to make sure that the jobs are you know, that the supervisors in the field, the expectation is that they need to meet the numbers based on a good-faith average estimate plus or minus 10 percent. And it would need to be documented fully why the estimates were to go elsewhere.  But you're 30 percent over this year on your cost per foot.  (Frost) Yes, it does indicate the need for work on estimating.  Okay. Can somebody tell me what's left, what

[WITNESS PANEL: McNAMARA|FROST|MOSTONE] Page 45 [WITNESS PANEL: McNAMARA|FROST|MOSTONE] Page 47 anything left in Concord to do. But you said that because I was not working with the CIBS there's 6.7 miles remaining in Concord. 2 program at Liberty when the decision was 2 (Frost) Right now we are working on South з А. 3 made. 4 State Street. North State Street has some 4 O. Okay. Tell me a little bit about Nashua and left. The other -- there are some small what you expect in five to ten years. I 5 5 pockets on the north end of the city in the think Main Street -- well, not this year, 6 6 7 neighborhood there north of Centre Street. 7 obviously, because of the barriers that you And there's other pipes that's kind of -- I'd mentioned. But when do you expect to get 8 8 9 characterize it as "scattered streets." The 9 some progress in Nashua? majority of Concord is plastic pipe these (Frost) I would imagine in Nashua, a 10 10 A. days. Concord is, of the three large cities, five-year timeline would be very achievable. 11 11 12 is the best. 12 I think the challenges with establishing 13 Q. When do you think that the 6.7 miles left in a hard and fast date, the Company can be 13 Concord will be complete? 14 14 substantially complete, maybe with a few (Frost) I would imagine, if the Company stragglers. But a hard and fast, you know, a 15 A. 15 continues at its current rate and makes no hundred percent, you know, might be 16 16 17 changes, the Company could complete that in 17 challenging. Or maybe it wouldn't make two to three years. It depends on where the sense, you know, as we discussed, that if the 18 18 Company wants to take the program and spread city was to say that we've got this last 19 19 out the remaining construction that we talked piece over here out, you know, one to two 20 20 about, phasing and working with each city. years. It might make sense to wait that one 21 21 Part of the mileage in Concord is on to two years to get the last streets and to 22 22 Main Street, which is larger than 10-inch, work in an orderly manner. 23 23 which Mr. Knepper's testimony indicated a 24 O. And what about Manchester? 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20} [WITNESS PANEL: McNAMARA|FROST|MOSTONE] Page 46 [WITNESS PANEL: McNAMARA|FROST|MOSTONE] Page 48 desire for Staff not to be within the (Frost) Manchester has the most cast iron and bare steel remaining. I can see that being replacement program. 2 3 Q. A desire for what not to be in the challenging due to the amount of mileage that 3 replacement program? can be done per year and Manchester's sewer 4 4 5 A. (Frost) Mr. Knepper noted a recommendation, project. Off the top of my head, I'm having 5 6 and I'm finding the quote. Okay. On Bates 6 a hard time, you know, on the spot projecting Page 10 of Mr. Knepper's program, he noted that due to the amount of pipe. 7 7 the exception of mains equal to or greater O. Mr. Mostone, you acknowledge that there are 8 8 9 than 10-inch nominal diameter not be included 9 some safety concerns. Can you give me an within the CIBS replacement program. On a idea about --10 10 technical basis, typically the larger 11 11 CHAIRWOMAN MARTIN: Excuse me, diameter mains have a thicker wall thickness. Commissioner Bailey. I'm sorry to interrupt. 12 12 And the Company has historically taken Commissioner Giaimo has his hand up. 13 13 efforts to seal the joints between those COMMISSIONER GIAIMO: I do. And 14 14 pipes. The seal is kind of like gluing the iust before we left Manchester, could I 15 15 pipes back together, so their leakage rate is interject a quick hypothetical? 16 16 a lot less than other cast iron mains. So I CHAIRWOMAN MARTIN: Yes. 17 17 think that is the technical basis for that BY COMMISSIONER GIAIMO: 18 18 19 cut-off in diameter. 19 O. Okay. Mr. Frost, I thought I heard you say 20 Q. So you didn't replace the cast iron in Main that the expectation is the town, the city of 20 Street, Concord, when it was ripped up Manchester could take between five and ten 21 21 22 several years ago? 22 years to finish its sewer project? 23 A. (Frost) No, we did not replace that cast (Frost) Yes. Correct. 23 A. 24 iron. I'm not aware of the history behind 24 O. Okay. And I think all of us understand and {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20}

	SS PANEL: McNAMARA FROST MOSTONE] Page 49		SS PANEL: McNAMARA FROST MOSTONE] Page 51
[VVIIIVE.		[VVIIIVE	
1	appreciate why you would want to coordinate	1	me know.
2	and prevent a redundancy of digging and		Y COMMISSIONER BAILEY (CONT'D):
3	re-digging. But where I'm struggling is if	3 Q.	So let's talk about the leak rate before I go
4	you wanted to do that, and there's a main on	4	back to the question for Mr. Mostone.
5	Street A in Manchester that's going to have a	5	It looked like the leak rate in 2018 was
6	sewer project that needs to have a CIBS	6	higher than it has been in a long time. Can
7	replacement, but it's expected that the city	7	somebody explain why that is after all this
8	will make that one of its last priorities on	8	replacement?
9	its sewer project and says, okay, we'll get	9 A.	(Frost) The leak rate, we went through it in
10	to that in nine years or ten years. Is that	10	the last docket. There is some weather
11	a situation where the Company is actually	11	variability to leak rates. Typically in
12	going to suggest that the CIBS replacement	12	winters where there's a lot of freezing and
13	doesn't happen until 2029?	13	thawing or extremely cold weather, the leak
14 A.	(Frost) I think in a case like that, the	14	rate will go up on the cast iron main
15	Company, you know, longstanding within the	15	population. I'm not sure where that one
16	CIBS program, has completed risk assessments	16	of the observations that Staff made in their
17	on its main where we try to identify mains	17	testimony in last year's docket was that the
18	that have a leakage history and replace those	18	Company's leak rate testimony was
19	first. I think we'd make an evaluation of	19	statistically insignificant the Company
20	the leakage history of the main, and if for	20	thought that it was statistically
21	safety reasons it had to be replaced sooner,	21	significant. Staff did not. I'm not sure
22	we would replace it sooner. If it was not	22 Q.	Did the leak rate come down in 2019 when we
23	presenting a safety hazard, we would defer	23	didn't have such a cold winter?
24	it. And additionally, we often work with the	24 A.	(Mostone) As far as broken mains on the cast
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE:	SS PANEL: McNAMARA FROST MOSTONE] Page 50	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 52
	SS PANEL: McNAMARA FROST MOSTONE] Page 50		
1	SS PANEL: McNAMARA FROST MOSTONE] Page 50 cities, where the city will also maybe adjust	1	iron leak-prone pipe, yes, it did overall.
1 2	SS PANEL: McNAMARA FROST MOSTONE] Page 50 cities, where the city will also maybe adjust their schedule to match the condition of our	1 2	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our
1 2 3	cities, where the city will also maybe adjust their schedule to match the condition of our facility.	1 2 3	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low
1 2 3 4 Q.	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's	1 2 3 4	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas,
1 2 3 4 Q. 5	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the	1 2 3 4 5	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do
1 2 3 4 Q. 5	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua,	1 2 3 4 5 6	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we
1 2 3 4 Q. 5 6 7	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the	1 2 3 4 5 6	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our
1 2 3 4 Q. 5 6 7	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their	1 2 3 4 5 6 7 8	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel
1 2 3 4 Q. 5 6 7 8	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient	1 2 3 4 5 6 7 8	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening
1 2 3 4 Q. 5 6 7 8 9	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?	1 2 3 4 5 6 7 8 9	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months
1 2 3 4 Q. 5 6 7 8 9 10 11 A.	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the	1 2 3 4 5 6 7 8 9 10	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the cities overall with trying to keep an open	1 2 3 4 5 6 7 8 9 10 11	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the	1 2 3 4 5 6 7 8 9 10 11 12	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well? (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.	1 2 3 4 5 6 7 8 9 10 11 12 13	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank	1 2 3 4 5 6 7 8 9 10 11 12 13 14	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks,
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16 17	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.  Commissioner Bailey, sorry to	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six months of year end. So you're actually
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16 17 18	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well? (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.  Commissioner Bailey, sorry to interrupt, but I thought it might be best for	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six months of year end. So you're actually seeing some of that going on, and that's why
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16 17 18 19	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.  Commissioner Bailey, sorry to interrupt, but I thought it might be best for the flow of the hearing to tackle Manchester	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six months of year end. So you're actually seeing some of that going on, and that's why you're seeing the leak rate go up a little
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16 17 18 19 20	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.  Commissioner Bailey, sorry to interrupt, but I thought it might be best for the flow of the hearing to tackle Manchester while we were talking about Manchester.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six months of year end. So you're actually seeing some of that going on, and that's why you're seeing the leak rate go up a little bit. But the system itself, the rating or
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16 17 18 19 20 21	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well?  (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.  Commissioner Bailey, sorry to interrupt, but I thought it might be best for the flow of the hearing to tackle Manchester while we were talking about Manchester. Thank you.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six months of year end. So you're actually seeing some of that going on, and that's why you're seeing the leak rate go up a little bit. But the system itself, the rating or the grading and amount of leaks especially
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16 17 18 19 20 21 22	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well? (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.  Commissioner Bailey, sorry to interrupt, but I thought it might be best for the flow of the hearing to tackle Manchester while we were talking about Manchester.  Thank you.  COMMISSIONER BAILEY: No problem.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six months of year end. So you're actually seeing some of that going on, and that's why you're seeing the leak rate go up a little bit. But the system itself, the rating or the grading and amount of leaks especially during this winter has gone down
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16 17 18 19 20 21	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well? (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.  Commissioner Bailey, sorry to interrupt, but I thought it might be best for the flow of the hearing to tackle Manchester while we were talking about Manchester.  Thank you.  COMMISSIONER BAILEY: No problem. Interrupt anytime. I just didn't see you.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six months of year end. So you're actually seeing some of that going on, and that's why you're seeing the leak rate go up a little bit. But the system itself, the rating or the grading and amount of leaks especially during this winter has gone down significantly on the cast iron system of the
1 2 3 4 Q. 5 6 7 8 9 10 11 A. 12 13 14 15 16 17 18 19 20 21 22 23	cities, where the city will also maybe adjust their schedule to match the condition of our facility.  So the Company's comfortable that it's actually had detailed discussions with the cities of Manchester, Concord and Nashua, that it feels like it appreciates the expectations of the cities with their projects, so as to make them most efficient and effective with respect to CIBS as well? (Frost) I believe we do a good job with the cities overall with trying to keep an open line of communication. Trying to juggle the total public interest is what it is, really.  COMMISSIONER GIAIMO: Okay. Thank you.  Commissioner Bailey, sorry to interrupt, but I thought it might be best for the flow of the hearing to tackle Manchester while we were talking about Manchester.  Thank you.  COMMISSIONER BAILEY: No problem.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	iron leak-prone pipe, yes, it did overall. But as we are checking other areas during our leak survey program, we have a very low tolerance of, you know, percentage of gas, how our grading system is. And yes, we do have areas in Nashua, especially where we have picked up some leaks mostly on our dresser couplings that's on a coated steel system. And technically what's happening there is they leak during the winter months with the cold because of the rubber around the dresser couplings and the age of it, and we have to go back in and seal those. In the past, those leaks were considered Grade 3 leaks; now they're considered Grade 2 leaks, and we're required to fix them within six months of year end. So you're actually seeing some of that going on, and that's why you're seeing the leak rate go up a little bit. But the system itself, the rating or the grading and amount of leaks especially during this winter has gone down

[WITNESS PANEL: McNAMARA|FROST|MOSTONE] Page 53 [WITNESS PANEL: McNAMARA|FROST|MOSTONE] Page 55 1 Q. So did you say that the leaks that you found repaired right away as soon as we get them. 2 But it's tough to say how, you know, how long recently are not on the cast iron/bare steel 3 pipes? 3 the cast iron going to last in the ground 4 A. (Mostone) No. I don't have the numbers in 4 that's already been in there a hundred years. front of me, but we've had -- the amount of 5 5 Grade 1s that we had through this past year 6 6 O. I think Mr. Frost has something to add. 7 was less than previous years. And some of 7 (Frost) Thank you, Commissioner Bailey. I A. the leaks that we've had on our dresser can say, to provide more information to you, 8 8 9 couplings or what have you in the Nashua area 9 as the CIBS program has gone on over these in particular, that increased in the winter years, the Company, working with Staff, does 10 10 of 2019-2020 from winter of 2018-2019. document every leak that is on cast iron 11 11 12 Q. So how concerned are you? Give me an 12 pipe. We document it in our mapping system 13 assessment of the risk of not immediately 13 so that we can typically, with leaking pipes, 14 replacing these pipes in Nashua? 14 replace them within one to two years if they (Mostone) So the repair there is, what we're show an active leak history that develops. 15 A. 15 doing -- this is on our coated seal system, We've also seen as the program goes on 16 16 17 60-pound system in general -- we encapsulate 17 that we're replacing more pipes that don't the dresser coupling and we cut it out. So have a leak history even though they are cast 18 18 it's almost like a permanent repair. It's iron or bare steel. During the early days of 19 19 something that we are looking at to alleviate the program, maybe it could be characterized 20 20 within time. But, you know, the leak itself as more of a fire-type thing, where you're 21 21 actually goes away when the frost comes out only replacing pipes that have a very bad 22 22 23 of the ground. It doesn't persist. A lot of 23 leak history. The Company, you know, times that's what happens. So we actually currently now is able to replace, as part of 24 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20} [WITNESS PANEL: McNAMARA|FROST|MOSTONE] Page 54 [WITNESS PANEL: McNAMARA|FROST|MOSTONE] Page 56 have to pin the leak during the winter months their program, a lot of pipes that need to 1 and make sure we have it, and then the crews come out of the ground because they present a 2 2 go out and do the repairs in the off -- you risk higher than plastic pipe. However, they 3 3 4 know, after the frost is out during the don't have a documented leak history because 4 summer and we can get permits for them the population with the documented leak 5 5 6 because they're graded low. 6 history is smaller than the Company's total Q. I heard you say that that was on the coated replacement effort. Does that help? 7 steel system. I'm interested in the risk, A little, but it leads me to my next O. 8 8 9 your risk assessment of the remaining cast 9 question. So if you have a leak history on iron/bare steel pipes in Nashua and the remaining cast iron/bare steel pipes, 10 10 11 Manchester and Concord and how long you think 11 what does that look like in Nashua, where I think you've had a couple of incidents this 12 that they can exist as they are. 12 (Mostone) So that's a tough question to year? And I don't know if it has to do with 13 A. 13 14 answer, as far as how long. We constantly 14 these CIBS pipes or not. But seems like a are monitoring the system and we're checking. couple times in Nashua over the past year 15 15 As we dig, you know, we observe what the there have been some leaks where people had 16 16 condition of the pipe is. If there's to be evacuated. 17 17 something that needs to be addressed right So what does the leak history look like 18 18 19 away, we immediately get engineering involved 19 on the remaining CIBS pipes in the three and recommend the main being replaced. As cities that we're talking about? 20 20 (Frost) I mean it's hard to categorize what far as the piping itself goes, you know, we 21 A. 21 22 do a monitoring setup where we're out and 22 it looks like. I think the Company manages monitoring the mains at times and making sure it. Yes, we've had leaks. Also during the 23 23 24 that there's no leaks and they're being winter, as Mr. Mostone mentioned, we're 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20}

	SS PANEL: McNAMARA FROST MOSTONE] Page 57	,	SS PANEL: McNAMARA FROST MOSTONE] Page 59
[VVIIIVEX			
1	driving around every day during the winter	1	installed I believe within the last 50 or 60
2	trying to find leaks, you know, the day they	2	years. There was also an approximately
3	develop. We have a program where in the cast	3	hundred-year-old cast iron pipe on Smyth
4	iron/bare steel areas we drive a	4	Road. So what the Company did for the
5	leak-detection truck. It just goes on a	5	portion of that street where the pipes were
6	continuous circuit driving through the city	6	running parallel was we abandoned the cast
7	every couple of days. And I'm not familiar	7	iron main and put the customers onto the
8	with the incidents you described. The	8	steel main. The steel main was installed at
9	only the part that I'm most familiar with	9	a later date. So that would be an example of
10	is the total replacement amounts and then how	10	abandonment where the Company was able to get
11	much of that total replacement amount could	11	cast iron out of the ground without full
12	be considered streets that had a strong	12	expenditure of replacing the pipe.
13	history of prior leaks versus the total	13 Q.	•
14	replacement amount. And I'm really happy	14	COMMISSIONER BAILEY: That's all I
15	about that, that the Company is able to get	15	have, Madam Chair.
16	ahead versus just treading water, you know,	16	CHAIRWOMAN MARTIN: All right.
17	trying to run around just putting out the	17	Commissioner Giaimo.
18	fires. We're able to get ahead and modernize	18	COMMISSIONER GIAIMO: Good morning.
19	the infrastructure because our replacement	19	I'm going to wait for people to nod their
20	rate is higher than the degradation of the	20	heads so that I know they're hearing me.
21	facility.	21	Great. Thank you.
22 Q.	So are you saying, then, that the leak		Y COMMISSIONER GIAIMO:
23	history on the remaining CIBS is not severe	23 Q.	
24	enough to cause you concern and that you'll	24	discontinuance of the step adjustments for
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 58	[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 60
1	get to it in time before there's a real	1	the CIBS program, but also made a couple of
2	problem?	2	observations. I want to know if the Company
з А.	•	3	agrees with the observations. Specifically,
4	monitoring and with quick action on pipes	4	in a recommendation they said public safety
5	that show degradation and with establishing a	5	risks due to leaks and pipe failures have
6	realistic end date, you know, within I think	6	been substantially reduced, as evidenced by a
7	the five- to ten-year mark that we discussed,	7	significant decline in system leaks, and the
8	with maybe an allowance to discuss, as Mr.	8	regulatory burden and expenses will be
9	Knepper brought up, the large-diameter cast	9	reduced by eliminating the CIBS annual step
10	iron and to discuss straggler streets that	10	adjustments Are these statements true?
	non and to discuss straggler streets that		adjustments. Are those statements true?
11	are shown not to present an immediate safety	11	Does the Company believe those statements to
11 12		11 12	· ·
	are shown not to present an immediate safety		Does the Company believe those statements to be true?
12	are shown not to present an immediate safety hazard, that the Company would be reliably	12	Does the Company believe those statements to be true?
12 13	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.	12 13 A.	Does the Company believe those statements to be true? (Mostone) Yes, the Company believes those statements to be true.
12 13 14 Q.	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your	12 13 A. 14	Does the Company believe those statements to be true? (Mostone) Yes, the Company believes those statements to be true.
12 13 14 Q. 15	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your testimony you talked about you either	12 13 A. 14 15 Q.	Does the Company believe those statements to be true? (Mostone) Yes, the Company believes those statements to be true. Okay. Thanks.
12 13 14 Q. 15 16	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your testimony you talked about you either 11.13 miles were either replaced or abandoned. So can you tell me what it means, "abandoned"? You just take it out of service	12 13 A. 14 15 Q. 16	Does the Company believe those statements to be true? (Mostone) Yes, the Company believes those statements to be true. Okay. Thanks. Mr. Frost, you said that you re-ran the numbers and there's approximately 56 miles left of CIBS. And then you said plus or
12 13 14 Q. 15 16 17	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your testimony you talked about you either 11.13 miles were either replaced or abandoned. So can you tell me what it means, "abandoned"? You just take it out of service and it's no longer necessary and you count	12 13 A. 14 15 Q. 16 17	Does the Company believe those statements to be true?  (Mostone) Yes, the Company believes those statements to be true.  Okay. Thanks.  Mr. Frost, you said that you re-ran the numbers and there's approximately 56 miles left of CIBS. And then you said plus or minus, but then I don't think you said plus
12 13 14 Q. 15 16 17	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your testimony you talked about you either 11.13 miles were either replaced or abandoned. So can you tell me what it means, "abandoned"? You just take it out of service	12 13 A. 14 15 Q. 16 17	Does the Company believe those statements to be true? (Mostone) Yes, the Company believes those statements to be true. Okay. Thanks. Mr. Frost, you said that you re-ran the numbers and there's approximately 56 miles left of CIBS. And then you said plus or
12 13 14 Q. 15 16 17 18	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your testimony you talked about you either 11.13 miles were either replaced or abandoned. So can you tell me what it means, "abandoned"? You just take it out of service and it's no longer necessary and you count that as part of the CIBS replacement program? (Frost) Yes. A perfect example was on Smyth	12 13 A. 14 15 Q. 16 17 18 19	Does the Company believe those statements to be true?  (Mostone) Yes, the Company believes those statements to be true.  Okay. Thanks.  Mr. Frost, you said that you re-ran the numbers and there's approximately 56 miles left of CIBS. And then you said plus or minus, but then I don't think you said plus or minus what. I'm just wondering, what's your confidence in it actually being
12 13 14 Q. 15 16 17 18 19 20	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your testimony you talked about you either 11.13 miles were either replaced or abandoned. So can you tell me what it means, "abandoned"? You just take it out of service and it's no longer necessary and you count that as part of the CIBS replacement program? (Frost) Yes. A perfect example was on Smyth Road in Manchester. There is a 60-pound gas	12 13 A. 14 15 Q. 16 17 18 19 20	Does the Company believe those statements to be true?  (Mostone) Yes, the Company believes those statements to be true.  Okay. Thanks.  Mr. Frost, you said that you re-ran the numbers and there's approximately 56 miles left of CIBS. And then you said plus or minus, but then I don't think you said plus or minus what. I'm just wondering, what's your confidence in it actually being 56 miles?
12 13 14 Q. 15 16 17 18 19 20 21 A.	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your testimony you talked about you either 11.13 miles were either replaced or abandoned. So can you tell me what it means, "abandoned"? You just take it out of service and it's no longer necessary and you count that as part of the CIBS replacement program? (Frost) Yes. A perfect example was on Smyth Road in Manchester. There is a 60-pound gas main on Smyth Road that's coated steel that	12 13 A. 14 15 Q. 16 17 18 19 20 21	Does the Company believe those statements to be true?  (Mostone) Yes, the Company believes those statements to be true.  Okay. Thanks.  Mr. Frost, you said that you re-ran the numbers and there's approximately 56 miles left of CIBS. And then you said plus or minus, but then I don't think you said plus or minus what. I'm just wondering, what's your confidence in it actually being 56 miles?  (Frost) Good morning, Commissioner Giaimo.
12 13 14 Q. 15 16 17 18 19 20 21 A. 22	are shown not to present an immediate safety hazard, that the Company would be reliably managing this.  Okay. Just one more question. In your testimony you talked about you either 11.13 miles were either replaced or abandoned. So can you tell me what it means, "abandoned"? You just take it out of service and it's no longer necessary and you count that as part of the CIBS replacement program? (Frost) Yes. A perfect example was on Smyth Road in Manchester. There is a 60-pound gas	12 13 A. 14 15 Q. 16 17 18 19 20 21 22	Does the Company believe those statements to be true?  (Mostone) Yes, the Company believes those statements to be true.  Okay. Thanks.  Mr. Frost, you said that you re-ran the numbers and there's approximately 56 miles left of CIBS. And then you said plus or minus, but then I don't think you said plus or minus what. I'm just wondering, what's your confidence in it actually being 56 miles?

[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 61	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 63
1	of the Company's mapping system last week.	1	been wild cards with working amongst city
2	The Company, you know, as construction is	2	projects, such as the Concord steam
3	completed, it can take a few months for all	3	conversion. Not that we were working the
4	records to be finished and then the finished	4	project together; however, we had to
5	maps to be completed in the electronic system	5	juggle or the City of Concord had to
6	I use. So that was kind of where I had said	6	juggle us with contractors doing the steam
7	plus or minus.	7	work concurrently on similar streets. That
8	The testimony in this case, it described	8	often happens in the other cities, too, where
9	mileage where the Company has when we	9	the municipality is juggling Liberty's
10	started the CIBS program, we froze the amount	10	construction with other parties' construction
11	of cast iron mileage and have been	11	affecting us.
12	subtracting the year-end replacement on a	12 Q.	Thanks for that. So when I read the
13	fiscal basis. So that's why I noted that	13	testimony, many things jumped out. But there
14	there might be slight differences in the	14	were two that really jumped out at me as
15	reason that those occurred.	15	potential concerns, and one was the low
16 Q.	Okay. That's fine. Mr. Frost, would you say	16	estimate, the underestimating of projects,
17	it's fair to make this observation: That as	17	and the other was the inability to get
18	the total miles of CIBS replacement has	18	certain things done early or at least on
19	occurred, the costs have gone up as a	19	time. So I want to ask some questions to
20	function of various things, but one of those is that you've taken out the low-hanging	20	probe that a little more.  I'll start with were there seven how
21	fruit and that it's more and more difficult	21 22	many projects were delayed? Seven were
22	and more and more problematic the pipes that	23	delayed due to weather, is that right, due to
24	you have to deal with now? Is that fair? Is	24	the winter season?
2.			the whiter season.
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 62	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 64
[WITNES	that fair to say?	1 A.	(Frost) Seven that had reduced project scope.
	that fair to say? (Frost) Yes. Yes, one of the issues is in	1 A. 2 Q.	(Frost) Seven that had reduced project scope. And then was it three that were not no,
1	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program	1 A. 2 Q. 3	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were
1 2 A. 3 4	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron	1 A. 2 Q. 3	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better
1 2 A. 3 4 5	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career,	1 A. 2 Q. 3 4	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you?
1 2 A. 3 4 5 6	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter	1 A. 2 Q. 3 4 5 6 A.	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten.
1 2 A. 3 4 5 6 7	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is	1 A. 2 Q. 3 4 5 6 A.	(Frost) Seven that had reduced project scope.  And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you?  (Frost) Well, I think that population of ten.  What happens on the Company side is that
1 2 A. 3 4 5 6 7 8	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise	1 A. 2 Q. 3 4 5 6 A. 7	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make
1 2 A. 3 4 5 6 7 8	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset	1 A. 2 Q. 3 4 5 6 A. 7 8	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the
1 2 A. 3 4 5 6 7 8 9	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct,	1 A. 2 Q. 3 4 5 6 A. 7 8 9	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete
1 2 A. 3 4 5 6 7 8 9 10 11	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population.	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We
1 2 A. 3 4 5 6 7 8 9	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population. Okay. That's helpful. And is estimating	1 A. 2 Q. 3 4 5 6 A. 7 8 9	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q.	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population.	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population. Okay. That's helpful. And is estimating these more challenging replacements more	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population. Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think,
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14 15	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population. Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects? (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think, looking in my testimony, the amount of mileage completed, I believe the Company substantially completed the mileage that it
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14 15 16 A.	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population. Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects? (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards out there when some of the cities and towns	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 18	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think, looking in my testimony, the amount of mileage completed, I believe the Company substantially completed the mileage that it intended to. So that is one good part there
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14 15 16 A. 17	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population. Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects? (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards out there when some of the cities and towns won't give us final requirements until they	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 18 19	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think, looking in my testimony, the amount of mileage completed, I believe the Company substantially completed the mileage that it intended to. So that is one good part there that should be noted
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14 15 16 A. 17 18 19 20	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population. Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects? (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards out there when some of the cities and towns won't give us final requirements until they officially issue a permit right before	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Q.	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think, looking in my testimony, the amount of mileage completed, I believe the Company substantially completed the mileage that it intended to. So that is one good part there that should be noted So let me interrupt you there. I think
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14 15 16 A. 17 18 19 20 21	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population. Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects? (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards out there when some of the cities and towns won't give us final requirements until they officially issue a permit right before construction. So a lot of times they'll give	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Q. 21	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think, looking in my testimony, the amount of mileage completed, I believe the Company substantially completed the mileage that it intended to. So that is one good part there that should be noted So let me interrupt you there. I think off top of my head, I'm not looking
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14 15 16 A. 17 18 19 20 21 22	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population.  Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects?  (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards out there when some of the cities and towns won't give us final requirements until they officially issue a permit right before construction. So a lot of times they'll give us general guidance, or the Company can	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Q. 21 22	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think, looking in my testimony, the amount of mileage completed, I believe the Company substantially completed the mileage that it intended to. So that is one good part there that should be noted So let me interrupt you there. I think off top of my head, I'm not looking specifically at the page, but I think it
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14 15 16 A. 17 18 19 20 21 22 23	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population.  Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects?  (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards out there when some of the cities and towns won't give us final requirements until they officially issue a permit right before construction. So a lot of times they'll give us general guidance, or the Company can make can use as historical data. And I do	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Q. 21 22 23	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think, looking in my testimony, the amount of mileage completed, I believe the Company substantially completed the mileage that it intended to. So that is one good part there that should be noted So let me interrupt you there. I think off top of my head, I'm not looking specifically at the page, but I think it was
1 2 A. 3 4 5 6 7 8 9 10 11 12 Q. 13 14 15 16 A. 17 18 19 20 21 22	that fair to say? (Frost) Yes. Yes, one of the issues is in the early years of the cast iron program in my career with the gas company, cast iron has been going on my whole career, replacement. A lot of the smaller diameter pipes that cost less per foot to replace is more leak-prone. So that pipe tended to rise to have a higher leak history at the outset of cast iron programs; therefore, correct, the low-hanging fruit population.  Okay. That's helpful. And is estimating these more challenging replacements more difficult as a result of the complexity of the projects?  (Frost) I mean, there has been difficulty with estimating. There's a lot of wild cards out there when some of the cities and towns won't give us final requirements until they officially issue a permit right before construction. So a lot of times they'll give us general guidance, or the Company can	1 A. 2 Q. 3 4 5 6 A. 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Q. 21 22	(Frost) Seven that had reduced project scope. And then was it three that were not no, three were not started at all. How many were delayed because winter, for lack of a better term, snuck up on you? (Frost) Well, I think that population of ten. What happens on the Company side is that before we begin a project, we need to make sure that we have enough time left in the construction season to substantially complete it so that it's a prudent expenditure. We also need to make sure that the in-progress projects will reach a point where the gas system is safe for winter. I would think, looking in my testimony, the amount of mileage completed, I believe the Company substantially completed the mileage that it intended to. So that is one good part there that should be noted So let me interrupt you there. I think off top of my head, I'm not looking specifically at the page, but I think it

	AST IRON/BARE STEEL REPLACEMENT PROGRAM I		June 18, 2020
[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 65	[WITNESS PA	NEL: McNAMARA FROST MOSTONE] Page 67
1 Q. 2 3 4 5	I said I'm not looking specifically at it, but I believe that 12.6 miles of projects was proposed, but something like 11.1 was completed.  So Mr. Frost, in your mind, that's	<ul><li>2 is h</li><li>3 BY CO</li><li>4 Q. You</li></ul>	you restate your question? Ms. Robidas aving trouble hearing.  OMMISSIONER GIAIMO: ar prior answer explains why the Company ald not start a project and defer it
6	substantial completion? It's about		appletely for a year because of compressed
7	88 percent of the total projects that were		e frames; is that right?
8	supposed to be in place were actually put in		ostone) That's a possibility. We do look
9	place.		nat. So if we do have a project that's
10 A.	(Frost) Thank you for calculating that that's		ing late in the year, we may work with
11	the 88 percent figure. I was about to	•	city and towns to find out what their
12	calculate that. While not ideal, I would		tocols are, if they're paving, if they're
13	describe that as successful. The Company has	13 doi:	ng things also. But we did that last
14	had prior years, where I've been involved	•	r, where we saw some projects that were
15	with the program, where I think the amount of	_	ing off way too late, and we didn't want
16	completion has been less. So I was satisfied		un into winter months because we don't
17	to have approaching 90 percent completion. I		w what to expect on weather. So yes, we
18	take as alluded to, I'm less involved with		shut them down. With that being said,
19	the construction management side. However, I		also add projects during the year, too,
20	was pleased from a design side. Okay. So with respect to your planning, when		we look at other projects that may be
21 Q. 22	you you like you want projects in place		aller that we can get done instead. So we look at all avenues at that point.
23	and completed by Thanksgiving, early		thank you for that answer.
24	November, mid-October, to ensure that it gets		The CIBS program has been functioning
	{DG 20-049} [HEARING ON MERITS] {06-18-20}	{DG	20-049} [HEARING ON MERITS] {06-18-20}
[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 66	[WITNESS PA	NEL: McNAMARA FROST MOSTONE] Page 68
1	done before the winter makes the construction	1 for	Liberty for what, like 13 or 14 years
2	season impossible? I'm just trying to get an	2 nov	v? Does that sounds right? Or 12, 13
3	understanding. What's your planning? What	•	rs now?
4	do you work back from?		ostone) I believe that's correct, yes.
5 A.			d you said that the benchmark is being
6	as much as we can done by Thanksgiving. But		nin 10 percent of budget. But what I
7	as projects go on and we have delays here and		ught I heard was, you know, you're at
8	there, they run into the December months.  But our goal is to have everything out before	-	percent over this year and last year was percent. Is 10 percent a reasonable goal,
9	Thanksgiving. We've had some overages on		loes the Company just need to do a better
10 11	that that brings us into December. But a lot		of sharpening its pencil?
			or simponing to peneri.
<b>1</b>	of it is because of late starts. It could be	12 A. (FI)	ost) This is Brian here. I think the
12 13	of it is because of late starts. It could be something with the cities or towns requesting	-	ost) This is Brian here. I think the mpany has demonstrated, you know, on an
	of it is because of late starts. It could be something with the cities or towns requesting us at a later date, trying to get everything	13 Con	ost) This is Brian here. I think the mpany has demonstrated, you know, on an rall program basis, costs, you know,
13	something with the cities or towns requesting	13 Cor 14 ove	npany has demonstrated, you know, on an
13 14	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron	13 Cor 14 ove 15 with	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the
13 14 15	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron that's already encroached on in the ground.	13 Con 14 ove 15 with 16 yea	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the rs and within this hearing is that the
13 14 15 16 17 18	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron that's already encroached on in the ground. So we push to try to get it out as quickly as	13 Con 14 ove 15 with 16 2 17 yea 18 Con	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the rs and within this hearing is that the mpany's estimating process tends to look at
13 14 15 16 17 18 19	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron that's already encroached on in the ground. So we push to try to get it out as quickly as we can. And it does run into the December	13 Cor 14 ove 15 with 16 year 18 Cor 19 eac	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the rs and within this hearing is that the mpany's estimating process tends to look at h project within the whole program, and it
13 14 15 16 17 18 19	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron that's already encroached on in the ground. So we push to try to get it out as quickly as we can. And it does run into the December month.	13 Cor 14 ove 15 with 16 yea 18 Cor 19 eac 20 tend	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the rs and within this hearing is that the mpany's estimating process tends to look at h project within the whole program, and it ds to look at a lot of history and average
13 14 15 16 17 18 19 20 21 Q.	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron that's already encroached on in the ground. So we push to try to get it out as quickly as we can. And it does run into the December month.  Right. And all the more reason you might	13 Con 14 ove 15 with 16 year 18 Con 19 eac 20 tend 21 rule	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the rs and within this hearing is that the mpany's estimating process tends to look at h project within the whole program, and it ds to look at a lot of history and average as for each city. Typically when I
13 14 15 16 17 18 19 20 21 Q.	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron that's already encroached on in the ground. So we push to try to get it out as quickly as we can. And it does run into the December month.  Right. And all the more reason you might (connectivity issue)	13 Con 14 ove 15 with 16 year 17 year 18 Con 19 eac 20 tend 21 rule 22 esti	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the rs and within this hearing is that the mpany's estimating process tends to look at h project within the whole program, and it ds to look at a lot of history and average es for each city. Typically when I mate projects, I'll estimate each
13 14 15 16 17 18 19 20 21 Q. 22 23	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron that's already encroached on in the ground. So we push to try to get it out as quickly as we can. And it does run into the December month.  Right. And all the more reason you might (connectivity issue)  (Court Reporter interrupts.)	13 Con 14 ove 15 with 16 year 18 Con 19 eac 20 tend 21 rule 22 esti 23 indi	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the rs and within this hearing is that the mpany's estimating process tends to look at h project within the whole program, and it ds to look at a lot of history and average es for each city. Typically when I mate projects, I'll estimate each ividual project, but I'll apply historical
13 14 15 16 17 18 19 20 21 Q.	something with the cities or towns requesting us at a later date, trying to get everything done. The one thing we do not want to do is leave we try not to leave any cast iron that's already encroached on in the ground. So we push to try to get it out as quickly as we can. And it does run into the December month.  Right. And all the more reason you might (connectivity issue)	13 Cor 14 ove 15 with 16 year 18 Cor 19 eac 20 tend 21 rule 22 esti 23 indi 24 exp	mpany has demonstrated, you know, on an rall program basis, costs, you know, hin that limit.  Another thing that has come up over the rs and within this hearing is that the mpany's estimating process tends to look at h project within the whole program, and it ds to look at a lot of history and average es for each city. Typically when I mate projects, I'll estimate each

[WITNESS PANEL: McNAMARA FROST MOSTONE] Page 69	[WITNESS PANEL: McNAMARA FROST MOSTONE] Page 71
restrictions to each of those projects rather	and whether or not, as I heard earlier, part
than going into a deep dive and approaching	2 of the consideration for Liberty is whether
ach project as, say, a new day or whatnot.	3 it's economically feasible? And that goes
4 So I think the total program number indicates	4 into the timeline. But for those that are in
5 10 percent, you know, plus or minus as a	5 that condition, are they on a different
6 goal.	6 timeline regardless of where they're located?
7 Q. I just want to make sure I understand. The	7 A. (Frost) Yes, those pipes are on a different
8 plus or minus is 10 percent; right? The	8 timeline. I had noted that the Company
objective is to stay under 10 percent, or	9 evaluates its leaks continuously and strives
within 10 percent under or over budget and	to replace pipes that show an abnormal or a
not to be more or less 10 percent; right?	leak history as soon as possible. We
12 A. (Frost) I think in a program like this,	wouldn't be deferring pipe with a leak
10 percent would be hitting you know, plus	13 history.
or minus 10 percent would be good;	One other item of note regarding the
15 percent, you know, indicates an issue if	samples that Mr. Knepper referenced. The
the overall program or it may start	Company often extracts those samples at
indicating an issue if it starts going	locations where it has measurements to the
towards 20. That's more of an issue.	old pipe. Often those locations are points
19 Q. Okay. I guess I'm not trying to be	where the Company in the past, you know,
argumentative, but you've been forecasting	maybe in the prior year or two, had installed
this program for a dozen years. And I guess	a temporary repair clamp. The temporary
I would think ideally the Company should be	repair clamps are made to last, you know,
shooting for hitting the estimate on the	probably up to 30 years to seal those leaks.
nose, not plus or minus 5 percent from a	So I think that should also be considered.
{DG 20-049} [HEARING ON MERITS] {06-18-20}	{DG 20-049} [HEARING ON MERITS] {06-18-20}
[MITNESS DANIEL: MONAMADAIEDOSTIMOSTONE] Dogo 70	DAVITNESS DANIEL MANAGARDA EDOSTINOSTONES DA 112 ZO
[WITNESS PANEL: McNAMARA FROST MOSTONE] Page 70	[WITNESS PANEL: McNAMARA FROST MOSTONE] Page 72
1 10 percent overage standpoint. So I'll pause	1 The Company does have leaks. However, some
	<ul> <li>The Company does have leaks. However, some</li> <li>of these samples might be cut out from areas</li> </ul>
<ol> <li>10 percent overage standpoint. So I'll pause</li> <li>there and let you comment on that if you'd</li> <li>like.</li> </ol>	<ul> <li>The Company does have leaks. However, some</li> <li>of these samples might be cut out from areas</li> </ul>
<ol> <li>10 percent overage standpoint. So I'll pause</li> <li>there and let you comment on that if you'd</li> <li>like.</li> <li>A. (Frost) Thank you for the observation. Yeah,</li> </ol>	<ul> <li>The Company does have leaks. However, some</li> <li>of these samples might be cut out from areas</li> <li>where the Company responded to those leaks</li> </ul>
<ol> <li>10 percent overage standpoint. So I'll pause</li> <li>there and let you comment on that if you'd</li> <li>like.</li> <li>A. (Frost) Thank you for the observation. Yeah,</li> </ol>	<ul> <li>The Company does have leaks. However, some</li> <li>of these samples might be cut out from areas</li> <li>where the Company responded to those leaks</li> <li>and repaired it in a generally accepted</li> </ul>
<ol> <li>10 percent overage standpoint. So I'll pause</li> <li>there and let you comment on that if you'd</li> <li>like.</li> <li>A. (Frost) Thank you for the observation. Yeah,</li> <li>it's hard to respond. I can say that me, I</li> </ol>	<ul> <li>The Company does have leaks. However, some</li> <li>of these samples might be cut out from areas</li> <li>where the Company responded to those leaks</li> <li>and repaired it in a generally accepted</li> <li>manner in the industry.</li> </ul>
<ol> <li>10 percent overage standpoint. So I'll pause there and let you comment on that if you'd like.</li> <li>4 A. (Frost) Thank you for the observation. Yeah, it's hard to respond. I can say that me, I take a lot of these, the observations from Staff and the Commissioners, and incorporate them into future program years. And I will</li> </ol>	<ul> <li>The Company does have leaks. However, some</li> <li>of these samples might be cut out from areas</li> <li>where the Company responded to those leaks</li> <li>and repaired it in a generally accepted</li> <li>manner in the industry.</li> <li>Q. Do you have a sense, though, of the</li> </ul>
<ol> <li>10 percent overage standpoint. So I'll pause there and let you comment on that if you'd like.</li> <li>4 A. (Frost) Thank you for the observation. Yeah, it's hard to respond. I can say that me, I take a lot of these, the observations from Staff and the Commissioners, and incorporate them into future program years. And I will take the observation that we need to look at</li> </ol>	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team.	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  6 Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  9 A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that.	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  6 Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  9 A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A
<ol> <li>10 percent overage standpoint. So I'll pause there and let you comment on that if you'd like.</li> <li>4 A. (Frost) Thank you for the observation. Yeah, it's hard to respond. I can say that me, I take a lot of these, the observations from Staff and the Commissioners, and incorporate them into future program years. And I will take the observation that we need to look at estimating back to the team.</li> <li>1 Q. Thank you, Mr. Frost. I appreciate that.</li> <li>1 COMMISSIONER GIAIMO: Madam Chair,</li> </ol>	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure,
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses,	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have.	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  6 Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  9 A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right.	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  6 Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  9 A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been 17 answered, but I have a few left.	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  6 Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  9 A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been 17 answered, but I have a few left. 18 BY CHAIRWOMAN MARTIN:	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  6 Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  9 A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole in it.
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been 17 answered, but I have a few left. 18 BY CHAIRWOMAN MARTIN: 19 Q. I read in the testimony of Mr. Knepper that a	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  6 Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  9 A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole in it.  The Company surveys all of these mains
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been 17 answered, but I have a few left. 18 BY CHAIRWOMAN MARTIN: 19 Q. I read in the testimony of Mr. Knepper that a 10 number of the pipes in question are at the	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole in it.  The Company surveys all of these mains continuously during the winter. They also
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been 17 answered, but I have a few left. 18 BY CHAIRWOMAN MARTIN: 19 Q. I read in the testimony of Mr. Knepper that a 10 number of the pipes in question are at the 11 point of 100 percent wall loss and 24-hour	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole in it.  The Company surveys all of these mains continuously during the winter. They also provide summer follow-up surveys to find the
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been 17 answered, but I have a few left. 18 BY CHAIRWOMAN MARTIN: 19 Q. I read in the testimony of Mr. Knepper that a 10 number of the pipes in question are at the 11 point of 100 percent wall loss and 24-hour 12 leaking.	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole in it.  The Company surveys all of these mains continuously during the winter. They also provide summer follow-up surveys to find the leaks when they occur and repair them. It
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been 17 answered, but I have a few left. 18 BY CHAIRWOMAN MARTIN: 19 Q. I read in the testimony of Mr. Knepper that a 10 number of the pipes in question are at the 21 point of 100 percent wall loss and 24-hour 22 leaking. 23 Can you give me a sense of what portion	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole in it.  The Company surveys all of these mains continuously during the winter. They also provide summer follow-up surveys to find the leaks when they occur and repair them. It would be impossible to give a mileage
1 10 percent overage standpoint. So I'll pause 2 there and let you comment on that if you'd 3 like. 4 A. (Frost) Thank you for the observation. Yeah, 5 it's hard to respond. I can say that me, I 6 take a lot of these, the observations from 7 Staff and the Commissioners, and incorporate 8 them into future program years. And I will 9 take the observation that we need to look at 10 estimating back to the team. 11 Q. Thank you, Mr. Frost. I appreciate that. 12 COMMISSIONER GIAIMO: Madam Chair, 13 I appreciate the responses of the witnesses, 14 and that's all the questions I have. 15 CHAIRWOMAN MARTIN: All right. 16 A lot of my questions have been 17 answered, but I have a few left. 18 BY CHAIRWOMAN MARTIN: 19 Q. I read in the testimony of Mr. Knepper that a 10 number of the pipes in question are at the 11 point of 100 percent wall loss and 24-hour 12 leaking.	The Company does have leaks. However, some of these samples might be cut out from areas where the Company responded to those leaks and repaired it in a generally accepted manner in the industry.  Q. Do you have a sense, though, of the percentage of the 56 miles that might be in that condition?  A. (Frost) It's hard to I couldn't quantify a percentage because I guess I don't have X-ray vision to know what the pipe looks like. A lot of these pipes operate at low pressure, which means that when they're buried, if they were buried in an area where there was groundwater or there was sufficient ground pressure, that gaps wouldn't be actively leaking out of the pipe even if it had a hole in it.  The Company surveys all of these mains continuously during the winter. They also provide summer follow-up surveys to find the leaks when they occur and repair them. It

2020 6	AST IRON/BARE STEEL REPLACEMENT PROGRAM F	KESULI	S June 18, 2020
[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 73	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 75
1 2 Q. 3 4	(Court Reporter interrupts.) There was mention of a Keene replacement that didn't appear in the prior planning in the Knepper testimony as well. Can the Company	1 2 3 4 A.	related to a Nashua paving project. I can't remember if you gave this information about the specific timeline for that.  (Frost) I think I described that a good goal
5	respond to that and give an explanation?	5 A.	would be approximately five years. We also
6 A.	(Frost) I'm extremely sorry. I didn't catch	6	discussed about the difficulty of having a
7	the question fully.	7	hundred percent. There may be stragglers.
8 Q.	No worries. There was mention of a Keene	8	Typically the cities, all the major cities,
9	replacement that was not included in the	9	will give us a look ahead. They'll give us a
10	prior planning in the Knepper testimony. And	10	plan to coordinate construction that's out
11	I was wondering if the Company could respond	11	one to two years, and then as the
12	to that and explain.	12	construction season approaches, the cities'
13 A.	(Frost) Would it be too much trouble to ask	13	plan starts to get more certain to a hundred
14	for a Bates page reference?	14	percent certainty. The City of Nashua has
15 Q.	Well, my notes say Bates 9, but that could be	15	set forth a goal to repave the city, and they
16	for the next question. Let's check that.	16	got authorization for bonding for that;
17	Mr. Knepper, do you have that and could	17	however, they have not set forth an execution
18	confirm? That would help.	18	plan year by year on how they're going to do
19 A.	(Knepper) Yup, Bates Page 9.	19	that. And the Company only gets data
20 Q.	· · · · · · · · · · · · · · · · · · ·	20	typically for one year and then maybe the
21 A.	(Knepper) I guess it beings on Bates Page 8 if you're looking for it.	21	follow-on year is uncertain. Okay. Thank you.
22 23 A.	•	22 Q. 23	You made a comment about construction.
23 A. 24	meant Keene replacement. I had heard steam	24	At some point construction in Nashua and
21	•	24	7tt some point construction in Trasnua and
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 74	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 76
1	replacement.	1	Concord will occur. I didn't follow you.
2 Q.	Oh, sorry. No, Keene.	2	Were you saying that those two cities would
з А.	(Frost) We had a the state was doing a	3	be doing it at the same time, or what was
4	steam project in Concord. I'm very sorry.	4	your meaning there?
5	Yes, we did include a single project in	5 A.	(Frost) Yes, the Company typically needs to
6	the Keene operating area because Keene's cast	6	spread out its construction work. We
7	iron pipe was added into our risk model for	7	typically try to allocate construction
8	fiscal year 2020, and the rates were	8	equally among each city. It's not exactly
9	consolidated under another case.	9	equal, but we try to spread it out more or
10 Q.	Okay. Can you tell me the average number of miles done per year in this program for the	10	less. The amount of pipe remaining in both Concord and Nashua is a lot less than in the
11 12	three prior years?	11 12	city of Manchester. Right now it appears
13 A.	(Frost) Okay. I'm looking at testimony as	13	that over 50 percent of the remaining pipe is
14	referenced before for fiscal year 2020. This	14	in the city of Manchester, and Nashua has a
15	year it was, I believe, 11.1 miles,	15	higher percentage of pipe remaining than
16	approximately. There was another decimal	16	Concord. That's what I was trying to allude
17	point there. In fiscal year 2019, the CIBS	17	to, that if we continue construction, we
18	program replaced I'm looking at a graph	18	would run out of CIBS pipe in Concord first
19	just under 10 miles on this graph. In fiscal	19	and then in Nashua.
20	year 2018, it appears on the graph between 11	20 Q.	Okay. Thank you for that.
21	and 12 miles.	21	You mentioned that three projects had
22 Q.	Okay. Thank you.	22	not started. Can you just give more
23	You mentioned that some of the work that	23	explanation for that?
24	would be delayed beyond the 2024 timeline was	24 A.	(Frost) Okay. I'm looking at the spreadsheet
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}

[VVIINES	SS PANEL: McNAMARA FROST MOSTONE] Page 77	[WITNESS PANEL: McNAMARA FROST MOSTONE] Page 79
1 2 3 4 5 6 7 8 9 Q. 10 11 12 A. 13 14 15 16 17 Q. 18 A. 19 20 21	here, and I'd like to start in Nashua. There was a project on Concord Street in Nashua that I'm unfamiliar with that the Company was not able to get a permit. That was a state road. And New York New Hampshire DOT, I'm sorry, would not issue a permit because the expected construction schedule would go into the winter. On Lake Street there was Before you move on from that I apologize for interrupting. When did you ask for that permit?  (Frost) I made the initial request for that permit during the winter, the prior winter. New Hampshire DOT did not resolve it. I made multiple follow-ups on a monthly and then bi-weekly basis.  Okay.  (Frost) Ledge Street in Nashua, that is a sizable project that also involved was being coordinated with a regulator station installation. And the Company was not able	permit to complete the work, to complete excavation to tie over the services. Is there a specific agreement that you're wondering about?  Q. No. Am I understanding correctly that you're leaving you're abandoning the pipeline in the roadway?  A. (Frost) Yeah, the pipe is left in the ground. Q. I guess my question is do you have to get agreements from whomever you have been given access by, whether it be the municipality, landowner?  A. (Frost) Yes. Typically municipalities allow the pipes to be abandoned in place. At times New Hampshire DOT, if it's an especially large pipe, would require it to be filled with grout, which is similar to concrete. It is not concrete. But we would work with the owner of the right-of-way to figure that out.  Q. All right. Thank you.  CHAIRWOMAN MARTIN: I think all my
22	to fully complete that, and it did not make	other questions have been answered. So we
23 24	sense to get into the gas system at that point. I'm not familiar with the one project	can go back to Mr. Sheehan in follow-up.  MR. SHEEHAN: I do have some.
24	{DG 20-049} [HEARING ON MERITS] {06-18-20}	{DG 20-049} [HEARING ON MERITS] {06-18-20}
DAUTNIE		[WITNESS PANEL: McNAMARA FROST MOSTONE] Page 80
DAUTNIE		
1 2 Q. 3 4 A. 5 6 Q.	in Concord that was not begun.  Mr. Mostone, are you familiar with that project?  (Mostone) The Ledge Street project? No, I'm not.  No, the third project that was not started.  (Mostone) That was the Ledge Street project?  I don't think so. Mr. Frost just mentioned the Lake Street project.  (Mostone) South Spring project, I'm not familiar with that, off top of my head.  Don't know.  Is that the project, Mr. Frost, the South Spring in Concord?  (Frost) Correct. South Spring Street,  Concord.  So you don't know why that wasn't started?  (Frost) No, I do not. I typically hand off the designed CIBS program to the Company's construction management department.  Okay. You mention that you abandon pipes.  Do you have to get agreements related to that before you can abandon them?  (Frost) We would request a road opening	Thank you.  REDIRECT EXAMINATION  REDIRECT E

[WITNE:	SS PANEL: McNAMARA FROST MOSTONE] Page 81	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 83
1	the amount of fitters to open from inside to	1	one-to-two. But at times, with vacations and
2	outside. If they're working on a project	2	other things going on, we can't always
3	that they're thinking is going to happen,	3	control that. So the minimum that we go to
4	they start earlier than the main crews. So	4	is the one-to-four.
5	they're doing what we call "pre-piping" ahead	5 Q.	And that means that an inspector would have
6	of time on a similar project. So if we do	6	two, three or four projects that they are
7	move, we have to get them over, and that does	7	working on in any given day; is that fair?
8	slow projects down in that area because they	8 A.	(Mostone) That's correct.
9	haven't they may not have started the	9 Q.	And is it fair to say you will assign, or
10	pre-piping process in that area.	10	someone will assign that inspector to
11 Q.	So you're saying you can switch to a new	11	projects that are geographically close
12	project, but it's not an overnight task.	12	together?
13	There's a fair amount of pre-planning for	13 A.	(Mostone) Correct.
14	such a change; is that correct?	14 Q.	And so this inspector's job is to touch base
15 A.	(Mostone) Yeah, that's correct. We try to	15	with each project, an hour each, a half-hour
16	prioritize with them and tell them, you know,	16	each, whatever is the appropriate way of
17	where we're going to start. And they'll go	17	keeping an eye on what's going on in the
18	up they actually start their projects in	18	project.
19	the middle of winter to get ahead of the main	19 A.	(Mostone) Yes. They try to see they go to
20	construction crews, you know, to try to	20	each project on a daily basis. If we're
21	get (connectivity issue)	21	doing a tie-over, they're required to be at
22	(Court Reporter interrupts.)	22	the job to monitor any major things that
23 A.	(Mostone) We call them fitters. What they	23	could tie in to the existing main.
24	try to do is try to get ahead of the main	24 Q.	And I think it came up in the context that
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 82	[WITNES	SS PANEL: McNAMARA FROST MOSTONE] Page 84
		[WITNES	
1	construction crew, so then the pipes inside	1	this inspector would be the first person,
	construction crew, so then the pipes inside the homes and outside we call that		this inspector would be the first person, decision maker, if you will, who would see a
1 2	construction crew, so then the pipes inside	1 2	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and
1 2 3	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the	1 2 3	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him
1 2 3 4	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's	1 2 3 4	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to
1 2 3 4 5	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and	1 2 3 4 5	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him
1 2 3 4 5 6	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and	1 2 3 4 5 6	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might
1 2 3 4 5 6	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a	1 2 3 4 5 6	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?
1 2 3 4 5 6 7 8	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with	1 2 3 4 5 6 7 8 A.	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.
1 2 3 4 5 6 7 8	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part	1 2 3 4 5 6 7 8 A.	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time
1 2 3 4 5 6 7 8 9	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with	1 2 3 4 5 6 7 8 A. 9	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's
1 2 3 4 5 6 7 8 9 10	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for	1 2 3 4 5 6 7 8 A. 9	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time
1 2 3 4 5 6 7 8 9 10 11 12	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's
1 2 3 4 5 6 7 8 9 10 11 12 13	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.
1 2 3 4 5 6 7 8 9 10 11 12 13	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15 16 A.	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Q.	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.  There were several questions about the safety
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Q. 16	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you explain that in a little more detail?	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15 16 A. 17 Q. 18	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.  There were several questions about the safety of the remaining pipe in the ground. Mr.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Q. 16 17	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you explain that in a little more detail?  (Mostone) So we're required to have a minimum	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15 16 A. 17 Q. 18 19	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.  There were several questions about the safety of the remaining pipe in the ground. Mr.  Mostone, can you, at a quick level, explain
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Q. 16 17 18	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you explain that in a little more detail?  (Mostone) So we're required to have a minimum of one-to-four ratio, meaning one inspector	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15 16 A. 17 Q. 18 19 20	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.  There were several questions about the safety of the remaining pipe in the ground. Mr.  Mostone, can you, at a quick level, explain what the three levels are in our system, what
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Q. 16 17 18 19 A.	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you explain that in a little more detail?  (Mostone) So we're required to have a minimum of one-to-four ratio, meaning one inspector to four crews. We typically try to do better	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15 16 A. 17 Q. 18 19 20 21	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.  There were several questions about the safety of the remaining pipe in the ground. Mr.  Mostone, can you, at a quick level, explain what the three levels are in our system, what each of the three are, and what the Company's
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Q. 16 17 18 19 A. 20 21 22	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you explain that in a little more detail?  (Mostone) So we're required to have a minimum of one-to-four ratio, meaning one inspector to four crews. We typically try to do better than that. We go down to, you know, it's	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15 16 A. 17 Q. 18 19 20 21 22	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.  There were several questions about the safety of the remaining pipe in the ground. Mr.  Mostone, can you, at a quick level, explain what the three levels are in our system, what each of the three are, and what the Company's obligation is to respond to each of those?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Q. 16 17 18 19 A. 20 21	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you explain that in a little more detail?  (Mostone) So we're required to have a minimum of one-to-four ratio, meaning one inspector to four crews. We typically try to do better than that. We go down to, you know, it's either a one-to-three or even lower. You	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15 16 A. 17 Q. 18 19 20 21 22 23 A.	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.  There were several questions about the safety of the remaining pipe in the ground. Mr.  Mostone, can you, at a quick level, explain what the three levels are in our system, what each of the three are, and what the Company's obligation is to respond to each of those?  (Mostone) So are we talking leak grading?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Q. 16 17 18 19 A. 20 21 22	construction crew, so then the pipes inside the homes and outside we call that pre-piping so they can get ahead of the schedule. So when the main crews come in and start laying main and start services, it's all a quick tie-over to get them gas and running to complete the projects on a scheduled time. So when we do move, it does create a little bit of a havoc to get the crews moved that are over and coordinate with customers to get in to do this. That's part of their process. They have to coordinate and get in and schedule with customers for the piping inside.  Different topic. Mr. Mostone, you mentioned the inspectors that you have on site, and you said you had a one-to-four ratio. Can you explain that in a little more detail?  (Mostone) So we're required to have a minimum of one-to-four ratio, meaning one inspector to four crews. We typically try to do better than that. We go down to, you know, it's	1 2 3 4 5 6 7 8 A. 9 10 11 Q. 12 13 14 15 16 A. 17 Q. 18 19 20 21 22	this inspector would be the first person, decision maker, if you will, who would see a need for a change in what the plan was and start the process of either approving it him or herself or running it up the flagpole to get approval for whatever that change might be; is that correct?  (Mostone) That's correct. We have to have a signed change order at the time if something is deviating from the original plan.  So that is a process that starts in real time when the need for the change arises. There's a company person there or a few minutes away that could start that review and approval process.  (Mostone) Right.  There were several questions about the safety of the remaining pipe in the ground. Mr.  Mostone, can you, at a quick level, explain what the three levels are in our system, what each of the three are, and what the Company's obligation is to respond to each of those?

	OO DANEL MANAMADALEDOOTIMOOTONEL			·
	SS PANEL: McNAMARA FROST MOSTONE] Page 85	[WI	INE	SS PANEL: McNAMARA FROST MOSTONE] Page 87
1 A.	So a Grade 3 leak is considered a	1		you're there.
2	non-hazardous leak. We have to monitor it.	2	A.	(Frost) I am in that column of the
3	And it's not necessarily repaired within a	3		spreadsheet.
4	time frame. Grade 2 leaks are monitored and	4	Q.	Can you tell me what you are trying to show,
5	also replaced within six months or by year's	5		what it means, the phrase "loaded cost
6	end. And Grade 1 is an emergency leak that's	6		variance percentage"?
7	considered hazardous and needs to be repaired	7	A.	
8	immediately.	8		direct contractor cost on the job plus the
9 Q.	And of course the Company finds these leaks	9		Company's overhead burdens. This is trying
10	through its surveys or through customer or	10		to show the difference between the original
11	civilian reports of the smell of gas; is that	11		estimate filed with Staff and the finished
12	fair?	12		construction costs. That also includes an
13 A.		13		estimate of carryover costs.
14 Q.			Q.	•
15	the ground with, as the phrase is, "a hundred	15	ν.	today, which is fine. But if you could give
16	percent wall thickness loss (connectivity	16		us a brief description as we go through this.
17	issue)		A.	1 0
18	(Court Reporter interrupts.)	18	4 1.	incurred for paving or degradation fees that
19 Q.	Bob, I think you need to mute yourself while	19		are not completed in the year that the pipe
20	I'm talking. I think the echo's coming from	20		is installed. Sometimes due to when
21	your end.	21		construction finishes, it is too cold out to
22	So some pipes that have holes in them	22		finish repaying the street, so those costs
23	are not really leaking because the	23		would be incurred in the following year.
24	surrounding soil, mud, whatever, can actually			Additionally, the City of Manchester
24	surrounding son, mud, whatever, can actually	24		Additionally, the City of Manchester
	{DG 20-049} [HEARING ON MERITS] {06-18-20}			{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE	SS PANEL: McNAMARA FROST MOSTONE] Page 86	[WI	TNE	SS PANEL: McNAMARA FROST MOSTONE] Page 88
1	prevent them leaking, especially on the	1		charges degradation fees on the total
2	low-pressure pipes; is that fair?	2		finished pavement patched. So Manchester
3 A.		3		degradation fees are not billed until the
4	assessment, that we sometimes find pipes that	4		second year.
5	have a hole in it during the course of		Q.	
6	construction. However, the Company has not	6	Q.	the one I was pointing to, the ones to the
-	found leaks going into the soil. We've also	7		left are those other costs you described.
7 8	cut out pipe samples which have been	8		There's an estimated direct cost, BH; actual
9	previously repaired within a couple of years	9		direct, BI and the variance there. And then
10	before they were cut out.	10		there's the estimated loaded cost, BK;
11 Q.	Of course we need to replace those pipes			actual, BL; and variance is BM. So the BK,
_	anyway. But I think I understand your	11		estimated loaded cost, is in effect your
12	testimony, Brian, to be it is the reported	12		estimated loaded cost, is in effect your estimate before any construction begins; is
13	leak history that the Company relies on in	13		that fair?
14	* *	14	٨	
15	prioritizing which pipes should come out		Α.	
16	first; correct?  (Frost) Correct, it is the reported look		Q.	
17 A.	(Frost) Correct, it is the reported leak	17		line, looks like 48, 49 and 50, where it
18	history.	18		returns to a blue shaded area. Do you see
19 Q.	And last, Brian, if you could open your	19		that?
20	spreadsheet, Attachment 2 to your testimony,		Α.	` '
21	which begins or appears at Bates 30, and		Q.	· · · · · · · · · · · · · · · · · · ·
22	scroll over horizontally to Column B, as in	22		find out what those blue shades are. And
23	boy, and M, as in Michael, titled "Loaded	23		those are the bottom of the blue shaded
24	Cost Variance Percentage." Let me know when	24		said "Fiscal Year 2020 CIBS Program Totals";
	{DG 20-049} [HEARING ON MERITS] {06-18-20}			{DG 20-049} [HEARING ON MERITS] {06-18-20}
		1		

	SS PANEL: McNAMARA FROST MOSTONE] Page 89		ESS PANEL: McNAMARA FROST MOSTONE] Page 91
[VVIIINE	55 PANEL. MICHAMARA FROST MOSTONE Page 89	[VVIIINE	
1	is that right?	1	Staff has noted the Company's success with
2 A.		2	managing the program on an overall basis.
3 Q.	And I think the number Commissioner Bailey	3	However, Staff has also asked for, at times,
4	started with is where the variance between	4	a microscopic basis. And on the microscopic
5	estimated and actual shows 15 percent and the	5	level there is a fair amount of variance.
6	average cost per foot shows the \$299 to \$384;	6 Q.	And by that do you mean that if you look at
7	is that right?	7	it project by project, some will be at
8 A.	(Frost) It does.	8	budget, some will be significantly over, and
9 Q.	And so in this particular line, 15 percent is	9	some will be significantly under? Is that
10	the variance between the estimated and the	10	fair?
11	actual loaded costs for the program, the	11 A.	(Frost) Yes, Mike, that is correct.
12	dollars that are at issue in this case.	12	Additionally, we talked a lot in these
13	That's not fair. Strike that question.	13	questions about how the variance is
14	Scroll down further, and the last two	14	calculated in multiple different ways based
15	shaded blue lines are 76 and 79. One of them	15	on original estimate, based on incurred costs
16	has a minus 17 percent and the lower one has	16	plus expected carryover costs, variances of
17	8 percent. Can you tell us what those are?	17	carryover costs against expected carryover
18 A.	(Frost) The minus 17 percent, that is the	18	costs. Just many different types of variance
19	variance between what the Company incurred	19	calculations. However, the total program
20	for actual carryover costs within the fiscal	20	variance calculated in fiscal year 2020 is
21	year 2020 program versus estimated at last	21	8 percent.
22	year. And the 8 percent is the total cost	22 Q.	-
23	variance of the program if you add up work	23	MR. SHEEHAN: Those are all the
24	completed this year and expected future	24	questions I have, Chairwoman.
24	completed this year and expected rature	2-1	questions i nave, chair woman.
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
	(DO 20 043) [HEARING ON MERTIO] (00 TO 20)		(B 0 20 0 10) [112/4/4/10 01/4/10] (00 10 20)
[WITNE:	SS PANEL: McNAMARA FROST MOSTONE] Page 90	[WITNE	ESS: KNEPPER] Page 92
	SS PANEL: McNAMARA FROST MOSTONE] Page 90		ESS: KNEPPER] Page 92
1	SS PANEL: McNAMARA FROST MOSTONE] Page 90 carryover costs plus the variance of	1	Page 92 CHAIRWOMAN MARTIN: All right.
1 2	SS PANEL: McNAMARA FROST MOSTONE] Page 90 carryover costs plus the variance of carryover work completed this year.	1 2	CHAIRWOMAN MARTIN: All right. Thank you.
1 2 3 Q.	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the	1 2 3	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do
1 2 3 Q. 4	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher	1 2 3 4	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff?
1 2 3 Q. 4 5	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?	1 2 3 4 5	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you,
1 2 3 Q. 4 5 6 A.	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company	1 2 3 4 5	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper
1 2 3 Q. 4 5 6 A.	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct? (Frost) That is correct. The Company incurred less carryover cost than it	1 2 3 4 5 6	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness.
1 2 3 Q. 4 5 6 A. 7	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct? (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on	1 2 3 4 5 6 7 8	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION
1 2 3 Q. 4 5 6 A. 7 8	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct? (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.	1 2 3 4 5 6 7 8 9 E	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO:
1 2 3 Q. 4 5 6 A. 7 8 9	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent	1 2 3 4 5 6 7 8 9 E	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of	1 2 3 4 5 6 7 8 9 E	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy.
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct? (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost. And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A.	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct? (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost. And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as quick as you, Lynn.
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A.	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure,	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as quick as you, Lynn. Yeah, I'm Randall Knepper. I'm the
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14 15	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as quick as you, Lynn. Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q.	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14 15 16	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as quick as you, Lynn. Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q. 17	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go through prior years. But is it fair to say	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14 15 16 17	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as quick as you, Lynn. Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the Commission. And I'm by myself right now.
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q. 17 18	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go through prior years. But is it fair to say that in recent years the variances have been	1 2 3 4 5 6 7 8 9 F 10 Q. 11 12 A. 13 14 15 16 17 18 Q.	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as quick as you, Lynn. Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the Commission. And I'm by myself right now. Thank you. And what is your position at the
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q. 17 18 19	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go through prior years. But is it fair to say that in recent years the variances have been less than that? You have had years of four	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14 15 16 17 18 Q. 19	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as quick as you, Lynn. Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the Commission. And I'm by myself right now. Thank you. And what is your position at the Commission?
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q. 17 18 19 20	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go through prior years. But is it fair to say that in recent years the variances have been less than that? You have had years of four or five or six or even minus four percent	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14 15 16 17 18 Q. 19 20 A.	CHAIRWOMAN MARTIN: All right. Thank you.  Ms. Fabrizio, do you want to do your direct on Staff?  MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness.  DIRECT EXAMINATION BY MS. FABRIZIO:  Mr. Knepper, could you please state your full name for the record. You are on mute, Randy.  (Knepper) I'm unmuting. I'm just not as quick as you, Lynn.  Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the Commission. And I'm by myself right now.  Thank you. And what is your position at the Commission?  (Knepper) I'm the director of Safety and
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q. 17 18 19 20 21	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go through prior years. But is it fair to say that in recent years the variances have been less than that? You have had years of four or five or six or even minus four percent variances; do you recall that?	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14 15 16 17 18 Q. 19 20 A. 21	CHAIRWOMAN MARTIN: All right. Thank you.  Ms. Fabrizio, do you want to do your direct on Staff?  MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness.  DIRECT EXAMINATION BY MS. FABRIZIO:  Mr. Knepper, could you please state your full name for the record. You are on mute, Randy.  (Knepper) I'm unmuting. I'm just not as quick as you, Lynn.  Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the Commission. And I'm by myself right now.  Thank you. And what is your position at the Commission?  (Knepper) I'm the director of Safety and Security.
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q. 17 18 19 20 21 22 A.	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go through prior years. But is it fair to say that in recent years the variances have been less than that? You have had years of four or five or six or even minus four percent variances; do you recall that?  (Frost) Yes, I recall that. The Company has	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14 15 16 17 18 Q. 19 20 A. 21 22 Q.	CHAIRWOMAN MARTIN: All right. Thank you.  Ms. Fabrizio, do you want to do your direct on Staff?  MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness.  DIRECT EXAMINATION BY MS. FABRIZIO:  Mr. Knepper, could you please state your full name for the record. You are on mute, Randy.  (Knepper) I'm unmuting. I'm just not as quick as you, Lynn.  Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the Commission. And I'm by myself right now.  Thank you. And what is your position at the Commission?  (Knepper) I'm the director of Safety and Security.  And in that capacity, were you the lead
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q. 17 18 19 20 21 22 A. 23	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go through prior years. But is it fair to say that in recent years the variances have been less than that? You have had years of four or five or six or even minus four percent variances; do you recall that?  (Frost) Yes, I recall that. The Company has been very successful in managing the overall	1 2 3 4 5 6 7 8 9 F 10 Q. 11 12 A. 13 14 15 16 17 18 Q. 19 20 A. 21 22 Q. 23	CHAIRWOMAN MARTIN: All right. Thank you. Ms. Fabrizio, do you want to do your direct on Staff? MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness. DIRECT EXAMINATION BY MS. FABRIZIO: Mr. Knepper, could you please state your full name for the record. You are on mute, Randy. (Knepper) I'm unmuting. I'm just not as quick as you, Lynn. Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the Commission. And I'm by myself right now. Thank you. And what is your position at the Commission? (Knepper) I'm the director of Safety and Security. And in that capacity, were you the lead analyst responsible for examining Liberty's
1 2 3 Q. 4 5 6 A. 7 8 9 10 Q. 11 12 13 14 A. 15 16 Q. 17 18 19 20 21 22 A.	carryover costs plus the variance of carryover work completed this year. So the minus 17 is an indication that the estimates for the carryover cost was higher than the actual; correct?  (Frost) That is correct. The Company incurred less carryover cost than it anticipated. It was able to hold the line on that cost.  And so is it fair to say that the 8 percent variance is the overall financial picture of the project when you're looking at estimate versus actual?  (Frost) On a total-wide program expenditure, 8 percent is the variance.  And if we I'm not going to have you go through prior years. But is it fair to say that in recent years the variances have been less than that? You have had years of four or five or six or even minus four percent variances; do you recall that?  (Frost) Yes, I recall that. The Company has	1 2 3 4 5 6 7 8 9 E 10 Q. 11 12 A. 13 14 15 16 17 18 Q. 19 20 A. 21 22 Q.	CHAIRWOMAN MARTIN: All right. Thank you.  Ms. Fabrizio, do you want to do your direct on Staff?  MS. FABRIZIO: Yes. Thank you, Madam Chair. I will introduce Randy Knepper as Staff's witness.  DIRECT EXAMINATION BY MS. FABRIZIO:  Mr. Knepper, could you please state your full name for the record. You are on mute, Randy.  (Knepper) I'm unmuting. I'm just not as quick as you, Lynn.  Yeah, I'm Randall Knepper. I'm the director of safety, and I'm in room I don't even know what room Room 32 at the Commission. And I'm by myself right now.  Thank you. And what is your position at the Commission?  (Knepper) I'm the director of Safety and Security.  And in that capacity, were you the lead

		131 INDIVIDANE STEEL REPLACEIVIENT PROGRAM I		·	
[WI	TNES	SS: KNEPPER] Page 93	[WITNES	SS: KNEPPER] Page 9	95
1	A.	(Knepper) By default, yes.	1	variance regarding low-cost planned projects	
		And did you prepare testimony filed on behalf	2	that were completed without reduction in	
3	_	of Staff on June 12th, 2020, marked as	3	scope?	
4		Exhibit 2 in this docket?	4	And maybe I can step back there. And if	
	Δ	(Knepper) Yes.	5	you could provide your understanding of the	
6	Q.	And you attached Staff's audit report as part	6	earlier discussion of variances and how you	
7	Q.	of your testimony in Exhibit 2, but that is	7	read the Company's results.	
		also entered as Exhibit 3; is that correct?			
8	٨	•	8 A.	(Knepper) Lynn, I want to make sure I	
		(Knepper) Yes.	9	understand your question. Are you referring	
	Q.	And are there any corrections to your	10	to my Bates Page 20 on my testimony?	
11		testimony that you would like to make at this	11 Q.	Yes. You attached the spreadsheet to your	
12		time?	12	testimony, so that was easiest for me to	
		(Knepper) No.	13	refer to.	
14	Q.	If I were to ask you the same questions that	14 A.	(Knepper) Okay. So my Bates Page 20, I	
15		are included in your testimony, would the	15	believe, is a spreadsheet of just bare steel	
16		answers be the same today?	16	only. And that just lists that is not	
17	A.	(Knepper) Yeah.	17	the it's not a financial thing. All it	
18	Q.	Thank you.	18	lists is of the samples that were brought in	
19		CHAIRWOMAN MARTIN: Ms. Fabrizio,	19	over the 12 year period, what the ages were,	
20		are you finished introducing the witness and	20	the history and the conditions of the bare	
21		laying the foundation?	21	steel that have been brought to us. Are you	
22		MS. FABRIZIO: Yes.	22	referring to a different one?	
23		CHAIRWOMAN MARTIN: Okay. I just	23 Q.	Yes, I must be. I'm referring to the giant	
24		want to check with Ms. Robidas.	24	spreadsheet that we've been looking at	
		want to check with his. Rootaus.		spreadsheet that we ve been rooking at	
		{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}	
		(2 0 20 0 10) [112/11/11/0 OIT METATO] (00 10 20)			
[WI	TNES	SS: KNEPPER] Page 94	[WITNES	SS: KNEPPER] Page 9	96
	TNES	SS: KNEPPER] Page 94		SS: KNEPPER] Page 9	96
1	TNES	SS: KNEPPER] Page 94  Ms. Robidas, could you use a break?	1 A.	SS: KNEPPER] Page 9 (Knepper) So the giant spreadsheet that I'm	96
1 2	TNES	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right	1 A.	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's	96
1 2 3	TNES	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you.	1 A. 2	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.	96
1 2 3 4	TNES	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay	1 A. 2 3 4	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large	96
1 2 3 4 5	TNES	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now?	1 A. 2 3 4 5	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers	96
1 2 3 4 5	TNES	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup.	1 A. 2 3 4 5	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know,	96
1 2 3 4 5 6 7	TNES	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then	1 A. 2 3 4 5 6	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're	96
1 2 3 4 5 6 7 8	TNES	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed.	1 A. 2 3 4 5 6 7 8	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates	96
1 2 3 4 5 6 7 8		Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you.	1 A. 2 3 4 5 6 7 8	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.	96
1 2 3 4 5 6 7 8 9	В	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO:	1 A. 2 3 4 5 6 7 8 9	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.	96
1 2 3 4 5 6 7 8 9 10	В	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A.	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page	96
1 2 3 4 5 6 7 8 9 10 11	В	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A.	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your	96
1 2 3 4 5 6 7 8 9 10 11 12 13	В	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?	96
1 2 3 4 5 6 7 8 9 10 11 12 13 14	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place?	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the	96
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	В	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q.	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is	96
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.	96
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent	96
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here constant is me.	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent today. Based on your review of the	96
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here constant is me. Okay. And we've heard statements regarding	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent today. Based on your review of the spreadsheet that we're now all looking at,	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here constant is me. Okay. And we've heard statements regarding project cost variances. We've heard a couple	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent today. Based on your review of the spreadsheet that we're now all looking at, how would you assess the cost variance of the	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here constant is me. Okay. And we've heard statements regarding project cost variances. We've heard a couple of numbers: Plus or minus 10, 15 percent,	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17 18	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent today. Based on your review of the spreadsheet that we're now all looking at, how would you assess the cost variance of the CIBS program?	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here constant is me. Okay. And we've heard statements regarding project cost variances. We've heard a couple	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17 18 19 20	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent today. Based on your review of the spreadsheet that we're now all looking at, how would you assess the cost variance of the CIBS program?  (Knepper) Well, I think it's difficult to	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here constant is me. Okay. And we've heard statements regarding project cost variances. We've heard a couple of numbers: Plus or minus 10, 15 percent,	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17 18 19 20 21	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent today. Based on your review of the spreadsheet that we're now all looking at, how would you assess the cost variance of the CIBS program?	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here constant is me. Okay. And we've heard statements regarding project cost variances. We've heard a couple of numbers: Plus or minus 10, 15 percent, 8 percent. In your review of the Company's	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17 18 19 20 21 22 A.	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent today. Based on your review of the spreadsheet that we're now all looking at, how would you assess the cost variance of the CIBS program?  (Knepper) Well, I think it's difficult to	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	B' Q.	Ms. Robidas, could you use a break? COURT REPORTER: I'm good right now. Thank you. CHAIRWOMAN MARTIN: You're okay right now? COURT REPORTER: Yup. CHAIRWOMAN MARTIN: Okay. Then let's proceed. MS. FABRIZIO: Okay. Thank you. Y MS. FABRIZIO: Mr. Knepper, we've heard a lot of numbers this morning. First of all, I'd like to ask you, how many years has Liberty CIBS program been in place? (Knepper) So the Liberty CIBS program has been in place for 12 years. And of all the people here, the one person that's been here constant is me. Okay. And we've heard statements regarding project cost variances. We've heard a couple of numbers: Plus or minus 10, 15 percent, 8 percent. In your review of the Company's spreadsheet attached to your testimony on	1 A. 2 3 4 5 6 7 8 9 10 Q. 11 A. 12 13 14 Q. 15 16 17 18 19 20 21 22 A. 23	(Knepper) So the giant spreadsheet that I'm aware of is in Exhibit 1 of Liberty's testimony, and I believe it's Bates Page 30.  And I have the benefit of having a large printout and I can read those column numbers and I can read those numbers. So, you know, for those who want to follow it, they're going to have to really zoom in on that Bates Page 30 because it's very small.  Okay.  (Knepper) So now that I have the right page and the right reference, can you repeat your question for me?  Sure. We've heard statements from the Company today that the overall variance is plus or minus 10 percent on project cost.  We've also heard a figure of 15 percent today. Based on your review of the spreadsheet that we're now all looking at, how would you assess the cost variance of the CIBS program?  (Knepper) Well, I think it's difficult to kind of do the overall because when you if	

2020 67	AST INDIVIDANCE STEEL REPLACEMENT PROGRAM I	VEGOE!	5 Julie 10, 2020
[WITNE:	SS: KNEPPER] Page 97	[WITNES	SS: KNEPPER] Page 99
1	they show up as negative variances; so that's	1	the overall cost, which I think they listed
2	going to reduce the overall amount. I	2	between the estimated loaded cost versus the
3	believe that's also consistent with the audit	3	actual loaded cost. That's kind of what the
4	findings, the final audit findings. I	4	number is. If you look at it on a division
5	mentioned that in Section 2. And so when	5	basis, looks like the Nashua division was
	you're looking at those numbers on an overall	6	5 percent, and that had, you know, two
6	basis, I find it's kind of difficult. If you	7	projects within that were well over; you
7	· · · · · · · · · · · · · · · · · · ·		- ·
8	look at even the carryover costs that are	8	know, one was 151 percent one was
9	included, some of them are not totally	9	146 percent. The Manchester was 15 percent.
10	included because they haven't gotten bills	10	And I think in Concord it was 38 percent over
11	for degradation fees and things like that.	11	in the Concord division. So those were the
12	And that's part of that 8 percent number they	12	ones that I kind of focused on.
13	use.	13 Q.	Okay. On Bates Page 7 of your testimony you
14	So I tend to look at it on a	14	refer to 27 percent. So what is that based
15	project-by-project basis. I don't know if	15	on?
16	they call that a "microscopic" level, but I	16 A.	(Knepper) Bear with me, Lynn. I'm flipping
17	call it on a "individual" level. So those	17	through pages.
18	are the ones that I tend to look at to see,		I have it marked as Bates Page 7.
19	you know, for a given project, did you vary		(Knepper) Yes.
20	from what you thought you were going to do.		And it looks like Lines 15 through 17.
21	And I do agree with Staff's testimony	21 A.	(Knepper) Yeah. That's basically just
22	or the previous testimony. I think it is	22	sourcing it from their testimony, from Robert
23	over 2,000 cells that we asked for. The	23	Mostone's and Brian Frost's testimony. And I
24	reason we asked for 2,000 cells on this data	24	reference it in my footnote where I got that,
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE	SS: KNEPPER] Page 98	[WITNES	SS: KNEPPER] Page 100
1	is because of all the things that you've	1	Note 7.
2	heard today you know, I can't get started	2 Q.	Okay. Thank you.
3	until later. And so then we want to know the	3	So you have recommended that the
4	actual start date and end date, and that	4	Commission require Liberty to set a target
5	becomes a column. That becomes a thing. We	5	goal of end of year 2025 to complete its CIBS
6	want to know how much are degradation fees,	6	program that's at Bates Page 10 of your
7	because when we initiated this program,	7	testimony, with an exception for mains equal
8	degradation fees weren't even part of this,	8	to or greater than 10-inch nominal diameter
9	right; they weren't getting any degradation	9	and mains associated with the Keene system.
10	fees. When we initiated this program,	10	Why have you chosen 2025 as a target?
11	carryover costs weren't a major portion of it	11 A.	(Knepper) So in the past, Liberty, in many
12	because a majority of the projects were	12	years, has said 2024. If you look at
13	getting done in a single year; they've now	13	previous years' CIBS dockets, I think it's
14	become a major portion. So in the beginning	14	been at least three dockets that they've
15	v 1	1	· · · · · · · · · · · · · · · · · · ·
1	we were probably not hitting sections where	15	mentioned 2024 as the target. I don't think
16	we were probably not hitting sections where there was a lot of extra costs, such as ledge	15 16	mentioned 2024 as the target. I don't think that's achievable by them anymore, but I do
16 17	there was a lot of extra costs, such as ledge	16	that's achievable by them anymore, but I do
17	there was a lot of extra costs, such as ledge or asbestos. So all those things have kind	16 17	that's achievable by them anymore, but I do think 2025. So I can tell you how I get
17 18	there was a lot of extra costs, such as ledge or asbestos. So all those things have kind of grown over the years, and the spreadsheet	16 17 18	that's achievable by them anymore, but I do think 2025. So I can tell you how I get there and derive that number.
17 18 19	there was a lot of extra costs, such as ledge or asbestos. So all those things have kind of grown over the years, and the spreadsheet now has the data with it. And even then,	16 17 18 19	that's achievable by them anymore, but I do think 2025. So I can tell you how I get there and derive that number.  So they have about 55 miles of cast iron
17 18 19 20	there was a lot of extra costs, such as ledge or asbestos. So all those things have kind of grown over the years, and the spreadsheet now has the data with it. And even then, they still cause a lot of questions.	16 17 18 19 20	that's achievable by them anymore, but I do think 2025. So I can tell you how I get there and derive that number.  So they have about 55 miles of cast iron and bare steel left in their system. I do
17 18 19 20 21	there was a lot of extra costs, such as ledge or asbestos. So all those things have kind of grown over the years, and the spreadsheet now has the data with it. And even then, they still cause a lot of questions.  So my assessment is, you know, it's not	16 17 18 19 20 21	that's achievable by them anymore, but I do think 2025. So I can tell you how I get there and derive that number.  So they have about 55 miles of cast iron and bare steel left in their system. I do not include Keene because Keene was never
17 18 19 20 21 22	there was a lot of extra costs, such as ledge or asbestos. So all those things have kind of grown over the years, and the spreadsheet now has the data with it. And even then, they still cause a lot of questions.  So my assessment is, you know, it's not for me to you know, I look at their	16 17 18 19 20 21	that's achievable by them anymore, but I do think 2025. So I can tell you how I get there and derive that number.  So they have about 55 miles of cast iron and bare steel left in their system. I do not include Keene because Keene was never really part of the CIBS program from
17 18 19 20 21 22 23	there was a lot of extra costs, such as ledge or asbestos. So all those things have kind of grown over the years, and the spreadsheet now has the data with it. And even then, they still cause a lot of questions.  So my assessment is, you know, it's not for me to you know, I look at their numbers, and they look at as an overall	16 17 18 19 20 21 22 23	that's achievable by them anymore, but I do think 2025. So I can tell you how I get there and derive that number.  So they have about 55 miles of cast iron and bare steel left in their system. I do not include Keene because Keene was never really part of the CIBS program from inception. It was never part of the
17 18 19 20 21 22	there was a lot of extra costs, such as ledge or asbestos. So all those things have kind of grown over the years, and the spreadsheet now has the data with it. And even then, they still cause a lot of questions.  So my assessment is, you know, it's not for me to you know, I look at their	16 17 18 19 20 21	that's achievable by them anymore, but I do think 2025. So I can tell you how I get there and derive that number.  So they have about 55 miles of cast iron and bare steel left in their system. I do not include Keene because Keene was never really part of the CIBS program from

[WITNE	SS: KNEPPER] Page 101	[WITNES	SS: KNEPPER] Pa	ge 103
_	6.75 miles. If you years to include it wold	_	"band and fact " Dut it's a targeted and	
1	6.75 miles. If you were to include it, we'd	1	"hard and fast." But it's a targeted end	
2	need to see, you know, are you operating the	2	date. And I don't think so. If you look at	
3	system? Is it going to natural gas? We'd	3	this large spreadsheet, you'll see	
4	have to see a whole conversion plan	4	there's pipes in there that have been in the	902
5	associated with it to look at that.	5	ground, and they've been removed, since 1	892.
6	So of that 55 miles that's left, there's	6	So those are 128 years they've been in the	
7	about, I think I don't know if these numbers are consistent with what Brian said.	7	ground. At this point in time, I think an	
8		8	extra year is probably not going to increase	,
9	But according to reports that they filed with	9	it.	
10	us, there's about 1 mile that's 14- and	10	We do note that the leak rates are going	
11	16-inch, and there's about 3.7 miles that are	11	down. I would expect them to go down as	•
12	10-inch and 12-inch. So it's a very small	12	replace more. And so I think we're getting	
13	portion, between 4 and 5 miles. I kind of	13	to the end of the system, the end of the	
14	excluded that. That gets you down to about	14	program. And I think they can start to	
15	50. At the end of this year, they're	15	replace you know, certainly if they want	
16	probably going to get 7 to 8 miles done.	16	to do more, they can.	
17	That's my estimate based on what I see on	17	But I do think they need some sort of	
18	crew activity in some of the discovery questions. So that reduces that down to	18	guidance because I don't think we want to continue this on for the next 10 years or 20	1
19	about 42. Through municipal projects	19	years. This has been going on for quite a	'
20	historically over this 12-year period,	20 21	long time to get some of this aged,	
21 22	they've been replacing somewhere around	22	leak-prone pipe out.	
23	2 miles on average. But I anticipate that	23 Q.	Thanks. And you refer to CIBS mains equ	al to
24	going down a little bit. So if you were to	23 Q. 24	or greater than 10 inches in diameter not	ai to
24	going down a nitie oit. So if you were to	24	of greater than 10 menes in diameter not	
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}	
	(BC 20 0 10) [FI27 WARTO OF METATO] (00 10 20)		(DO 20 040) [FIEARING ON MERCIO] (00 10 20)	
[WITNE	SS: KNEPPER] Page 102	[WITNES		ge 104
	SS: KNEPPER] Page 102		SS: KNEPPER] Pa	_
1	SS: KNEPPER] Page 102 say 1.75 miles for the remaining 5 years,	[WITNES	SS: KNEPPER] Pa	_
1 2	SS: KNEPPER] Page 102 say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done	1 2	posing the same level of risk. What would a reasonable target to replace those?	_
1	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS	1	posing the same level of risk. What would a reasonable target to replace those?  (Knepper) I don't think it's a targeted date.	_
1 2 3	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for	1 2 3 A.	posing the same level of risk. What would a reasonable target to replace those?	_
1 2 3 4	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're	1 2 3 A.	posing the same level of risk. What would a reasonable target to replace those?  (Knepper) I don't think it's a targeted date. I think it's going to be because there's	be
1 2 3 4 5	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects.	1 2 3 A. 4 5	posing the same level of risk. What would a reasonable target to replace those?  (Knepper) I don't think it's a targeted date.  I think it's going to be because there's very few streets that that's on. It's not	be
1 2 3 4 5	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're	1 2 3 A. 4 5	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here	be
1 2 3 4 5 6 7	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by	1 2 3 A. 4 5 6	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc	be h
1 2 3 4 5 6 7 8	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do	1 2 3 A. 4 5 6 7 8	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in	be h
1 2 3 4 5 6 7 8	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This	1 2 3 A. 4 5 6 7 8	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua responsible.	be h
1 2 3 4 5 6 7 8 9	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their	1 2 3 A. 4 5 6 7 8 9	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua re their plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think	be h hear
1 2 3 4 5 6 7 8 9 10	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to	1 2 3 A. 4 5 6 7 8 9 10	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashuar their plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi	be h hear
1 2 3 4 5 6 7 8 9 10 11	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five	1 2 3 A. 4 5 6 7 8 9 10 11	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua re their plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them.	be  h near l
1 2 3 4 5 6 7 8 9 10 11 12 13	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021,	1 2 3 A. 4 5 6 7 8 9 10 11 12	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua retheir plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive	be  h near l
1 2 3 4 5 6 7 8 9 10 11 12 13 14	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15 16	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashuar their plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just	be  h near l
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about 7 miles a year. I think that's achievable.	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashuar their plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just easily replace 16-inch with plastic like they	be  h near l
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Q.	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about 7 miles a year. I think that's achievable. And does pushing the program back to 2025	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15 16 17	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua r their plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just easily replace 16-inch with plastic like they can do with a 4-inch or 8-inch or 6-inch.	be  h  near  l
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about 7 miles a year. I think that's achievable. And does pushing the program back to 2025 create a delay that poses a significant risk	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua retheir plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just easily replace 16-inch with plastic like they can do with a 4-inch or 8-inch or 6-inch. And, you know, those are ones that I would	be  h near l
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Q. 19 20	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about 7 miles a year. I think that's achievable. And does pushing the program back to 2025 create a delay that poses a significant risk to public safety?	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua retheir plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just easily replace 16-inch with plastic like they can do with a 4-inch or 8-inch or 6-inch. And, you know, those are ones that I would probably just monitor and not put an end de	be  h near l
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Q. 19 20 21 A.	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about 7 miles a year. I think that's achievable. And does pushing the program back to 2025 create a delay that poses a significant risk to public safety? (Knepper) Well, I think a one-year delay from	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua retheir plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just easily replace 16-inch with plastic like they can do with a 4-inch or 8-inch or 6-inch. And, you know, those are ones that I would probably just monitor and not put an end dato.	be  h  near  l  s
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Q. 19 20 21 A.	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects.  Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about 7 miles a year. I think that's achievable. And does pushing the program back to 2025 create a delay that poses a significant risk to public safety?  (Knepper) Well, I think a one-year delay from what we were kind of remember, this is a	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua r their plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just easily replace 16-inch with plastic like they can do with a 4-inch or 8-inch or 6-inch. And, you know, those are ones that I would probably just monitor and not put an end do to.  We specifically asked, like on the Main	be  h  near  l  s  d  ate
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Q. 19 20 21 A. 22 23	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects. Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about 7 miles a year. I think that's achievable. And does pushing the program back to 2025 create a delay that poses a significant risk to public safety? (Knepper) Well, I think a one-year delay from what we were kind of remember, this is a targeted end date. This isn't a hard and	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua retheir plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just easily replace 16-inch with plastic like they can do with a 4-inch or 8-inch or 6-inch. And, you know, those are ones that I would probably just monitor and not put an end dato.  We specifically asked, like on the Main Street program in Concord you know, M	be  h  near  l  s  d  ate
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Q. 19 20 21 A.	say 1.75 miles for the remaining 5 years, that gets another 7 to 8 miles. That's done outside of the CIBS, what you call the CIBS program. Remember, the CIBS program is for internally-driven projects, right. They're not for externally driven projects.  Externally projects that are done by municipalities, the Company should be taking advantage of those and replacing them. This is as if the municipality was not going to do any work and the Company's initiating the program, or the replacement program on their own. And if you do that, you're down to about 35 miles. And you divide that by five years, right. We're talking about 2021, 2022, 2023, 2024 and 2025. That's about 7 miles a year. I think that's achievable. And does pushing the program back to 2025 create a delay that poses a significant risk to public safety?  (Knepper) Well, I think a one-year delay from what we were kind of remember, this is a	1 2 3 A. 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	posing the same level of risk. What would a reasonable target to replace those? (Knepper) I don't think it's a targeted date. I think it's going to be because there's very few streets that that's on. It's not scattered throughout. There's 12-inch here on Main Street in Concord. There's 10-inc on North State Street and South Street in Concord. There's a few places in Nashua r their plant that they have some 16-inch and 14-inch. So you're looking at very, very specific streets and segments. So I think you can look at those on an individual basi of when it makes sense to replace them. Those are going to be very, very expensive projects to replace because you can't just easily replace 16-inch with plastic like they can do with a 4-inch or 8-inch or 6-inch. And, you know, those are ones that I would probably just monitor and not put an end do to.  We specifically asked, like on the Main	be  h  near  l  s  d  ate

June 18, 2020 Page 105 [WITNESS: KNEPPER] [WITNESS: KNEPPER] Page 107 extended curbs to replace the gas main years requirements from the Company regarding its ago at the time the construction was done. 2 CIBS activities. Could you briefly explain 2 And at that time Liberty did not feel it was what you're looking for? 3 3 4 a priority. 4 A. (Knepper) Yeah. So now that the CIBS program 5 Q. So you are not suggesting that 10-inch or was terminated last year by the Commission as 5 greater mains should never been replaced, we alluded to, this large spreadsheet is 6 merely that they should not be -- they don't 7 probably the number one thing we get, as well 7 need to be part of the accelerated recovery as the spreadsheets that Ms. McNamara puts 8 8 9 CIBS program; is that right? 9 together that kind of gives you the financial (Knepper) So the CIBS program's gone away, impact. Those two things kind of tell us the 10 A. 10 right. So the reason I kind of say 10-inch most. 11 11 12 and above is because typically they'll leak 12 And so if you were to go to cold turkey at bell joints. And I would say the majority and not get any of that information, and 13 13 14 of those bell joints have already been 14 you're still spending, I don't know, upwards attended to by Liberty. So now the only of \$20 million to year to \$25 million a year, 15 15 other thing is with cast iron, the other way I think it's reasonable to, instead of just 16 16 17 to have the gas leak is when it breaks. So 17 taking that out and only replacing it with when that cast iron fractures or breaks, the what we get for the E22, which is just a 18 18 single line item for very little description, gas can leak. But when you get to those size 19 19 pipes of 10-inch, 12-, 14- and 16-inch, I think you either continue with this or you 20 20 they're much thicker materials and so they have a modified something in between. And so 21 21 tend not to break as much. And we've not I made suggestions as to the Commission 22 22 asking for a modified E22. 23 recorded many gas main breaks on those. We 23 look at that data that Liberty submits to us. Thanks. And the Company has indicated in 24 24 O. {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20} [WITNESS: KNEPPER] Page 106 [WITNESS: KNEPPER] Page 108 And because of those reasons we don't tend to this proceeding some concern regarding the 1 administrative burden of the reporting that 2 2 3 Q. Okay. Thanks. And you've also excluded the Staff would like to see from the Company. Do 3 CIBS mains in Keene as part of your you have similar concerns? 4 4 assessment of an optimal target end date. A. (Knepper) I don't consider this detail of 5 5 this type of spreadsheet an administrative 6 Why is that? 6 burden. The things when I refer to A. (Knepper) Yeah, because I don't think Keene 7 7 was really ever part of the program. And administrative burdens are not having to file 8 8 9 when you look at the testimony that they 9 the marketing report, not having to do these have, I think it's -- let me get to the Bates cast iron/bare steel cutouts anymore, not 10 10 page number. Bear with me for a second. It having to give us a preliminary plan with all 11 11 would be in Exhibit 1, Bates page -- trying the GIS and all the layers and all the leak 12 12 to look at -- well, let's just look at Bates history associated with it, to then have a 13 13 14 Page 50. If you were to go and look at that 14 tech session, to then have a finalized plan, in Exhibit 1, and you look at Line 11, to then have a hearing like this and to have 15 15 Keene's not really in there when you look at the order posted and testimony and discovery 16 16 the miles of cast iron replaced and you're and -- those are the administrative burdens 17 17 trying to do this tracking. So it doesn't that I was referring to. 18 18 make sense to even include it because it 19 19 O. Okay. And your recommendation is that the distorts all data and all the associated Commission set a replacement target goal year 20 20 end 2025. Do you believe there should be any stuff. I kind of think Keene's separate, on 21 21 22 22 incentives or penalties related to that

24

23 Q. Okay. Thank you. You have recommended that

the Commission require certain reporting

{DG 20-049} [HEARING ON MERITS] {06-18-20}

23

(603) 540-2083

24 A.

target date?

(Knepper) I don't know if there should be --

{DG 20-049} [HEARING ON MERITS] {06-18-20}

WITNESS: KNEPPER] Page 109 [WITNESS: KNEPPER]	Page 111
	-
well, I'm not a big fan of incentives. I  My first series of questi	0 0
think I don't think they need to be your proposed target date,	
incentivized any more. That's why we 3 Frost and Mr. Mostone tall	
terminated the program. But penalties, it factors that should be cons	
5 all depends upon if you if they're not 5 setting a target date, such a	
doing things properly. And so I think if we sewer project, the Nashua	
7 continue to see the milages you just heard 7 the traffic concerns of trying	_
8 that the last three years was around 11 miles 8 work in a city. Do you dis	
9 a year, and that's between municipal and 9 those are factors that could	
o self-initiated work. If we see those numbers 10 ability to meet any target of	
stay constant or in and around that, I don't 11 A. (Knepper) I think they can	
think we need any penalties, no. side of Manchester sewer a	•
3 Q. Okay. Thank you. And do you generally project has probably been	
support the Company's request here for don't know, 20 years. And	
recovery of the CIBS program cost for 2020? 15 dependent upon federal fur	•
6 A. (Knepper) Yes.  16 well know, those kind of n	
7 Q. Okay. Thank you.  17 projects get stretched out a	•
8 MS. FABRIZIO: I have no further 18 for a long period of time the	
9 questions for Mr. Knepper. 19 for different technologies s	•
O CHAIRWOMAN MARTIN: Okay. 20 even do that type of work.	
1 Ms. Robidas, are you still okay to 21 they actually go through, y	
2 keep going? 22 try to coordinate as much,	
COURT REPORTER: Yes, thanks. 23 as much planning, so that	•
4 CHAIRWOMAN MARTIN: Okay. Thank 24 something, it will not be in	n the way later
(DO 00 040) [UEADING ON MEDITO! (00 40 00)	DITC1 (06 49 90)
{DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON ME	R115] {00-10-20}
VITNESS: KNEPPER] Page 110 [WITNESS: KNEPPER]	Page 112
WITNESS: KNEPPER] Page 110 [WITNESS: KNEPPER]	Page 112
Page 110 [WITNESS: KNEPPER]  1 you.  1 and you wouldn't have to compare the second sec	Page 112
Page 110 [WITNESS: KNEPPER]  1 you. 2 Ms. Shute.  Page 110 [WITNESS: KNEPPER]  1 and you wouldn't have to compare the state of the stat	Page 112 do duplicate t. And that depends
Page 110 [WITNESS: KNEPPER]  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross.  Page 110 [WITNESS: KNEPPER]  1 and you wouldn't have to complete the page of the page o	Page 112 do duplicate t. And that depends don't want to wait
Page 110 [WITNESS: KNEPPER]  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you.  Page 110 [WITNESS: KNEPPER]  1 and you wouldn't have to complete the page of the page	Page 112 do duplicate t. And that depends don't want to wait quote, sewer
Page 110 [WITNESS: KNEPPER]  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you. 5 CHAIRWOMAN MARTIN: Okay. Mr. 5 [WITNESS: KNEPPER]  1 and you wouldn't have to complete any cross. 2 replacements or movemen upon where they are. So I forever for this, quote, under the complete security in the complete s	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I
Page 110 [WITNESS: KNEPPER]  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you. 5 CHAIRWOMAN MARTIN: Okay. Mr. 6 Sheehan. 6 [WITNESS: KNEPPER]  1 and you wouldn't have to complete any cross and you wouldn't have to complete any cross. 2 replacements or movement and you wouldn't have to complete and you wouldn't have and you wouldn't have and you wouldn't have to complete and you wouldn't have any you wouldn't ha	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I
Page 110 [WITNESS: KNEPPER]  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you. 5 CHAIRWOMAN MARTIN: Okay. Mr. 6 Sheehan. 6 Gon't know, an ongoing promote of the property	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been
you.  1 and you wouldn't have to complete the part of	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has
you.  Mr. Shute.  CHAIRWOMAN MARTIN: Okay. Mr.  Sheehan.  MR. SHEEHAN: Thank you. I have a few questions.  CROSS-EXAMINATION  Page 110 [WITNESS: KNEPPER]  and you wouldn't have to complete the page of the page	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and
you.  Mr. Shute.  CHAIRWOMAN MARTIN: Okay. Mr.  Sheehan.  MR. SHEEHAN: Thank you. I have a few questions.  CROSS-EXAMINATION  Page 110 [WITNESS: KNEPPER]  and you wouldn't have to complete the page of the page	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing
you.  MS. Shute.  MS. SHUTE: I don't have any cross.  Thank you.  CHAIRWOMAN MARTIN: Okay. Mr.  Sheehan.  MR. SHEEHAN: Thank you. I have a few questions.  CROSS-EXAMINATION  BY MR. SHEEHAN:  Q. First, Mr. Knepper, and you did say it in the  I and you wouldn't have to complete and you wouldn't have and you wouldn't have to complete and you wouldn't have to complete and you wouldn't have and you would	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of
you.  Ms. Shute.  Ms. Shute.  Ms. SHUTE: I don't have any cross.  Thank you.  CHAIRWOMAN MARTIN: Okay. Mr.  Sheehan.  MR. SHEEHAN: Thank you. I have a few questions.  CROSS-EXAMINATION  BY MR. SHEEHAN:  Q. First, Mr. Knepper, and you did say it in the middle of your testimony just now, but to  Ms. Shute.  1 and you wouldn't have to condination that you wouldn't have a preplacement of the placement of the plac	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of s do. I think
you.  1 and you wouldn't have to complete they are. So I and you wouldn't have to complete they are. So I and you wouldn't have to complete they are. So I and you wouldn't have to complete they are. So I and you wouldn't have to complete they are. So I and you wouldn't have to complete they are. So I and you where they are. So I are forever for this, quote, und you don't know, an ongoing property of the your sequence of the your and you don't know, an ongoing property aware of since I started.  8 So the Nashua one. Eare of the your don't know, an ongoing property aware of since I started.  9 CROSS-EXAMINATION 9 cities and towns and paving things like that. And you sequence they are. So I and you don't know, an ongoing property aware of since I started.  9 CROSS-EXAMINATION 10 things like that. And you sequence they are. So I and you wouldn't have to consider they are. So I and you wouldn't have to consider they are. So I are placements or movementy and you don't have a great in the aware. So I and you don't know, an ongoing property aware of since I started.  9 CROSS-EXAMINATION 10 things like that. And you sequence they are they are. So I are placements or movementy and you wouldn't have to consider they are placements or movementy are placements or movementy are placements or movementy are placements or movementy and you wouldn't have to consider they are placements or movementy are placements or movem	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of s do. I think don't want it to
you.  Ms. Shute.  Ms. Shute:  Ms. SHUTE: I don't have any cross.  Thank you.  CHAIRWOMAN MARTIN: Okay. Mr.  Sheehan.  MR. SHEEHAN: Thank you. I have a few questions.  CROSS-EXAMINATION  BY MR. SHEEHAN:  CROSS-EXAMINATION  BY MR. SHEEHAN:  CROSS-EXAMINATION  BY MR. SHEEHAN:  MR. SHE	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of s do. I think don't want it to hard and fast.
you.  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you. 5 CHAIRWOMAN MARTIN: Okay. Mr. 6 Sheehan. 7 MR. SHEEHAN: Thank you. I have a few questions. 8 few questions. 9 CROSS-EXAMINATION 0 BY MR. SHEEHAN: 1 Q. First, Mr. Knepper, and you did say it in the middle of your testimony just now, but to make clear, the CIBS program no labeled and you wouldn't have to condination that you wouldn't have and you don't know, an ongoing proper would have a separation project because the you wouldn't have and you wouldn't have and you don't know, an ongoing proper would have a separation project because the proving the you wouldn't have and you wouldn't	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of don't want it to hard and fast. word "targeted"
you.  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you. 5 CHAIRWOMAN MARTIN: Okay. Mr. 6 Sheehan. 7 MR. SHEEHAN: Thank you. I have a few questions. 8 Few questions. 9 CROSS-EXAMINATION 1 Q. First, Mr. Knepper, and you did say it in the middle of your testimony just now, but to make clear, the CIBS program and all of the longer exist as of the Commission order a  1 and you wouldn't have to or replacements or movement and you wouldn't have to or explacements or movement and you wouldn't have to or ordinate or movement and you wouldn't have a separation project because don't know, an ongoing proder and you wouldn't have to or explacements or movement and you wouldn't have to or explacements or movement and you wouldn't have to or explacements or movement and you wouldn't have a separation project because of the your have or separation project because	Page 112 do duplicate it. And that depends don't want to wait quote, sewer that's been, I oject that I've been ich town always has ag priorities and should be doing all kind of s do. I think don't want it to hard and fast. word "targeted" d that doesn't
you.  Ms. Shute.  Ms. SHUTE: I don't have any cross.  Thank you.  CHAIRWOMAN MARTIN: Okay. Mr.  Sheehan.  MR. SHEEHAN: Thank you. I have a few questions.  CROSS-EXAMINATION  BY MR. SHEEHAN:  CROSS-EXAMINATION  BY MR. SHEEHAN:  Q. First, Mr. Knepper, and you did say it in the middle of your testimony just now, but to make clear, the CIBS program and all of the components that comprise the CIBS program no longer axis as of the Commission order a you wouldn't have to cordinate to do and you wouldn't have to do replacements or movement and you wouldn't have to do n't know, an ongoing prodon't	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of s do. I think don't want it to hard and fast. word "targeted" d that doesn't d if you're hearing
you.  Mr. Shute.  CHAIRWOMAN MARTIN: Okay. Mr.  MR. SHEEHAN: Thank you. I have a grey cross.  CROSS-EXAMINATION  BY MR. SHEEHAN:  Q. First, Mr. Knepper, and you did say it in the middle of your testimony just now, but to make clear, the CIBS program and all of the components that comprise the CIBS program no longer exist as of the Commission order a questions that correct?  A. (Knepper) That's correct.  Q. And that was a recommendation of Staff, not the components that company, to terminate the CIBS program;  I and you wouldn't have to coreplacements or movemen a preplacements or movemen and you wouldn't have to coreplacements or movemen application in the proplacements or movemen application or coreplacements or movemen application in the proplacements or movemen application in the proplacement in the	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of s do. I think don't want it to hard and fast. word "targeted" d that doesn't d if you're hearing 're talking about, to object to
MITNESS: KNEPPER]  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you. 5 CHAIRWOMAN MARTIN: Okay. Mr. 6 Sheehan. 7 MR. SHEEHAN: Thank you. I have a few questions. 9 CROSS-EXAMINATION 1 Q. First, Mr. Knepper, and you did say it in the middle of your testimony just now, but to make clear, the CIBS program and all of the components that comprise the CIBS program no longer exist as of the Commission order a year ago; is that correct? 7 A. (Knepper) That's correct. 8 Q. And that was a recommendation of Staff, not  1 and you wouldn't have to or replacements or movemen and you one they are so or don't know, an ongoing prode on't know, an ongoing prode on'	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of s do. I think don't want it to hard and fast. word "targeted" d that doesn't d if you're hearing 're talking about, to object to
you.  Mr. Shute.  CHAIRWOMAN MARTIN: Okay. Mr.  MR. SHEEHAN: Thank you. I have a grey cross.  CROSS-EXAMINATION  BY MR. SHEEHAN:  Q. First, Mr. Knepper, and you did say it in the middle of your testimony just now, but to make clear, the CIBS program and all of the components that comprise the CIBS program no longer exist as of the Commission order a questions that correct?  A. (Knepper) That's correct.  Q. And that was a recommendation of Staff, not the components that company, to terminate the CIBS program;  I and you wouldn't have to coreplacements or movemen a preplacements or movemen and you wouldn't have to coreplacements or movemen application in the proplacements or movemen application or coreplacements or movemen application in the proplacements or movemen application in the proplacement in the	Page 112 do duplicate it. And that depends don't want to wait quote, sewer that's been, I oject that I've been ich town always has ag priorities and should be doing all kind of don't want it to hard and fast. word "targeted" d that doesn't d if you're hearing 're talking about, to object to ust kind of what
you.  MS. Shute.  MS. SHUTE: I don't have any cross.  Thank you.  CHAIRWOMAN MARTIN: Okay. Mr.  MR. SHEEHAN: Thank you. I have a few questions.  CROSS-EXAMINATION  MY. SHEEHAN:  CROSS-EXAMINATION  MY. So the Nashua one. Early cities and towns and paving things like that. And you seem that as well. To me, that's coordination that you guyst make clear, the CIBS program and all of the components that comprise the CIBS program nor longer exist as of the Commission order a year ago; is that correct?  A. (Knepper) That's correct.  A. (Knepper) Th	Page 112 do duplicate it. And that depends don't want to wait quote, sewer that's been, I oject that I've been ich town always has ag priorities and should be doing all kind of don't want it to hard and fast. word "targeted" d that doesn't d if you're hearing 're talking about, to object to just kind of what e you trying to do
MINNESS: KNEPPER]  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you. 5 CHAIRWOMAN MARTIN: Okay. Mr. 6 Sheehan. 7 MR. SHEEHAN: Thank you. I have a few questions. 9 CROSS-EXAMINATION 10 BY MR. SHEEHAN: 11 and you wouldn't have to company to terminate the CIBS program no longer exist as of the Company, to terminate the CIBS program; 10 Q. And in fact, the Company objected to it for a number of reasons, and the Commission  1 you. 1 and you wouldn't have to company to thave to a replacements or movemen a upon where they are. So I and you wouldn't have to company to this, quote, und separation project because don't know, an ongoing program aware of since I started. 8 So the Nashua one. Ea cities and towns and pavin things like that. And you separation project because to conditation this, quote, und separation project because to conditation this, and you did say it in the that as well. To me, that's	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of s do. I think don't want it to hard and fast. word "targeted" d that doesn't d if you're hearing 're talking about, to object to ust kind of what e you trying to do I guess. So from rlier testimony
MITNESS: KNEPPER]  1 you. 2 Ms. Shute. 3 MS. SHUTE: I don't have any cross. 4 Thank you. 5 CHAIRWOMAN MARTIN: Okay. Mr. 6 Sheehan. 6 Gon't know, an ongoing promover of the varies of the Components that comprise the CIBS program and all of the spear ago; is that correct? 7 A. (Knepper) That's correct. 8 Ms. Shute. 1 and you wouldn't have to components or movements and you wonldn't have to components or movements and you wonldn't have to components or movements and you wonldn't have to components or movements. So I was not project because don't know, an ongoing promover and you day aver of since I started.  8 So the Nashua one. Ea cities and towns and pavin things like that. And you started.  9 cities and towns and pavin things like that. And you started.  10 things like that. And you started.  11 that as well. To me, that's coordination that you guys you're doing it now. But I was I think I was a final he said that it was I think I was I think I was I think I was I think I was I think	Page 112 do duplicate t. And that depends don't want to wait quote, sewer that's been, I oject that I've been ch town always has ag priorities and should be doing all kind of s do. I think don't want it to hard and fast. word "targeted" d that doesn't d if you're hearing 're talking about, to object to ust kind of what e you trying to do I guess. So from rlier testimony

[WITNES	SS: KNEPPER] Page 113	[WIT	NES	SS: KNEPPER] Page	115
1	of coincide with the same number that I had	-		no. Talking about what amount and where, I	''d
2	put in my testimony.	1 2		have to take that into consideration before I	u
3 Q.	Do you have any specific information about	3		answer that question.	
	the Manchester project of recent that says		Q.	And do you disagree with the Company's	
4	it's a go or a no-go, or is it just general	5	Q.	testimony that the cities impose requirements	
5 6	knowledge that it's been in the works	6		sometimes apparently well, they impose	•
7	forever, and from your perspective, who knows	7		requirements such as hours of the day or the	
8	when it will actually happens?	8		like that makes projects more difficult to	
9 A.	(Knepper) I think the latter, what you just	9		complete as timely as first anticipated?	
10	said.	10	Δ	(Knepper) Yeah, we've noticed that when we	're
11 Q.	So if the Company has information that it's	11	11.	in the field doing inspections, that cities	, 10
12	more likely to proceed, it would be wise to	12		are imposing more and more costs on to these	e
13	at least wait some time to see in fact what	13		projects which is driving up those rates.	
14	the city is going to do and work around those		Q.	And so slowing things down; correct?	
15	plans, even if it were to push the finished	15		(Knepper) I couldn't hear you, Mike.	
16	date out beyond 2025 by a few years. Would	16		And slowing things down.	
17	that be wise?		A.	(Knepper) Yeah. If they say you can't	
18 A.	(Knepper) I think that's wise. But again, I	18		start like in Nashua, I believe, they'll	
19	don't know if they are at what stage of	19		say things like you can't start until after	
20	completion are they at. Are they at the	20		the morning rush and then you've got to be	
21	90 percent completion of drawing drawings and	21		done before the evening rush, which means y	ou/
22	bidding it and that kind of stuff? I'm	22		can't start normally at 7:00 a.m. I now	
23	guessing they're probably at the trying to	23		start at 9:00 and I got to be finished by	
24	get federal money stage. But I don't know.	24		3:00. That reduces the amount of work hours	s
	{DG 20-049} [HEARING ON MERITS] {06-18-20}			{DG 20-049} [HEARING ON MERITS] {06-18-20}	
[WITNES	SS: KNEPPERI Page 114	ſWIT	NES	SS: KNEPPERI Page	116
	SS: KNEPPER] Page 114		NES	SS: KNEPPER] Page	
1	But I do think the Company should definitely	1	NES	in a day, and that means you have to go back	
1 2	But I do think the Company should definitely factor that into consideration, yes.	1 2	NES	in a day, and that means you have to go back the same day and you can't get what you coul	
1 2 3 Q.	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor	1 2 3	NES	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of	
1 2 3 Q.	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that	1 2 3 4		in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.	
1 2 3 Q. 4 5	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?	1 2 3 4 5		in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements. And in that example, I think Mr. Mostone	
1 2 3 Q. 4 5 6 A.	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics,	1 2 3 4 5 6		in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements. And in that example, I think Mr. Mostone referenced it, the practice I think it's a	
1 2 3 Q. 4 5 6 A. 7	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the	1 2 3 4 5 6 7		in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements. And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole	
1 2 3 Q. 4 5 6 A. 7	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if	1 2 3 4 5 6 7 8		in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if	ld
1 2 3 Q. 4 5 6 A. 7 8	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should	1 2 3 4 5 6 7 8		in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to	ld
1 2 3 Q. 4 5 6 A. 7 8 9 10	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you	1 2 3 4 5 6 7 8 9		in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work	ld
1 2 3 Q. 4 5 6 A. 7 8 9 10 11	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date? (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street	1 2 3 4 5 6 7 8 9 10		in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole	ld
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date? (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on	1 2 3 4 5 6 7 8 9 10 11	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?	ld
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is,	1 2 3 4 5 6 7 8 9 10 11 12	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what	ld
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.	1 2 3 4 5 6 7 8 9 10 11 12 13	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're	ld O
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14 15 Q.	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know the	ld O
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date? (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or approvals they need to do the whole project	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're	ld O
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14 15 Q. 16	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or approvals they need to do the whole project and it's a ten-year project, would it be	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know that would be imposed versus some other sid street where there isn't much traffic.	ld o at hat le
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14 15 Q. 16 17	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or approvals they need to do the whole project and it's a ten-year project, would it be reasonable to make sure you're not putting in	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know the that would be imposed versus some other side.	ld o at hat le
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14 15 Q. 16 17 18	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or approvals they need to do the whole project and it's a ten-year project, would it be	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know that would be imposed versus some other sid street where there isn't much traffic.  Yeah. I mean, we all know it's coming. But	ld o at hat e
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14 15 Q. 16 17 18 19	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or approvals they need to do the whole project and it's a ten-year project, would it be reasonable to make sure you're not putting in pipe today that's going to have to be moved	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know that would be imposed versus some other sid street where there isn't much traffic. Yeah. I mean, we all know it's coming. But it's just a factor that will increase as we	ld o at hat e
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14 15 Q. 16 17 18 19 20	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date? (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or approvals they need to do the whole project and it's a ten-year project, would it be reasonable to make sure you're not putting in pipe today that's going to have to be moved on year seven?	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know that would be imposed versus some other sid street where there isn't much traffic.  Yeah. I mean, we all know it's coming. But it's just a factor that will increase as we do more and more of the final streets in	ld o at hat le
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14 15 Q. 16 17 18 19 20 21 A.	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date?  (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or approvals they need to do the whole project and it's a ten-year project, would it be reasonable to make sure you're not putting in pipe today that's going to have to be moved on year seven?  (Knepper) I'd have to kind of look at the	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know that would be imposed versus some other sid street where there isn't much traffic. Yeah. I mean, we all know it's coming. But it's just a factor that will increase as we do more and more of the final streets in downtown. Is that fair?	ld o hat he
1 2 3 Q. 4 5 6 A. 7 8 9 10 11 12 13 14 15 Q. 16 17 18 19 20 21 A. 22	But I do think the Company should definitely factor that into consideration, yes.  And would it have been wise for you to factor that in to determine where they were on that project before setting a 2025 target date? (Knepper) Well, I don't have the specifics, so I didn't have the specifics of the project when I wrote my testimony. So if there is specifics, yeah, I think you should definitely factor that in. If they tell you they're going to be working on this street this year and they're going to be working on this street the next year and what that is, definitely you should factor that in.  And if they received whatever permissions or approvals they need to do the whole project and it's a ten-year project, would it be reasonable to make sure you're not putting in pipe today that's going to have to be moved on year seven? (Knepper) I'd have to kind of look at the specifics before I answer that question. I	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Q.	in a day, and that means you have to go back the same day and you can't get what you coul get done if they didn't impose those kind of requirements.  And in that example, I think Mr. Mostone referenced it, the practice I think it's a requirement of the Company to fill the hole every day at the end of the work day. So if you have a nine to three window, you have to show up at nine, dig the hole, do the work and stop the work in time to fill the hole back up before three; is that correct?  (Knepper) Right. I also think they know what streets those are going to be on. So you're working on Main Street. You would know the that would be imposed versus some other sid street where there isn't much traffic. Yeah. I mean, we all know it's coming. But it's just a factor that will increase as we do more and more of the final streets in downtown. Is that fair?  (Knepper) Yup. I believe that's another	ld o hat he

[WITNESS: KNEPPER] Page 117 [WITNESS: KNEPPER] Page 119 of the heart of the city, and the more I don't know if you're getting a delay from costlier projects. 2 me. But I'm there. 2 3 Q. Did you figure the delays associated with Okay. Second line -- well, the first line 3 O. 4 those kinds of things when you stated your 4 described Northern's program in one sentence. 2025 target? Second sentence, the program went for ten 5 5 years through 2020. Do you see that? Sorry. 6 A. (Knepper) I think that, yes, because I'd 6 already reduced going from 10 miles a year to 7 Through 2000. 7 11 miles a year down to 7. So I think the A. (Knepper) Which line? 8 8 answer is I think that's all -- if I were to The second full sentence, I'll just read it 9 9 O. slowly. "Northern was allowed to recover factor that in. I would say that would be 10 10 part of that consideration. I can't hear bare steel replacement costs through annual 11 11 12 you. 12 step adjustments for ten years, with the last 13 Q. Thank you. I marked a few exhibits from last bare steel step adjustment occurring in 13 2000." Do you see that? 14 year, Staff's recommendations from earlier in 14 the year that Mr. Frink wrote recommending (Knepper) I see that. 15 15 A. termination of the program, Mr. Frink's And then the rest of that sentence, "After 16 17 testimony which had some of that same 17 which Northern's bare steel replacement information, and an excerpt of testimony from program continued until all bare steel was 18 18 eliminated from its distribution system in last year's hearing. I don't need to go 19 19 through those in detail, but they're there if 2018." Correct? 20 20 any of us need to refer to them for the (Knepper) I see that, yeah. 21 21 A. following few questions. So their accelerated recovery version of the 22 22 O. First, do you agree that administrative program ended in the 2000, and they spent 23 23 burden was one reason for Staff's another 18 years removing the balance of 24 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20} [WITNESS: KNEPPER] Page 118 [WITNESS: KNEPPER] Page 120 recommendation to terminate the CIBS program? their bare steel: is that correct? (Knepper) I believe that's what he mentioned A. (Knepper) That's correct. 2 on those, one of the reasons, yes. 3 Q. Okay. 3 4 Q. Yeah, I think you just recited a few minutes 4 A. (Knepper) And it wasn't really until there ago the components of that administrative was a mandate by the Commission to say get it 5 5 6 burden: correct? 6 done by 2018 that they got it done by 2018. So if there wasn't any mandate, I would A. (Knepper) Yeah. It may not be word-for-word 7 7 but -assume that it would have extended even 8 8 9 Q. Understood. 9 further. 10 A. (Knepper) -- but the gist. The other piece that I marked was an excerpt 10 O. 11 O. Last year there was a comparison to what from testimony last year. I just cut a few 11 happened with Northern Utilities a decade ago pages. This is Exhibit 6. And the pages I 12 12 when their program was terminated. Do you excerpted begin at Bates 4, which is Page 95 13 13 of that testimony. Let me know when you're 14 recall that? 14 15 A. (Knepper) Yeah, that's part of -- I'd have to there, please. 15 kind of -- I didn't really focus on that. So (Knepper) I'm there. 16 16 A. you'd have to point me to the page that The question at the top of the page is me, 17 17 O. you're referring to if you want me to and then Mr. Frink gives an answer for a 18 18 period. And then I ask another question 19 comment. 19 20 O. Sure. It is in -summarizing what part of the current CIBS 20 21 A. (Knepper) Is it Exhibit 4 or 5? process would no longer happen, other than 21 22 O. Yeah, Exhibit 4, Mr. Frink's testimony, Bates 22 the yearly rate increases. And Mr. Frink Page 10. Are you there? starts to give an answer. If you scroll to 23 23 24 A. (Knepper) Yeah, I'm getting a delay from you. Page 96, he defers to you. And then you 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20}

[WITNESS: KNEPPER] Page 121 [WITNESS: KNEPPER] Page 123 1 begin answering on Page 96 of the transcript, Certainly without the program, the way the Bates 5. Do you see that? Company would recover CIBS cost is through a 2 3 A. (Knepper) I do. Looks like Line 13. rate case where it would provide information 3 4 O. Correct. And bear with me a second. At the 4 like it does for all its other capital end of Bates Page 96 and into 97 you describe projects supporting the rate case. And of 5 5 the spreadsheet and all the data in it and course it's for the Commission to decide 6 6 7 the report. And you say, quote, "I view all 7 whether that information is sufficient to of that as not having to be done." Do you 8 8 establish the prudency of those costs. Is 9 see that? 9 that fair? 10 A. (Knepper) Yup. (Knepper) Yeah. And I would expect if we 10 A. 11 Q. And then you say, in effect, what you need don't get this on an annual basis for the 11 12 for information going forward is, quote, "'We 12 amount of dollars, that'll probably be the replaced nine miles,' close quote. They first question you get during a rate case is, 13 13 "Please provide similar information in these 14 don't have to say, 'I replaced 550 feet on 14 Blodget Street or whatever." And then later 2,000 cells on a project-by-project basis." 15 15 in that paragraph you have a sentence that So I think we'll either get it upfront or 16 16 begins with "And so." And everyone can see 17 17 we'll get it at the end at a rate case level. We'll probably get the detail that we need to 18 that. 18 But you're basically saying let the be able to analyze the prudency. 19 19 Company do it, and we don't need to be And it would be fair to say that -- well, 20 20 O. getting all the information and micromanaging strike that. 21 21 that process. Is that a fair (Knepper) I lost you again, Mike. Sorry. 22 22 A. characterization? CHAIRWOMAN MARTIN: Mr. Sheehan, I 23 23 24 A. (Knepper) Yeah. But I think if you look at think you're on mute. 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20} [WITNESS: KNEPPER] Page 122 [WITNESS: KNEPPER] Page 124 the -- to me it says we're not of like minds, MR. SHEEHAN: Yes, I'm sorry. Mr. Frink and myself. He believes from a BY MR. SHEEHAN: 2 2 financial side of the equation he needs to Q. I think my last question is, and I think you 3 have all that information. answered it, the Company is requesting a 4 4 5 Q. But it's your testimony in this docket, Mr. certain rate adjustment in this case as 5 6 Knepper, that's proposing the new information 6 outlined in Ms. McNamara's testimony. And I to be provided; correct? think you said that Staff has no objection to 7 7 8 A. (Knepper) Opposing new information being that particular request. Is that fair? 8 9 provided? 9 A. (Knepper) That's fair. 10 Q. Proposing. Thank you. O. 10 11 A. (Knepper) Yeah, I think it's reasonable to go 11 MR. SHEEHAN: I have no further from just saying we're going to spend \$25 12 12 questions. million over 11 miles to be able to give more CHAIRWOMAN MARTIN: All right. 13 13 detail to that, a description of it and where 14 14 Thank you. Commissioner Bailey. you're going to go and how many services and COMMISSIONER BAILEY: Thank you. 15 15 some basic information. Do I need to know INTERROGATORIES BY COMMISSIONERS: 16 16 the dates, the ages of things? Probably not. BY COMMISSIONER BAILEY: 17 Do I need to have all the cost estimates and Q. I'm really sorry, but I'm a little bit 18 18 variances? Probably not. But I do think we confused. So we have the spreadsheet that is 19 19 need to have something more than in a single in the Company's testimony. That's 20 20 line. And I think that's what I was trying Attachment A. And we have a different 21 21 22 to express in my testimony. I don't know if 22 spreadsheet in your testimony, Mr. Knepper. I gave it justice or not, but that's what I That's Attachment 7. And they're not exactly 23 23

24

was looking to do.

{DG 20-049} [HEARING ON MERITS] {06-18-20}

24

the same thing; right? Looks like it's --

{DG 20-049} [HEARING ON MERITS] {06-18-20}

[WITNESS: KNEPPER] Page 125 [WITNESS: KNEPPER] Page 127 1 A. (Knepper) Let me look at what Attachment 7 (Knepper) So right now there's no CIBS program going on, because this hearing's 2 3 Q. Attachment 7 is what you -- I think it's a talking about last year's CIBS program. You 3 4 response to a data request that you 4 can see that's a lot less than the 2,000-cell recommended. That's the reporting spreadsheet, the 66 columns, call it 39 or 5 5 information that we could require. whatever, associated with the 39 projects. 6 (Knepper) Yeah. So let me kind of go over 7 This is a lot less. But it does give 7 A. that, if I can clarify that a little bit. important information. It gives information 8 8 9 Q. Okay. 9 about is it cast iron or is it bare steel. 10 A. (Knepper) So in Attachment 6A, when we asked Gives you length. You know, gives you 10 the Company what kind of information we would whether it's going to be abandoned and 11 11 12 get for this year's program, I highlighted a 12 re-laid. And did give a cost estimate, and single row. And it said basically -it told you kind of the scope of the work. 13 13 (connectivity issue) 14 14 So I think something like that is not (Court Reporter interrupts.) burdensome to the Company to provide. 15 15 16 A. (Knepper) Said \$9 million in capital expense, 16 O. Okay. 17 approximately. And that's it. And so that 17 A. (Knepper) But I do think that the Company was just to kind of emphasize it. And then needs to be aware that if they don't keep 18 18 in 6B I listed the kind of information that this format that they have for this 19 19 we get from an E22 currently. And you can 2,000-cell spreadsheet, they can expect the 20 20 see it doesn't -- you know, it just talks Staff, during a rate proceeding when they 21 21 about growth. It does say replacement. And come in for rates, to say we want it on a 22 22 it doesn't give a lot of detail. So what I'm segment-by-segment basis. And we're going to 23 23 trying to do in Attachment 7, when we asked be looking for similar information because 24 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20} [WITNESS: KNEPPER] Page 126 [WITNESS: KNEPPER] Page 128 the data request, the discovery request to Staff knows that they have the ability to 1 get more information on those E22s, Liberty extract that. And we also kind of think it 2 2 then provided a spreadsheet on Bates Page does give a lot more of a telling story as to 3 3 106. And that starts to put a little bit what did you plan, what did you do, when did 4 4 more definition to those numbers. And that's you start, what did you accomplish, what were 5 5 6 what I was trying to say is that kind of 6 the reasons. And when you start putting that detail would be helpful. But again, we would on there, the spreadsheet gets big. 7 7 ask that the Commission order some sort of So if they were -- if the Commission were to 8 O. 8 9 detailed report like that. Or they can just 9 order them to provide you the information in use the existing format that they have now, Attachment 7 in your testimony, and then a 10 10 rate case came up, would they still need to 11 that's currently -- that they've been using 11 for 12 years. provide the big 2,000-cell spreadsheet 12 12 information if they're going to have to do 13 Q. Sorry. I'm having trouble getting my mouse 13 between screens and unmuting and looking at 14 14 that anyway? the information in your testimony. (Knepper) Well, it's hard for me to -- I 15 15 A. So the information that they've been don't want to speak out of turn for Mr. 16 16 providing for years is the big, huge, giant 17 Frink. But I would expect that would be a 17 spreadsheet that's in Attachment A in their data request that they would ask for very 18 18 19 testimony. So Attachment 7 is a subset of 19 early in the process. So your point is they might as well continue 20 that. 20 O. (Knepper) That's kind of what they propose to file that 2,000-cell spreadsheet on an 21 21 A. annual basis because they're going to have to 22 for -- that's what they showed that's going 22 on, activity that's going on right now. produce it anyway. And so is it your 23 23 24 Q. Okay. recommendation then that we require that 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20}

2020 CAST IRON/BARE STEEL REPLACEMENT PROGRAM RESULTS June 18, 2020 Page 129 [WITNESS: KNEPPER] [WITNESS: KNEPPER] Page 131 rather than what you have in Attachment 7? 1 that that's -- it can't -- it shouldn't be (Knepper) I think if the Commission orders 2 that much of a burden for them. and it's made known, then they know they're Q. And by "this," you mean the big spreadsheet? 3 3 4 going to have to do it. And whether it's 4 A. (Knepper) Yes. Okay. So on the timing of when they should upfront or not -- right now they -- but there 5 Ο. 5 would just be no -- I guess it would help the finish the CIBS project, I think that your 6 6 7 Staff because it gives you an idea as to how 7 basic position is they have 56 miles left. many bare steel services are remaining, how They've been doing about 11 miles a year. So 8 8 they should be able to finish it in five 9 much -- which projects get done. Answers all 9 those questions like, you know, there's years. Is that kind of where you got to --10 10 6 miles left in Concord and how much got done (Knepper) I think so. I think that the 11 A. 11 12 in Manchester and all those things to help in 12 original 2024 date's getting extended to coordination with what you're talking about a 2025. So I think that it will. Now, whether 13 13 it's down to the last foot and down to the 14 city and sewer water project that the City of 14 Manchester is considering and those kind of absolute that I've gotten every single thing 15 15 things. out, I don't think that's our concern. But 16 16 17 Q. Is it possible that if you had time, you and 17 our concern is without having a goal, it will Mr. Frink had time with the Company to look get -- it will extend. And, you know, when 18 18 at the gigantic spreadsheet, that you could I'm dealing with pipes that are well over --19 19 maybe trim it down a little bit and get rid that were put in when horses were still on 20 20 of some of the columns so that it wasn't these streets, we need to remove those pipes. 21 21 quite as massive and that it would satisfy I understand. I am a little sympathetic to 22 22 O. both the requirement for you to keep track of the Company's argument about not having to 23 23 the progress with CIBS and also satisfy Mr. move the pipes twice. And I think what you 24 24 {DG 20-049} [HEARING ON MERITS] {06-18-20} {DG 20-049} [HEARING ON MERITS] {06-18-20} [WITNESS: KNEPPER] Page 130 [WITNESS: KNEPPER] Page 132 Frink for the rate case? said is work with the city, find out when (Knepper) I guess we could look at what kind they're going to do the sewer separation 2 of things -- I mean, I'm really looking at project in earnest. And to the extent that 3 3 it, Commissioner Bailey, from an operational 4 they can move them now and move them to a 4 standpoint -location where the sewer separation project 5 5 6 Q. Right. 6 won't be impacted, that would be the best 7 A. -- and he's kind of looking at it from a thing. But if --7 financial aspect. And the two kind of (Knepper) I would expect them to do that. 8 A. 8 9 intermingle. So I tend to look at stuff on a 9 O. But if the sewer separation project were project-by-project basis. And so are you happening, say completing in seven years from 10 10 planning on replace 22-inch. now, would you expect them to open the street 11 11 So in my opinion, that one spreadsheet up next year, replace five miles in Nashua 12 12 is not a huge burden. It is a burden more [sic], and then I guess they would have to 13 13 than nothing. But I think we're eliminating pay for all the paying, and then the city 14 14 having a hearing, having to cut out samples, opens it up again in the next five years? 15 15 analyze them, having to -- you know, prior to (Knepper) If you told me that was an absolute 16 A. 16 17 this spreadsheet, they gave us -- you know, it was going to be done in seven years and 17 Brian Frost would give us plans that showed you're going to make that commitment, that's 18 18 one thing. What I find is that this project 19 GIS, you know, where it starts and stops, and 19 all the leak history that goes with it. has been lingering for decades, and the 20 20

21 22

23

24

There's many, many, many more pages

than just that one spreadsheet. So I think

if we eliminate all that other stuff, and the

only thing remaining is this, I would say

{DG 20-049} [HEARING ON MERITS] {06-18-20}

21

22

23

24

answer is I can't wait forever. And at some

to know is even the existing polyethylene

{DG 20-049} [HEARING ON MERITS] {06-18-20}

Now, the other thing you need to take --

point in time we have to remove it.

DG 20-0 2020 C	049 LIBERTY UTILITIES (ENERGYNORTH NATURAL ( AST IRON/BARE STEEL REPLACEMENT PROGRAM	GAS RES	) ULT:	HEARING ON THE MERITS June 18, 2020
[WITNE:	SS: KNEPPER] Page 133	[WI	TNES	SS: KNEPPER] Page 135
1	pipe that they have replaced, let's say six	1		a clarification. So last year it was Staff's
2	years ago, if that's in the way, that's going	2		recommendation and your recommendation that
3	to get moved. So either way they're going to	3		the CIBS project should be immediately
4	be moving pipe if it interferes with the	4		terminated.
5	project. So I look at it and say, well, I'd	5	A.	(Knepper) Yup.
6	have to look at it in context of how much of	6	Q.	And the Commission decided and ordered that
7	their pipeline system is going to be affected	7		it would be deferred one year; is that
8	by this sewer water or sewer interceptor	8		correct?
9	project. So you'd probably have to look at	9	A.	(Knepper) Yup.
10	it in those terms.	10	Q.	•
11 Q.	Okay. And if they did look at it earnestly	11	A.	(Knepper) The reason is because we gave
12	in those terms, you can't really bind them to	12		advanced notice to the Company even before
13	five years then. But you can we could say	13		that, that we're winding down.
14	the target is five years, but work with the	14	Q.	Okay. I understand.
15	City of Manchester and get it done within no	15		What I thought I also heard you say is
16	later than ten years or something.	16		that you're supportive and that you will
17 A.	(Knepper) I find if the Commission doesn't	17		continually encourage the Company to work
18	mandate or put a target on it, it just goes	18		with the cities in coordinating and getting
19	on forever.	19		things done as quickly as possible. Is that
20 Q.	· · · · · · · · · · · · · · · · · · ·	20		right?
21 A.	(Knepper) And I think, in my opinion, what	21	A.	(Knepper) Not only supportive, that would be
22	you initially heard from Liberty this morning	22		my expectation.
23	was they wouldn't give you a date, wouldn't	23	Q.	Okay. And I want to touch finally on what
24	get there, and you had to kind of get it out	24		Commissioner Bailey was suggesting. And I'm
	{DG 20-049} [HEARING ON MERITS] {06-18-20}			{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE:	SS: KNEPPER] Page 134	[WI	TNES	SS: KNEPPER] Page 136
1	of them town-by-town. And you kind of got	1		wondering did you feel like there would be a
2	out that they think they can do most of it in	2		meeting of the minds with respect to the
3	five years and that there's some stragglers.	3		reporting requirements, or are you so far
4	That's a lot different than at the beginning	4		apart with what you think the Company wants
5	they just kind of said, well, we'll get to it	5		and what you need and what Mr. Frink may need
6	on a practical basis when we can get to it.	6		that, you know, you can't resolve that and
7	So I think the strongest point is if the	7		you would need the Commission to order that
8	Commission is doing that, it sets a tone that	8		immediately?
9	this is important to remove this, and it	9	A.	(Knepper) Well, you know, when we asked them
10	gives a targeted date. It's not an absolute.	10		for this year when there wasn't a cast
11	And it doesn't say every footage. But if	11		iron/bare steel program, right they're
12	we're down to that, we're going to be down to	12		replacing main as we speak right now what
13	less than 5 miles, 6 miles out of the	13		do you have for associated information, they
14	which is going to be less than probably	14		started out with that one line. That's it?
15	2 percent of their system I think at that	15		Well, that kind of told me that absent
16	point in time, I'll be pretty satisfied.	16		this and then we had then they kind of
17 Q.	Okay. Great. Thank you very much.	17		got down to a little bit more detail, and
18	COMMISSIONER BAILEY: That's all I	18		then finally the third discovery question we
19	have Madam Chair.	19		got to it. And so, you know, I was kind of
20	CHAIRWOMAN MARTIN: All right.	20		afraid like we were going cold turkey, that
21	Thank you, Commissioner Giaimo.	21		we had a lot of data information coming in
D D	V COMMISSIONED CLAIMO:	1		with a lot of dollars in avnanditures

24

22 BY COMMISSIONER GIAIMO:

23 Q. I have just a couple quick clarifications.

So, good afternoon Mr. Knepper. I want

{DG 20-049} [HEARING ON MERITS] {06-18-20}

22

23

24

with a lot of dollars in expenditures

associated with it, and then all of a sudden

we're not getting anything. I didn't want --

{DG 20-049} [HEARING ON MERITS] {06-18-20}

		SS: KNEPPER] Page 137	1			Page 139
[			[		•	ago loo
1	_	I wanted to make sure that does not happen.	1	_	what the Commission decided last year.	
2 (	Q.	I understand that, Mr. Knepper. But you also	2	Q.	Okay. Thank you. I have no further	
3		said that it's a question of do we need	3		questions.	
4		the we're going to get the information now	4		Y CHAIRWOMAN MARTIN:	
5		or we're going to get it before a rate case.	5	Q.	Okay. My question is really related to th	
6		Eventually you're going to get the	6		question about the sewer project. And M	
7		information.	7		Sheehan said if the Company had inform	atıon
	A.	(Knepper) Right.	8		that the sewer project is likely to	
	Q.	The Company understands	9		proceed I would like to ask that question	on
10		(Knepper) From my standpoint	10		to the Company. If you have specific	
11 (	_	·	11		information that it is likely to proceed at	
12	A.	(Knepper) From my standpoint, I could live	12		certain time frame, could you please prov	/ide
13		with what's in Attachment 7. But I'm also	13		that now.	
14		not speaking for Mr. Frink.		A.	(Frost) Good afternoon. Brian Frost here	
15		COMMISSIONER GIAIMO: Okay. And I	15		The City of Manchester sent us a constru	ction
16		don't know to the extent it's appropriate,	16		plan for the first major east side projects	
17		but maybe Mr. Sheehan could maybe think about	17		earlier this summer. It involves creating	
18		that and incorporate something to that effect	18		main drain roughly in the area of Salmon	l
19		in his closing.	19		Street and North Street. After that is	
20		Okay. Thank you. That's all the	20		complete, in the next one to two years the	-
21		questions I have.	21		would move into neighborhoods. They h	
22		CHAIRWOMAN MARTIN: All right.	22		made the city has made a formal reque	
23		Thank you. I don't have any questions	23		for us to start considering replacement ar	
24		remaining. So back to you, Ms. Fabrizio.	24		movement of our pipes next year in that a	area.
		{DG 20-049} [HEARING ON MERITS] {06-18-20}			(DG 20-049) [HEARING ON MERITS] (06-18-20)	
[WITI	NES	{DG 20-049} [HEARING ON MERITS] {06-18-20} SS: KNEPPER] Page 138	[WI	TNES		Page 140
	NES	SS: KNEPPER] Page 138			S: KNEPPER]	Page 140
[WITI	NES	SS: KNEPPER] Page 138  I do have a request. I'd like to				
1	NES	SS: KNEPPER] Page 138	1		S: KNEPPER] Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh	
1 2	NES	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms.	1 2		S: KNEPPER] Okay. Thank you. That's helpful.	
1 2 3	NES	I do have a request. I'd like to ask another question of the Company related	1 2 3		Okay. Thank you. That's helpful.  CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that	eehan, do
1 2 3 4	NES	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue).	1 2 3 4		Okay. Thank you. That's helpful.  CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question?	eehan, do
1 2 3 4 5	NES	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost	1 2 3 4 5		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank	eehan, do
1 2 3 4 5	NES	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue).  CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio	1 2 3 4 5		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay	eehan, do
1 2 3 4 5 6 7	NES	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more	1 2 3 4 5 6 7		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou	you. Thank
1 2 3 4 5 6 7 8	NES	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue).  CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question.  MS. FABRIZIO: Thank you, Madam Chair.	1 2 3 4 5 6 7 8		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits	you. Thank
1 2 3 4 5 6 7 8		I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION	1 2 3 4 5 6 7 8		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits I through 6 and admit them as full exhibits	you. Thank
1 2 3 4 5 6 7 8 9		I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION	1 2 3 4 5 6 7 8 9		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits I through 6 and admit them as full exhibits Is there anything else that any of	you. Thank
1 2 3 4 5 6 7 8 9 10 11		I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that	1 2 3 4 5 6 7 8 9 10		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits through 6 and admit them as full exhibits Is there anything else that any of the parties thinks we need to do before w	you. Thank
1 2 3 4 5 6 7 8 9 10 11	В	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its	1 2 3 4 5 6 7 8 9 10 11 12		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits through 6 and admit them as full exhibits Is there anything else that any of the parties thinks we need to do before w to closing?	you. Thank
1 2 3 4 5 6 7 8 9 10 11 12 13	В	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct?	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits I through 6 and admit them as full exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response]	you. Thank
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	BY Q.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct? (Knepper) Yeah. I just want to make sure	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay.	you. Thank  tt  e go  Seeing
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	BY Q.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct? (Knepper) Yeah. I just want to make sure everybody's aware. When the program the	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits through 6 and admit them as full exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay. none, let's get closing statements, beginn	you. Thank  tt  e go  Seeing
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	BY Q.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct? (Knepper) Yeah. I just want to make sure everybody's aware. When the program the CIBS program is over, I would like to replace	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits through 6 and admit them as full exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay. none, let's get closing statements, beginn with Ms. Shute.	you. Thank  tt  s. ee go Seeing
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	BY Q. A.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue).  CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question.  MS. FABRIZIO: Thank you, Madam Chair.  REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct? (Knepper) Yeah. I just want to make sure everybody's aware. When the program the CIBS program is over, I would like to replace leak-prone pipe, yes.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay. none, let's get closing statements, beginn with Ms. Shute. MS. SHUTE: Thank you, Chairwo	you. Thank  tt  s. ee go Seeing
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	BY Q.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue).  CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question.  MS. FABRIZIO: Thank you, Madam Chair.  REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct? (Knepper) Yeah. I just want to make sure everybody's aware. When the program the CIBS program is over, I would like to replace leak-prone pipe, yes. Okay. And you are basically recommending	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay. none, let's get closing statements, beginn with Ms. Shute. MS. SHUTE: Thank you, Chairwo Martin. The OCA supports the Staff's	you. Thank  tt  s. ee go Seeing
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	BY Q. A.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue).  CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question.  MS. FABRIZIO: Thank you, Madam Chair.  REDIRECT EXAMINATION Y MS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct? (Knepper) Yeah. I just want to make sure everybody's aware. When the program the CIBS program is over, I would like to replace leak-prone pipe, yes. Okay. And you are basically recommending that we simply not continue the accelerated	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay. none, let's get closing statements, beginn with Ms. Shute. MS. SHUTE: Thank you, Chairwo Martin. The OCA supports the Staff's position. We feel that, given there's	you. Thank  t  g  g  Seeing  ing
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	BY Q. A.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION YMS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct? (Knepper) Yeah. I just want to make sure everybody's aware. When the program the CIBS program is over, I would like to replace leak-prone pipe, yes. Okay. And you are basically recommending that we simply not continue the accelerated recovery incentive that has been in place	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay. none, let's get closing statements, beginn with Ms. Shute. MS. SHUTE: Thank you, Chairwo Martin. The OCA supports the Staff's position. We feel that, given there's considerable remaining investment left to	you. Thank  t  Seeing ing
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	BY Q. A.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue).  CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question.  MS. FABRIZIO: Thank you, Madam Chair.  REDIRECT EXAMINATION Y MS. FABRIZIO:  Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct?  (Knepper) Yeah. I just want to make sure everybody's aware. When the program the CIBS program is over, I would like to replace leak-prone pipe, yes.  Okay. And you are basically recommending that we simply not continue the accelerated recovery incentive that has been in place under the CIBS program; is that correct?	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay. none, let's get closing statements, beginn with Ms. Shute. MS. SHUTE: Thank you, Chairwo Martin. The OCA supports the Staff's position. We feel that, given there's considerable remaining investment left to replace the remaining leak-prone pipe, th	you. Thank  t  Seeing ing  man
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	BY Q. A.	I do have a request. I'd like to ask another question of the Company related to Mr. Sheehan's redirect. So after Ms. Fabrizio is done (connectivity issue). CHAIRWOMAN MARTIN: Yeah, I lost you for a second there. After Ms. Fabrizio is done, I would like to ask one more question. MS. FABRIZIO: Thank you, Madam Chair. REDIRECT EXAMINATION YMS. FABRIZIO: Mr. Knepper, you are recommending that Liberty continue its replacement of its in-ground CIBS pipes; is that correct? (Knepper) Yeah. I just want to make sure everybody's aware. When the program the CIBS program is over, I would like to replace leak-prone pipe, yes. Okay. And you are basically recommending that we simply not continue the accelerated recovery incentive that has been in place	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22		Okay. Thank you. That's helpful. CHAIRWOMAN MARTIN: Mr. Sh you have any follow-up based upon that question? MR. SHEEHAN: I do not. Thank CHAIRWOMAN MARTIN: Okay you. All right. Let's see. I need to strike the I.D. on the exhibits. So withou objection, I'll strike the I.D. on Exhibits Is there anything else that any of the parties thinks we need to do before w to closing? [No verbal response] CHAIRWOMAN MARTIN: Okay. none, let's get closing statements, beginn with Ms. Shute. MS. SHUTE: Thank you, Chairwo Martin. The OCA supports the Staff's position. We feel that, given there's considerable remaining investment left to	you. Thank  t  Seeing ing  man

	SS: KNEPPER] Page 141	[WITNES	SS: KNEPPER] Page 143
1	requested by the Staff seems reasonable and	1	of no longer CIBS program from the PUC,
2	appropriate. And I have no other statements	2	but the internal CIBS program, if you will.
3	at this time. Thank you.	3	So, first, we do appreciate the audit
4	CHAIRWOMAN MARTIN: All right.	4	division's review of the filing and Staff's
5	Thank you.	5	support of that piece of it.
6	Ms. Fabrizio.	6	What I'd like to say briefly on the
7	MS. FABRIZIO: Thank you, Madam	7	future part of this is that the Company is
8	Chair. Staff recommends approval of the	8	committed to replacing CIBS as soon as is
9	proposed increase in annual revenue	9	practical and possible, with appropriate
10	requirement for fiscal year 2020 CIBS program	10	consideration to cost. You will recall that
11	costs based on the audit of fiscal year 2020	11	we objected to the termination of the
12	CIBS costs and review of the Company's	12	program. Since Liberty took over this
13	revenue requirement calculation. The CIBS	13	franchise, it took a couple years to ramp up
14	replacement program is necessary to ensure	14	the CIBS program. But in fact we did, going
15	public safety, a point that has been made	15	from, I don't know, 3 or 4 miles per year up
16	repeatedly by both the Company and Staff	16	to over 10 miles per year for a number of
17	throughout the existence of the program.	17	years. It was the annual in part, it was
18	Liberty has been targeting year end 2024 to	18	the annual rate adjustments that helped
19	complete the program but does not expect to	19	support those costs. I think we had
20	meet that goal at this time. Staff	20	30-something crews out in the field last
21	recommends the Commission require Liberty to	21	year. We feared, in part, that the loss of
22	target year end 2025 to remove CIBS from its	22	the annual adjustment would send the wrong
23	distribution system, with only a minor	23	message internally, that it's not a priority
24	allowance for large-diameter CIBS piping,	24	of the Commission anymore. I can tell you
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE	SS: KNEPPER] Page 142	[WITNES	SS: KNEPPER] Page 144
1	which is generally less leak-prone and more	1	locally it's always been a priority, and we
2	and CIDC mains in Vanna as		J J J
	costly to remove, and CIBS mains in Keene, as	2	are always fighting internally for budget
3	those mains are expected to be addressed	2	
3 4	those mains are expected to be addressed through the Keene system conversion from		are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard.
	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the	3	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all
4	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends	3 4	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one
<b>4</b> 5	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide	3 4 5	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are
4 5 6	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review,	3 4 5 6	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last
4 5 6 7 8 9	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more	3 4 5 6 7 8	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's
4 5 6 7 8 9	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the	3 4 5 6 7 8 9	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers
4 5 6 7 8 9 10	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been	3 4 5 6 7 8 9 10	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the
4 5 6 7 8 9 10 11	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to	3 4 5 6 7 8 9 10 11	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.
4 5 6 7 8 9 10 11 12	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the	3 4 5 6 7 8 9 10 11 12	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided
4 5 6 7 8 9 10 11 12 13	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS	3 4 5 6 7 8 9 10 11 12 13	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as
4 5 6 7 8 9 10 11 12 13 14	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.	3 4 5 6 7 8 9 10 11 12 13 14	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these
4 5 6 7 8 9 10 11 12 13 14 15 16	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.  CHAIRWOMAN MARTIN: All right.	3 4 5 6 7 8 9 10 11 12 13 14 15 16	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So
4 5 6 7 8 9 10 11 12 13 14 15 16 17	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.  CHAIRWOMAN MARTIN: All right. Thank you.	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So we're simply saying that 2024 is not
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.  CHAIRWOMAN MARTIN: All right. Thank you.  And Mr. Sheehan.	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So we're simply saying that 2024 is not realistic. It's always been a target, but we
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.  CHAIRWOMAN MARTIN: All right. Thank you.  And Mr. Sheehan.  MR. SHEEHAN: Thank you. First, we	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So we're simply saying that 2024 is not realistic. It's always been a target, but we also knew that as we got to the end we would
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.  CHAIRWOMAN MARTIN: All right.  Thank you.  And Mr. Sheehan.  MR. SHEEHAN: Thank you. First, we appreciate the support of Staff on the	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So we're simply saying that 2024 is not realistic. It's always been a target, but we also knew that as we got to the end we would run into the problems that we're running
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.  CHAIRWOMAN MARTIN: All right. Thank you.  And Mr. Sheehan.  MR. SHEEHAN: Thank you. First, we appreciate the support of Staff on the primary request in this proceeding, which is	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So we're simply saying that 2024 is not realistic. It's always been a target, but we also knew that as we got to the end we would run into the problems that we're running into, the asbestos, the downtown projects and
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.  CHAIRWOMAN MARTIN: All right. Thank you.  And Mr. Sheehan.  MR. SHEEHAN: Thank you. First, we appreciate the support of Staff on the primary request in this proceeding, which is the rate adjustment. We spent a lot of time	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So we're simply saying that 2024 is not realistic. It's always been a target, but we also knew that as we got to the end we would run into the problems that we're running into, the asbestos, the downtown projects and the paving projects and the like. So we
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	those mains are expected to be addressed through the Keene system conversion from propane air to natural gas. Because of the importance of the program, Staff recommends the Commission require Liberty to provide annual CIBS plans reporting for Staff review, as outlined by Mr. Knepper today, to be more limited than it was, as required under the settlement agreement program that has been terminated, but sufficient to enable Staff to track progress and for Staff to inform the Commission of any concerns regarding CIBS replacement planning. Thank you.  CHAIRWOMAN MARTIN: All right. Thank you.  And Mr. Sheehan.  MR. SHEEHAN: Thank you. First, we appreciate the support of Staff on the primary request in this proceeding, which is	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	are always fighting internally for budget dollars to do what's best for our local company. So that's why we fought so hard. We believe in the program. We believe all the safety reasons for it as the number one reason. The emergent safety issues are largely gone. It's now putting out the last remaining smolders, if you will. The fire's been out, and now we just have a few embers remaining. And as Brian described, the remaining leak-prone pipe is not very leaky.  So the Commission decided otherwise. That's fine. We're continuing as we would have anyway. We will run into these problems that we talked about today. So we're simply saying that 2024 is not realistic. It's always been a target, but we also knew that as we got to the end we would run into the problems that we're running into, the asbestos, the downtown projects and

[WITNE	SS: KNEPPER] Page 145	[WITNE	SS: KNEPPER] Page 147
1	as possible. And Brian is doing the	1	file this summer. And we will be making a
2	engineering to put a finer point on that as	2	proposal that will be in the neighborhood of
3	we get more details, for example, for the	3	a CIBS program. It won't be CIBS, but we're
4	Manchester project. And I give the history	4	developing something that at least is
5	to show that the Company has been committed	5	somewhat analogous for the Commission's
6	to it, and we will remain committed to	6	consideration. And we think that's where
7	removing the CIBS.	7	most of these conversations belong.
8	As for the reporting, these	8	With that being said, as I said
9	projects are the only projects in the Company	9	before, we'll accept the reporting
10	that receive this level of detail, and it's	10	requirements in Mr. Knepper's testimony. We
11	only because of the CIBS program that this	11	ask the Commission not to set a target, and
12	evolved over the years. When we go to put	12	if one is to be developed, that that
13	CIBS pipe in rate cases in the future, we	13	conversation go to the upcoming rate case.
14	will present similar information that we	14	Thank you.
15	always present in every rate case to support	15	CHAIRWOMAN MARTIN: Okay. Thank
16	capital investment. It will not look like	16	you. And I just want to thank Ms. Robidas
17	that big spreadsheet because we don't do that	17	for being willing to continue.
18	for any other project. And the Commission	18	With that, we will close the record
19	routinely approves capital expenditures on	19	and take the matter under advisement and get
20	far less detail. To resolve the issue, as	20	an order out as soon as we can. Thank you,
21	Commissioner Giaimo suggested, we will accept	21	everyone.
22	the recommended reporting that is in Mr.	22	MR. SHEEHAN: Thank you.
23	Knepper's testimony, which was the enhanced	23	MS. FABRIZIO: Thank you.
24	E22, if I have the name of that report	24	(Hearing concluded at 1:30 p.m.)
	•		
	{DG 20-049} [HEARING ON MERITS] {06-18-20}		{DG 20-049} [HEARING ON MERITS] {06-18-20}
[WITNE:	SS: KNEPPER] Page 146	_	SS: KNEPPER] Page 148
1	correct. I think even Mr. Frost testified	1	CERTIFICATE
2	today that he can live with that as a	2	
3	reporting requirement going forward.	3	I, Susan J. Robidas, a Licensed
4	So with that, we thank everyone for	4	Shorthand Court Reporter and Notary Public of the State of New Hampshire, do hereby
5	their work on this and ask the Commission to	5	certify that the foregoing is a true and accurate transcript of my stenographic
6	approve the rate adjustment.	6	notes of these proceedings taken at the place and on the date hereinbefore set
7	One last, final thought. I'm	7	forth, to the best of my skill and ability under the conditions present at the time.
8	sorry. Last year's order terminating the	8	I further certify that I am neither
9	program suggested that the Company, and I'm	9	attorney or counsel for, nor related to or employed by any of the parties to the
10	going to quote here, that the next step of	10	action; and further, that I am not a relative or employee of any attorney or
11	CIBS, whether it's CIBS or something else,	11	counsel employed in this case, nor am I financially interested in this action.
12	should be discussed in a rate case. And the	12	The foregoing certification of this
13	quote is this: "By terminating the existing	13	transcript does not apply to any reproduction of the same by any means
14	CIBS program, we are not precluding an	14	unless under the direct control and/or direction of the certifying reporter.
15	alternative proposal in Liberty's next rate	15	The same of the sa
16	case. We continue to believe it is important	16	
17			
Ι,	to replace the cast iron/bare steel	17	
18		17 18	
	to replace the cast iron/bare steel		
18	to replace the cast iron/bare steel infrastructure and will consider an alternative proposal from the parties during the anticipated rate case," close quote.	18	Susan J. Robidas, LCR/RPR
18 19	to replace the cast iron/bare steel infrastructure and will consider an alternative proposal from the parties during the anticipated rate case," close quote. That's Order 26, 2667.	18 19	Licensed Shorthand Court Reporter Registered Professional Reporter
18 19 20	to replace the cast iron/bare steel infrastructure and will consider an alternative proposal from the parties during the anticipated rate case," close quote.  That's Order 26, 2667.  So this whole conversation over	18 19 20	Licensed Shorthand Court Reporter
18 19 20 21	to replace the cast iron/bare steel infrastructure and will consider an alternative proposal from the parties during the anticipated rate case," close quote.  That's Order 26, 2667.  So this whole conversation over reporting and deadlines and targets we think	18 19 20 —	Licensed Shorthand Court Reporter Registered Professional Reporter
18 19 20 21 22	to replace the cast iron/bare steel infrastructure and will consider an alternative proposal from the parties during the anticipated rate case," close quote.  That's Order 26, 2667.  So this whole conversation over	18 19 20 — 21 22	Licensed Shorthand Court Reporter Registered Professional Reporter
18 19 20 21 22 23	to replace the cast iron/bare steel infrastructure and will consider an alternative proposal from the parties during the anticipated rate case," close quote.  That's Order 26, 2667.  So this whole conversation over reporting and deadlines and targets we think	18 19 20 — 21 22 23	Licensed Shorthand Court Reporter Registered Professional Reporter

2020 CHST IRON BHILE	STEEL KEI EITEEMEN	TIROGRAM RESERIE	1	5 time 10, 2020
	5:2,9;79:11	119:12;143:18	allowance (2)	appear (1)
\$	accessing (1)	administrative (6)	58:8;141:24	73:3
Ψ	5:6	108:2,6,8,17;117:23;	allowed (2)	appearances (2)
\$14,885,261 (1)	accomplish (1)	118:5	26:6;119:10	5:21;6:15
10:18	128:5	admit (1)	allude (1)	appears (5)
\$20 (1)	accordance (2)	140:11	76:16	9:14;13:7;74:20;
107:15	4:13,20	adopt (3)	alluded (2)	76:12;86:21
\$25 (2)	according (1)	10:2;13:18;14:10	65:18;107:6	apply (1)
107:15;122:12	101:9	advanced (1)	almost (1)	68:23
\$299 (2)	achievable (3)	135:12	53:19	appreciate (5)
29:22;89:6	47:11;100:16;102:17	advantage (1)	alone (2)	49:1;70:11,13;
\$384 (2)	acknowledge (1)	102:9	6:4,8	142:20;143:3
29:21;89:6	48:8	advisement (1)	along (1)	appreciates (1)
<b>\$6,161,925</b> (1)	action (2) 21:16;58:4	147:19	13:6	50:7
11:6	active (1)	<b>Advocate (1)</b> 6:24	alternative (2) 146:15,19	<b>approaches (1)</b> 75:12
\$7.03 (1)	55:15	Affairs (1)	always (7)	approaching (2)
11:18	actively (1)	9:11	41:22;83:2;112:8;	65:17;69:2
<b>\$9 (1)</b>	72:16	affected (1)	144:1,2,18;145:15	appropriate (4)
125:16	activities (1)	133:7	among (1)	83:16;137:16;141:2;
г	107:2	affecting (1)	76:8	143:9
[	activity (2)	63:11	amongst (1)	approval (6)
[No. (1)	101:18;126:23	affords (1)	63:1	10:10;11:4;34:16;
[No (1) 140:15	actual (13)	80:16	amount (24)	84:6,14;141:8
	26:2;29:21;32:24;	afraid (1)	25:6,7,17;38:6;43:5,	approvals (1)
[sic] (1) 132:13	38:7;88:8,11;89:5,11,	136:20	16,20;48:3,7;52:21;	114:16
132.13	20;90:5,13;98:4;99:3	afternoon (2)	53:5;57:11,14;61:10;	approve (1)
$\mathbf{A}$	actually (12)	134:24;139:14	64:15;65:15;76:10;	146:6
11	35:16;49:11;50:5;	again (7)	81:1,13;91:5;97:2;	approves (1)
abandon (2)	52:17;53:22,24;60:21;	4:3;19:5;40:4;	115:1,24;123:12	145:19
78:21,23	65:8;81:18;85:24;	113:18;123:22;126:7;	amounts (1)	approving (2)
abandoned (5)	111:21;113:8	132:15	57:10	21:9;84:4
58:17,18;59:6;79:14;	actuals (1)	against (1)	analogous (1)	approximately (10)
127:11	44:15	91:17	147:5	11:7,17;15:23;16:4;
abandoning (1)	add (4)	age (1)	analyst (2)	20:16;59:2;60:17;
79:6	42:16;55:6;67:19;	52:12	9:10;92:23	74:16;75:5;125:17
abandonment (1)	89:23	aged (1)	analyze (2)	archives (1)
59:10	added (1) 74:7	103:21	123:19;130:16	38:1 area (17)
ability (3)	addition (2)	ages (2) 95:19;122:17	<b>annual (13)</b> 11:3,5;25:9;26:15;	20:10;21:14;22:2;
4:24;111:10;128:1	11:8;19:23	ago (6)	60:9;119:11;123:11;	35:22;41:12;42:2,7,9;
able (13)	additional (1)	46:22;105:2;110:16;	128:22;141:9;142:8;	53:9;72:14;74:6;80:12;
20:23;21:11;28:13;	31:10	118:5,12;133:2	143:17,18,22	81:8,10;88:18;139:18,
55:24;57:15,18;59:10;	Additionally (4)	agree (2)	answered (3)	24
77:4,21;90:8;122:13;	17:11;49:24;87:24;	97:21;117:23	70:17;79:22;124:4	areas (10)
123:19;131:9 abnormal (1)	91:12	agreement (4)	Anthony (1)	16:15,18;22:21;
71:10	add-ons (2)	17:12;21:22;79:3;	7:12	42:22;43:5;52:2,6;
above (3)	34:8,12	142:11	anticipate (1)	57:4;72:2;89:2
38:19,22;105:12	address (3)	agreements (2)	101:23	argument (1)
absent (1)	7:18;23:2;36:17	78:22;79:10	anticipated (4)	131:23
136:15		(1)	43:19;90:8;115:9;	argumentative (1)
	addressed (3)	agrees (1)	TJ.17,70.0,11J.7,	
absolute (4)	addressed (3) 11:9;54:18;142:3	60:3	146:20	69:20
absolute (4) 112:17:131:15:		0 , ,	, , , ,	
112:17;131:15;	11:9;54:18;142:3 <b>adds (1)</b> 40:18	60:3	146:20	69:20
112:17;131:15; 132:16;134:10	11:9;54:18;142:3 adds (1)	60:3 ahead (7)	146:20 <b>anymore (3)</b> 100:16;108:10; 143:24	69:20 <b>arise (4)</b> 7:13;20:2;21:10; 39:23
112:17;131:15; 132:16;134:10 accelerated (3)	11:9;54:18;142:3 <b>adds (1)</b> 40:18 <b>adjourned (1)</b> 5:10	60:3 <b>ahead (7)</b> 57:16,18;75:9;81:5, 19,24;82:3 <b>air (1)</b>	146:20 <b>anymore (3)</b> 100:16;108:10; 143:24 <b>apart (1)</b>	69:20 <b>arise (4)</b> 7:13;20:2;21:10; 39:23 <b>arises (1)</b>
112:17;131:15; 132:16;134:10 accelerated (3) 105:8;119:22;138:21	11:9;54:18;142:3 adds (1) 40:18 adjourned (1) 5:10 adjust (2)	60:3 <b>ahead (7)</b> 57:16,18;75:9;81:5, 19,24;82:3 <b>air (1)</b> 142:5	146:20 <b>anymore (3)</b> 100:16;108:10; 143:24 <b>apart (1)</b> 136:4	69:20 <b>arise (4)</b> 7:13;20:2;21:10; 39:23 <b>arises (1)</b> 84:12
112:17;131:15; 132:16;134:10 accelerated (3)	11:9;54:18;142:3 adds (1) 40:18 adjourned (1) 5:10 adjust (2) 50:1;80:17	60:3 <b>ahead (7)</b> 57:16,18;75:9;81:5, 19,24;82:3 <b>air (1)</b> 142:5 <b>alleviate (1)</b>	146:20 <b>anymore (3)</b> 100:16;108:10; 143:24 <b>apart (1)</b> 136:4 <b>apologize (1)</b>	69:20 arise (4) 7:13;20:2;21:10; 39:23 arises (1) 84:12 around (9)
112:17;131:15; 132:16;134:10 accelerated (3) 105:8;119:22;138:21 accept (2)	11:9;54:18;142:3 adds (1) 40:18 adjourned (1) 5:10 adjust (2) 50:1;80:17 adjustment (5)	60:3 ahead (7) 57:16,18;75:9;81:5, 19,24;82:3 air (1) 142:5 alleviate (1) 53:20	146:20 <b>anymore (3)</b> 100:16;108:10; 143:24 <b>apart (1)</b> 136:4 <b>apologize (1)</b> 77:9	69:20 arise (4) 7:13;20:2;21:10; 39:23 arises (1) 84:12 around (9) 30:13;39:18;52:11;
112:17;131:15; 132:16;134:10 accelerated (3) 105:8;119:22;138:21 accept (2) 145:21;147:9	11:9;54:18;142:3  adds (1) 40:18  adjourned (1) 5:10  adjust (2) 50:1;80:17  adjustment (5) 119:13;124:5;	60:3 ahead (7) 57:16,18;75:9;81:5, 19,24;82:3 air (1) 142:5 alleviate (1) 53:20 allocate (1)	146:20 anymore (3) 100:16;108:10; 143:24 apart (1) 136:4 apologize (1) 77:9 apparent (1)	69:20 arise (4) 7:13;20:2;21:10; 39:23 arises (1) 84:12 around (9) 30:13;39:18;52:11; 57:1,17;101:22;109:8,
112:17;131:15; 132:16;134:10 accelerated (3) 105:8;119:22;138:21 accept (2) 145:21;147:9 acceptable (1)	11:9;54:18;142:3  adds (1) 40:18  adjourned (1) 5:10  adjust (2) 50:1;80:17  adjustment (5) 119:13;124:5; 142:22;143:22;146:6	60:3 ahead (7) 57:16,18;75:9;81:5, 19,24;82:3 air (1) 142:5 alleviate (1) 53:20 allocate (1) 76:7	146:20 anymore (3) 100:16;108:10; 143:24 apart (1) 136:4 apologize (1) 77:9 apparent (1) 28:12	69:20 arise (4) 7:13;20:2;21:10; 39:23 arises (1) 84:12 around (9) 30:13;39:18;52:11; 57:1,17;101:22;109:8, 11;113:14
112:17;131:15; 132:16;134:10 accelerated (3) 105:8;119:22;138:21 accept (2) 145:21;147:9 acceptable (1) 36:24	11:9;54:18;142:3  adds (1) 40:18  adjourned (1) 5:10  adjust (2) 50:1;80:17  adjustment (5) 119:13;124:5;	60:3 ahead (7) 57:16,18;75:9;81:5, 19,24;82:3 air (1) 142:5 alleviate (1) 53:20 allocate (1)	146:20 anymore (3) 100:16;108:10; 143:24 apart (1) 136:4 apologize (1) 77:9 apparent (1)	69:20 arise (4) 7:13;20:2;21:10; 39:23 arises (1) 84:12 around (9) 30:13;39:18;52:11; 57:1,17;101:22;109:8,

asbestos (14)	30:19;46:24;96:2;	99:16;106:11;121:4	binder (1)	118:6;130:13,13;131:2
30:11,14;41:7,8,13,	112:7;127:18;138:17	became (1)	19:19	burdens (3)
15,22;42:4,20,21;43:1,	away (6)	28:12	bit (12)	87:9;108:8,17
5;98:17;144:21	14:23;53:22;54:19;	become (1)	30:10;35:5;47:4;	burdensome (1)
asbestos-containing (1)	55:1;84:13;105:10	98:14	52:20;80:9;82:9;	127:15
30:8	<b>D</b>	becomes (2)	101:24;124:18;125:8;	buried (2)
aspect (1)	В	98:5,5	126:4;129:20;136:17	72:13,14
130:8		beforehand (1)	bi-weekly (3)	C
aspects (1)	back (14)	31:19	32:3,16;77:16	C
15:7	29:3;33:7,12;46:16;	begin (3)	BK (2)	1 1 (2)
asphalt (2)	51:4;52:13;66:4;70:10;	64:8;120:13;121:1	88:10,11	calculate (3)
19:20,21	79:23;95:4;102:18;	beginning (5)	<b>BL (1)</b> 88:11	10:14;26:7;65:12
assess (1) 96:20	116:1,12;137:24 backfill (1)	9:16;13:7;98:14; 134:4;140:17		calculated (6)
assessment (5)	40:12	begins (3)	<b>Blodget (1)</b> 121:15	11:12;24:24;25:2; 37:14;91:14,20
53:13;54:9;86:4;		86:21;88:13;121:17	blue (4)	calculating (2)
98:21;106:5	backlog (1) 16:11	begun (1)	88:18,22,23;89:15	27:15;65:10
assessments (1)	bad (1)	78:1	BM (1)	calculation (8)
49:16	55:22	behalf (3)	88:11	9:12;10:8;25:14,18;
assign (2)	Bailey (19)	6:24;7:9;93:2	Bob (1)	27:21,24;37:15;141:13
83:9,10	6:5,6,7;40:23,24;	behind (1)	85:19	calculations (2)
associated (8)	41:2;48:12;50:17,22;	46:24	body (1)	10:24;91:19
100:9;101:5;106:20;	51:2;55:7;59:14;89:3;	beings (1)	4:15	calendar (4)
108:13;117:3;127:6;	124:14,15,17;130:4;	73:21	bond (1)	26:19;27:1,11,14
136:13,23	134:18;135:24	believes (2)	17:5	call (9)
assume (5)	balance (1)	60:13;122:2	bonding (1)	5:8,19;81:5,23;82:2;
41:8;42:3,5;43:8;	119:24	bell (2)	75:16	97:16,17;102:3;127:5
120:8	balanced (1)	105:13,14	both (7)	came (4)
assuming (1)	20:18	belong (1)	22:3;28:5;36:18,24;	21:21;26:4;83:24;
27:18	bare (14)	147:7	76:10;129:23;141:16	128:11
attached (3)	16:7;31:2;48:2;	belongs (1)	bottom (1)	can (68)
93:6;94:23;95:11	55:19;95:15,20;	146:24	88:23	7:4;9:1,6;10:12;
Attachment (13)	100:20;119:11,13,17,	benchmark (1)	boy (1)	15:23;19:16,18;21:4;
37:3;86:20;124:21,	18;120:1;127:9;129:8	68:5	86:23	22:12;39:18;43:20;
23;125:1,3,10,24;	barriers (3)	benefit (1)	break (3)	44:21;47:13;48:2,4,9;
126:18,19;128:10;	21:24;30:17;47:7	96:4	29:6;94:1;105:22	51:6;54:5,12;55:8,13;
129:1;137:13	base (8)	benefits (2)	breakdown (1)	58:17;61:3;62:22,23;
attendance (1)	25:6,8,13,13,17,21;	22:13,16	27:3	66:6,19;67:1,21;70:5,
5:20	38:2;83:14	best (5)	breaks (3)	23;73:4;74:10;76:22;
attended (1)	based (10)	17:3;45:12;50:18;	105:17,18,23	78:23;79:23;80:18;
105:15	26:1;33:10;44:11;	132:6;144:3 better (7)	BRIAN (17)	81:11;82:3,17;84:19;
attorney (2) 6:23;7:8	91:14,15;96:18;99:14;	19:18;39:2,21;43:13;	8:3,8;10:21;12:19, 24;14:4;35:19;68:12;	85:24;87:4;89:17;95:4;
audit (12)	101:17;140:3;141:11 <b>basic (3)</b>	64:4;68:10;82:21	86:3,13,19;99:23;	96:5,6,12;100:17; 103:14,16;104:13,18;
11:23;12:1,2,3,5,7,	15:13;122:16;131:7	beyond (3)	101:8;130:18;139:14;	105:19;111:11;121:17;
11;93:6;97:3,4;141:11;	basically (4)	17:24;74:24;113:16	144:11;145:1	125:8,20;126:9;127:4,
143:3	99:21;121:19;	BH (1)	brick (1)	20;132:4;133:13;
audited (1)	125:13;138:20	88:8	104:24	134:2,6;143:24;146:2;
11:23	basis (21)	BI (1)	brief (2)	147:20
authority (2)	23:3;32:3;33:23;	88:9	8:15;87:16	capacity (1)
21:3,8	46:11,18;61:13;68:14;	bidding (1)	briefly (2)	92:22
authorization (1)	77:16;83:20;91:2,4;	113:22	107:2;143:6	capital (4)
75:16	97:7,15;99:5;104:13;	big (6)	brings (1)	123:4;125:16;
authorized (2)	123:11,15;127:23;	109:1;126:17;128:7,	66:11	145:16,19
4:15,19	128:22;130:10;134:6	12;131:3;145:17	broken (1)	cards (2)
availability (1)	<b>Bates</b> (25)	bill (2)	51:24	62:17;63:1
80:12	9:17;13:7;28:8;46:6;	11:12,13	brought (3)	career (2)
avenues (1)	73:14,15,19,21;86:21;	billed (1)	58:9;95:18,21	62:4,5
67:22	94:24;95:10,14;96:3,8;	88:3	budget (8)	carryover (14)
average (5)	99:13,18;100:6;	bills (1)	23:20;41:10,10;44:5;	26:4;87:13,14,17;
44:12;68:20;74:10;	106:10,12,13;118:22;	97:10	68:6;69:10;91:8;144:2	89:20;90:1,2,4,7;91:16,
89:6;101:23	120:13;121:2,5;126:3	bind (1)	burden (8)	17,17;97:8;98:11
aware (6)	Bear (3)	133:12	60:8;108:2,7;117:24;	case (22)
	I		l .	l .

27:11,22;28:1,6;	140:2,6,16,19;141:4;	45:11;50:1,6,8,12;	12:24	113:11;114:1;116:7;
49:14;61:8;74:9;89:12;	142:16;147:15	56:20;62:18;63:8;	Commission (34)	121:20;123:2;124:4;
123:3,5,13,17;124:5;	challenges (5)	66:13;75:8,8;76:2;	4:10,23;5:20;6:3;	125:11;127:15,17;
128:11;130:1;137:5;	17:1,2;42:18;43:12;	112:9;115:5,11;135:18	7:9;15:20;92:17,19;	129:18;135:12,17;
145:15;146:12,16,20,	47:12	cities' (1)	100:4;106:24;107:5,	136:4;137:9;138:2;
24;147:13	challenging (3)	75:12	22;108:20;110:15,23;	139:7,10;141:16;
cases (2)	47:17;48:3;62:13	City (45)	120:5;123:6;126:8;	143:7;144:4;145:5,9;
14:21;145:13	chance (1)	17:4,6,11;18:6;	128:8;129:2;133:17;	146:9
Cast (36)	14:15	19:13,17;20:8,14,15,	134:8;135:6;136:7;	Company's (24)
4:5;16:7;21:22;31:2;	change (5)	20,24;21:16,20,23;	139:1;141:21;142:7,	11:22;16:6,16;21:9;
46:17,20,23;48:1;	81:14;84:3,6,9,12	31:12;35:18;40:16;	14;143:24;144:13,23;	31:24;37:7;39:3;50:4;
51:14,24;52:23;53:2;	changed (3)	45:6,21;47:19;48:20;	145:18;146:5;147:11	51:18;56:6;61:1;68:18;
54:9;55:3,11,18;56:10;	25:6,7;35:10	49:7;50:1;57:6;58:24;	commissioner (39)	78:19;84:21;87:9;91:1;
57:3;58:9;59:3,6,11;	changes (6)	63:1,5;67:11;68:21;	5:21;6:5,6,7,9,11;	94:22;95:7;102:11;
61:11;62:3,4,10;66:16;	9:19;14:6;24:24;	75:14,15;76:8,12,14;	8:20;40:23,24;41:2;	109:14;115:4;124:20;
74:6;100:19;105:16,	25:9;41:24;45:17	87:24;111:8;113:14;	42:17;48:12,13,14,18;	131:23;141:12
18;106:17;108:10;	characterization (1)	117:1;129:14,14;	50:15,17,22;51:2;55:7;	compare (2)
127:9;136:10;146:17	121:23	132:1,14;133:15;	59:14,17,18,22;60:23;	26:9,9
catch (1)	characterize (3)	139:15,22	66:24;67:3;70:12;89:3;	compared (1)
73:6	21:7;38:16;45:9	city-wide (1)	124:14,15,17;130:4;	29:21
categorize (1)	characterized (1)	19:10	134:18,21,22;135:24;	comparison (2)
56:21	55:20	civilian (1)	137:15;145:21	25:1;118:11
	charges (1)	85:11	Commissioners (4)	compiled (1)
category (1)	88:1	clamp (1)		12:22
16:2 CATHERINE (3)	check (2)	71:21	7:8;41:1;70:7; 124:16	
	73:16;93:24		Commission's (2)	complete (16)
8:3,7;9:9		clamps (1)		15:21;16:22;21:12;
cause (4)	checking (3)	71:22	11:23;147:5	35:9;45:14,17;47:14;
17:14;36:14;57:24;	37:16;52:2;54:15	clarification (2)	commitment (1)	64:10;77:22;79:1,1;
98:20	chosen (1)	24:21;135:1	132:18	82:7;100:5;115:9;
caused (1)	100:10	clarifications (1)	committed (4)	139:20;141:19
21:16	Christa (1) 6:23	134:23	22:5;143:8;145:5,6	completed (20)
cautioned (1)		clarify (1)	common (3)	12:1;28:21,22,24;
0.5	CIDC (10C)	105.0	22.1.00.5.0	20 4 10 12 20 4 40 16
8:5	CIBS (106)	125:8	23:1;80:5,8	29:4,10,12;38:4;49:16;
cells (4)	4:6;10:15,17;11:8;	clear (3)	communicate (1)	61:3,5;64:16,17;65:4,
<b>cells (4)</b> 37:15;97:23,24;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21;	clear (3) 7:19;28:6;110:13	communicate (1) 4:24	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24;
<b>cells (4)</b> 37:15;97:23,24; 123:15	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23;	clear (3) 7:19;28:6;110:13 close (4)	communicate (1) 4:24 communication (1)	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2
cells (4) 37:15;97:23,24; 123:15 Centre (1)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18,	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13;	communicate (1) 4:24 communication (1) 50:13	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1)
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18	communicate (1) 4:24 communication (1) 50:13 community (1)	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21,	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2)
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128)	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9,	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1)
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5,	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7)
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16;	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16,
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1) 75:14	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1)
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1) 75:14 cetera (2)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1) 75:14 cetera (2) 23:21,21	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2)
cells (4)     37:15;97:23,24;     123:15  Centre (1)     45:7 certain (7)     15:7;40:15;63:18;     75:13;106:24;124:5;     139:12 certainly (2)     103:15;123:1 certainty (1)     75:14 cetera (2)     23:21,21 Chair (7)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2,	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11;	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1) 75:14 cetera (2) 23:21,21 Chair (7) 24:16;59:15;70:12;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14,	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15,	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1)
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1) 75:14 cetera (2) 23:21,21 Chair (7) 24:16;59:15;70:12; 92:6;134:19;138:10;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6
cells (4)     37:15;97:23,24;     123:15  Centre (1)     45:7     certain (7)     15:7;40:15;63:18;     75:13;106:24;124:5;     139:12     certainly (2)     103:15;123:1     certainty (1)     75:14     cetera (2)     23:21,21     Chair (7)     24:16;59:15;70:12;     92:6;134:19;138:10;     141:8	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5;	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10,	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1)
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1) 75:14 cetera (2) 23:21,21 Chair (7) 24:16;59:15;70:12; 92:6;134:19;138:10; 141:8 CHAIRWOMAN (46)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15,	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1) 75:14 cetera (2) 23:21,21 Chair (7) 24:16;59:15;70:12; 92:6;134:19;138:10; 141:8 CHAIRWOMAN (46) 4:2,9;6:2,9,14,20;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22,	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1)
cells (4) 37:15;97:23,24; 123:15 Centre (1) 45:7 certain (7) 15:7;40:15;63:18; 75:13;106:24;124:5; 139:12 certainly (2) 103:15;123:1 certainty (1) 75:14 cetera (2) 23:21,21 Chair (7) 24:16;59:15;70:12; 92:6;134:19;138:10; 141:8 CHAIRWOMAN (46) 4:2,9;6:2,9,14,20; 7:4,14,23;8:11,24;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2,	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5;	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7,	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22
cells (4)     37:15;97:23,24;     123:15  Centre (1)     45:7     certain (7)     15:7;40:15;63:18;     75:13;106:24;124:5;     139:12     certainly (2)     103:15;123:1     certainty (1)     75:14     cetera (2)     23:21,21 Chair (7)     24:16;59:15;70:12;     92:6;134:19;138:10;     141:8  CHAIRWOMAN (46)     4:2,9;6:2,9,14,20;     7:4,14,23;8:11,24;     14:22;23:12;24:8,13;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2, 8,14;145:7,11,13;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5; 129:21	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7, 16;65:13;67:4;68:10,	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22 computer (1)
cells (4)     37:15;97:23,24;     123:15  Centre (1)     45:7 certain (7)     15:7;40:15;63:18;     75:13;106:24;124:5;     139:12 certainly (2)     103:15;123:1 certainty (1)     75:14 cetera (2)     23:21,21 Chair (7)     24:16;59:15;70:12;     92:6;134:19;138:10;     141:8 CHAIRWOMAN (46)     4:2,9;6:2,9,14,20;     7:4,14,23;8:11,24;     14:22;23:12;24:8,13;     40:21;48:11,17;50:24;	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2, 8,14;145:7,11,13; 146:11,11,14;147:3,3	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5; 129:21 comfortable (1)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7, 16;65:13;67:4;68:10, 13;69:22;71:8,16,19;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22 computer (1) 37:24
cells (4)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2, 8,14;145:7,11,13; 146:11,11,14;147:3,3 circuit (1)	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5; 129:21 comfortable (1) 50:4	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7, 16;65:13;67:4;68:10, 13;69:22;71:8,16,19; 72:1,3,19;73:4,11;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22 computer (1) 37:24 conceptual (1)
cells (4)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2, 8,14;145:7,11,13; 146:11,11,14;147:3,3 circuit (1) 57:6	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5; 129:21 comfortable (1) 50:4 coming (3)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7, 16;65:13;67:4;68:10, 13;69:22;71:8,16,19; 72:1,3,19;73:4,11; 75:19;76:5;77:3,21;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22 computer (1) 37:24 conceptual (1) 100:24
cells (4)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2, 8,14;145:7,11,13; 146:11,11,14;147:3,3 circuit (1) 57:6 cities (27)	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5; 129:21 comfortable (1) 50:4 coming (3) 85:20;116:18;136:21	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7, 16;65:13;67:4;68:10, 13;69:22;71:8,16,19; 72:1,3,19;73:4,11; 75:19;76:5;77:3,21; 80:6,16;84:13;85:9;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22 computer (1) 37:24 conceptual (1) 100:24 concern (5)
cells (4)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2, 8,14;145:7,11,13; 146:11,11,14;147:3,3 circuit (1) 57:6 cities (27) 16:15;17:8;19:16;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5; 129:21 comfortable (1) 50:4 coming (3) 85:20;116:18;136:21 comment (3)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7, 16;65:13;67:4;68:10, 13;69:22;71:8,16,19; 72:1,3,19;73:4,11; 75:19;76:5;77:3,21; 80:6,16;84:13;85:9; 86:6,14;89:19;90:6,22;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22 computer (1) 37:24 conceptual (1) 100:24 concern (5) 44:8;57:24;108:1;
cells (4)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2, 8,14;145:7,11,13; 146:11,11,14;147:3,3 circuit (1) 57:6 cities (27) 16:15;17:8;19:16; 20:2;21:3;30:2;33:12;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5; 129:21 comfortable (1) 50:4 coming (3) 85:20;116:18;136:21 comment (3) 70:2;75:23;118:19	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7, 16;65:13;67:4;68:10, 13;69:22;71:8,16,19; 72:1,3,19;73:4,11; 75:19;76:5;77:3,21; 80:6,16;84:13;85:9; 86:6,14;89:19;90:6,22; 96:15;102:8;107:1,24;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22 computer (1) 37:24 conceptual (1) 100:24 concern (5) 44:8;57:24;108:1; 131:16,17
cells (4)	4:6;10:15,17;11:8; 12:21,23;13:2;14:21; 15:6,16,21,24;16:1,23; 18:10;19:8;25:1;26:18, 19,22,23,24;27:14,16; 28:14,18;29:22;31:21, 22;35:7,9;36:19,22; 46:10;47:1;49:6,12,16; 50:10;55:9;56:14,19; 57:23;58:20;60:1,9,18; 61:10,18;67:24;74:17; 76:18;78:19;80:7; 88:24;92:24;94:13,15; 96:21;100:5,13,22; 102:3,3,4;103:23; 105:9,10;106:4;107:2, 4;109:15;110:13,14, 19;118:1;120:20; 123:2;127:1,3;129:24; 131:6;135:3;138:15, 18,23;141:10,12,13,22, 24;142:2,8,14;143:1,2, 8,14;145:7,11,13; 146:11,11,14;147:3,3 circuit (1) 57:6 cities (27) 16:15;17:8;19:16;	clear (3) 7:19;28:6;110:13 close (4) 83:11;121:13; 146:20;147:18 closely (1) 35:23 closing (3) 137:19;140:14,17 coated (5) 30:13;52:8;53:16; 54:7;58:23 coincide (1) 113:1 cold (6) 51:13,23;52:11; 87:21;107:12;136:20 Column (4) 86:22;87:2;96:5; 98:5 columns (4) 88:5,16;127:5; 129:21 comfortable (1) 50:4 coming (3) 85:20;116:18;136:21 comment (3)	communicate (1) 4:24 communication (1) 50:13 community (1) 22:1 Company (128) 8:13,19;9:7,15;10:9, 19;12:17;15:21;16:10; 17:7,16,21;19:11;20:5, 7,19;21:1,11,16,21; 22:4,8;23:1,24;27:4; 28:10;30:1,5,7,19,24; 31:7,9,15;32:2,10; 33:10,16;35:8,11,13; 37:20,22,24;38:3; 42:19,24;43:17;45:15, 17,19;46:13;47:13; 49:11,15;51:19;55:10, 23;56:22;57:15;58:12; 59:4,10;60:2,11,13; 61:2,9;62:4,22;64:7, 16;65:13;67:4;68:10, 13;69:22;71:8,16,19; 72:1,3,19;73:4,11; 75:19;76:5;77:3,21; 80:6,16;84:13;85:9; 86:6,14;89:19;90:6,22;	61:3,5;64:16,17;65:4, 23;80:15;87:19;89:24; 90:2;95:2 completely (1) 67:6 completes (2) 40:19;80:7 completing (1) 132:10 completion (7) 15:16;35:12;65:6,16, 17;113:20,21 complexity (1) 62:14 components (2) 110:14;118:5 compressed (1) 67:6 comprise (1) 110:14 compromised (1) 18:22 computer (1) 37:24 conceptual (1) 100:24 concern (5) 44:8;57:24;108:1;

days (3)

dead (1) 19:7

deadline (5)

19:24 deadlines (1)

146:23

dealing (1)

41:21;61:24

deal (2)

83:7;115:7;116:1,2,8,8

15:16,19;16:22;17:1;

45:11;55:19;57:7

2020 CAST IRON/BARE
36:11;53:12
concerns (9)
17:17;19:23;20:5;
36:9;48:9;63:15;108:4;
111:7;142:14
concluded (1)
147:24
Concord (34)
6:12;7:2;16:19;
20:14,22;30:11;35:21;
44:22;45:1,2,10,11,14,
22;46:21;50:6;54:11;
63:2,5;74:4;76:1,11,16,
18;77:2;78:1,14,16;
99:10,11;104:7,9,23;
129:11
Concord's (1)
44:23
concrete (2)
79:17,18
concurrently (1)
63:7
condition (5)
50:2;54:17;70:24;
71:5;72:8
conditions (1)
95:20
conduct (1)
8:17
confidence (1)
60:21
confidential (1)
7:20
confirm (1)
73:18
confirming (2)
4:21;7:24
conflict (2)
17:16,22
confused (1)
124:19
connectivity (6)
34:24;66:22;81:21;
85:16;125:14;138:4
consent (1)
17:12
consider (3)
39:9;108:5;146:18
considerable (1)
140:22
consideration (9)
41:16,22;42:1;71:2;
114:2;115:2;117:11;
143:10;147:6
considered (7)
52:14,15;57:12;
71:24;85:1,7;111:4
considering (2)
129:15;139:23
consistent (2)
97:3;101:8
consolidated (1)

ILITIES (ENERGYNOR) STEEL REPLACEMENT
constant (2)
94:18;109:11 <b>constantly (2)</b>
23:8;54:14
<b>construction (54)</b> 15:8,11;17:19;18:16,
17,18,20;19:2;20:11,
18,23;21:5;27:4,7; 28:13;29:2;30:3,4;
32:20,24;33:9,14,17;
34:18;36:2;38:11,23; 42:7;43:13;45:20;61:2;
62:21;63:10,10;64:10;
65:19;66:1;75:10,12, 23,24;76:6,7,17;77:7;
78:20;81:20;82:1;86:6; 87:12,21;88:13;105:2;
139:15
Consumer (1) 6:24
contained (1)
29:14 <b>contains (2)</b>
15:13;37:5
contamination (2) 32:6,10
CONT'D (1)
51:2 contemporaneously (3)
4:18,24;5:3
context (2) 83:24;133:6
continually (1) 135:17
continue (9)
76:17;103:19; 107:20;109:7;128:20;
138:14,21;146:16;
147:17 <b>continued (2)</b>
58:3;119:18
<b>continues (1)</b> 45:16
continuing (2)
30:18;144:14 continuous (1)
57:6
continuously (2) 71:9;72:20
contractor (1) 87:8
contractors (1)
63:6 control (2)
43:13;83:3
conversation (3) 8:16;146:22;147:13
conversations (1)
147:7 conversion (3)
63.3.101.4.142.4

63:3;101:4;142:4

conveyed (1)

23:22

acardinata (7)	aarvanad
coordinate (7)	covered
17:7;33:3;49:1;	43:19
75:10;82:10,12;111:22	COVID-
coordinated (1)	4:12
77:20	create (2
coordinating (3)	82:9;1
17:8;19:15;135:18	creating
coordination (2)	139:17
112:12;129:13	creep (2)
core (2)	44:2,7
13:2;16:18	crew (3)
	80:12;
Corp (2)	
6:19;14:3	crews (9
corrections (2)	21:13;
13:11;93:10	81:4,2
correctly (1)	143:20
79:5	cross (4)
cost (43)	8:13,1
10:13,15;23:19;	CROSS-E
29:21,22;34:5,7;38:4,	24:17;
18,22,24;39:4,12;40:1,	curbs (1
7,18;41:4;43:16;44:18;	105:1
62:7;86:24;87:5,7,8;	
	current
88:8,10,12;89:6,22;	21:20;
90:4,7,9;94:20;96:16,	Current
20;99:1,2,3;109:15;	7:2;55
122:18;123:2;127:12;	126:11
143:10	custome
costing (2)	11:15,
39:5,11	custome
costlier (1)	19:7;2
117:2	82:11,
costly (2)	cut (7)
19:1;142:2	19:7;5
costs (42)	86:8,1
17:10;19:13,16;	cut-off (
23:23;24:4;26:2,4;	46:19
27:6;34:1,4;35:5;36:2;	cutouts
38:9,10;39:13;40:15;	
	108.10
	108:10
61:19;68:14;87:12,13,	108:10
61:19;68:14;87:12,13, 14,17,22;88:7;89:11,	108:10
61:19;68:14;87:12,13,	108:10
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16,	
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16;	daily (2)
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11;	daily (2) 33:22;
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12;	daily (2) 33:22; data (12
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19	daily (2) 33:22; data (12 62:23,
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1)	daily (2) 33:22; data (12 62:23, 97:24;
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19	daily (2) 33:22; data (12 62:23,
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19	daily (2) 33:22; data (12 62:23, 97:24; 106:20
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9)	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1;
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7;	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20;	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12,
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13;
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1)	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24) 35:12, 47:13; 98:4,4
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13;
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24) 35:12, 47:13; 98:4,4
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18 couplings (3)	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24) 35:12, 47:13; 98:4,4 104:3, 108:23
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18 couplings (3) 52:8,12;53:9	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13; 98:4,4 104:3, 108:23 113:16
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18 couplings (3) 52:8,12;53:9 course (7)	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13; 98:4,4 104:3, 108:23 113:16
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18 couplings (3) 52:8,12;53:9 course (7) 23:3;28:18;35:24;	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13; 98:4,4 104:3, 108:23 113:16 dates (2)
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18 couplings (3) 52:8,12;53:9 course (7) 23:3;28:18;35:24; 85:9;86:5,11;123:6	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13; 98:4,4 104:3, 108:23 113:16 dates (2) 37:1;1
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18 couplings (3) 52:8,12;53:9 course (7) 23:3;28:18;35:24;	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13; 98:4,4 104:3, 108:23 113:16 dates (2)
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18 couplings (3) 52:8,12;53:9 course (7) 23:3;28:18;35:24; 85:9;86:5,11;123:6 Court (10)	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13; 98:4,4 104:3, 108:23 113:16 dates (2) 37:1;1 date's (1
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19  count (1) 58:19  couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13  coupling (1) 53:18  couplings (3) 52:8,12;53:9  course (7) 23:3;28:18;35:24; 85:9;86:5,11;123:6  Court (10) 8:6;64:24;66:23;	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13; 98:4,4 104:3, 108:23 113:10 dates (2) 37:1;1 date's (1 131:12
61:19;68:14;87:12,13, 14,17,22;88:7;89:11, 20;90:1,24;91:15,16, 17,18;97:8;98:11,16; 115:12;116:23;119:11; 123:8;141:11,12; 143:19 count (1) 58:19 couple (9) 10:5;56:12,15;57:7; 60:1;86:9;94:20; 134:23;143:13 coupling (1) 53:18 couplings (3) 52:8,12;53:9 course (7) 23:3;28:18;35:24; 85:9;86:5,11;123:6 Court (10)	daily (2) 33:22; data (12 62:23, 97:24; 106:20 126:1; date (24 35:12, 47:13; 98:4,4 104:3, 108:23 113:16 dates (2) 37:1;1 date's (1

```
covered (1)
  43:19
COVID-19 (1)
  4:12
create (2)
  82:9;102:19
creating (1)
  139:17
creep (2)
  44:2,7
crew (3)
  80:12;82:1;101:18
crews (9)
  21:13;28:13;54:2;
  81:4,20;82:4,10,21;
  143:20
cross (4)
  8:13,19;24:12;110:3
CROSS-EXAMINATION (2)
  24:17;110:9
curbs (1)
  105:1
current (3)
  21:20;45:16;120:20
Currently (4)
  7:2;55:24;125:20;
  126:11
customer (4)
  11:15,17;19:5;85:10
customers (5)
  19:7;29:4;59:7;
  82:11,13
cut (7)
  19:7;53:18;72:2;
  86:8,10;120:11;130:15
cut-off (1)
  46:19
cutouts (1)
  108:10
           D
daily (2)
  33:22;83:20
data (12)
  62:23,24;75:19;
  97:24;98:19;105:24;
  106:20;121:6;125:4;
  126:1;128:18;136:21
```

date (24)

dates (2) 37:1;122:17

date's (1)

131:12

35:12,14;36:5,8;

104:3,20;106:5;

134:10;144:24

40:14;57:1,2;69:3;

#### 131:19 decade (1) 118:12 decades (1) 132:20 December (3) 66:8,11,19 decide (2) 28:5;123:6 decided (4) 110:24;135:6;139:1; 144:13 decimal (1) 74:16 decision (3) 29:5;47:2;84:2 decisions (1) 33:13 declared (1) 4:11 decline (1) 60:7 deep (1) 69:2 Deerfield (1) 6:3 default (1) 93:1 defer (2) 49:23;67:5 deferred (1) 135:7 deferring (1) 71:12 defers (1) 120:24 definitely (4) 22:21;114:1,10,14 definition (1) 47:13;58:6;59:9;66:14; 98:4,4;102:23;103:2; 126:5 degradation (10) 38:8;57:20;58:5; 108:23;111:2,5,10; 87:18;88:1,3;97:11; 113:16;114:5;133:23; 98:6,8,9 degree (1) 43:14

74:9

102:19,21;118:24;

delay (4)

119:1

delayed (5)

2020 CAST IRON/BARE
63:22,23;64:4;74:24; 111:17
delaying (1) 114:24
delays (2) 66:7;117:3
demonstrated (1) 68:13
Department (2) 9:11;78:20
dependent (1) 111:15
depends (3) 45:18;109:5;112:2
depreciation (1) 26:14
depth (3) 18:17;41:21,21
derive (1) 100:18
describe (2) 65:13;121:5
<b>described (9)</b> 19:9;29:23;30:6;
57:8;61:8;75:4;88:7; 119:4;144:11
describes (1) 23:18
<b>description (3)</b> 87:16;107:19;122:14
<b>design (2)</b> 12:22;65:20
<b>designed (1)</b> 78:19
desire (2) 46:1,3
desk (1) 10:20
destined (1) 31:8 detail (11)
23:18;82:18;108:5; 117:20;122:14;123:18;
125:23;126:7;136:17; 145:10,20
detailed (3) 50:5;126:9;140:24
details (1) 145:3
<b>detained (1)</b> 80:23
<b>determine (2)</b> 25:16;114:4
detour (2) 21:9,12
detours (2) 20:9,10
develop (2) 34:2;57:3
developed (3) 12:21;15:8;147:12
<b>developing (2)</b> 37:7;147:4

ILITIES (ENERGYNORTH NATUI STEEL REPLACEMENT PROGRA				
developments (1)	distorts (1)			
15:11	106:20			
<b>develops</b> (1) 55:15	<b>distributio</b> 31:5;119			
deviating (1)	dive (1)			
84:10	69:2			
<b>DG</b> (1)	divide (1)			
4:4	102:14			
diameter (8)	division (5			
16:2,9;46:9,12,19;	11:23;12			
62:6;100:8;103:24 <b>Dianne (1)</b>	division's (			
6:1	Docket (8)			
Diehl (1)	4:4;7:21			
7:6	51:10,17			
difference (1)	dockets (2)			
87:10	100:13,1			
differences (1)	document			
61:14 <b>different (11)</b>	55:11,12 documento			
39:7;40:6;71:5,7;	44:14;56			
82:15;91:14,18;95:22;	documents			
111:19;124:21;134:4	23:17			
difficult (6)	dollars (5)			
41:18;61:22;62:14;	11:20;89			
96:22;97:7;115:8 <b>difficulty (2)</b>	136:22;1 done (30)			
62:16;75:6	8:21;20:			
dig (4)	34:7;42:			
31:12;40:14;54:16;	66:1,6,1			
116:10	80:22;98			
<b>digging (4)</b> 22:20;40:17;42:11;	102:2,7; 116:3;12			
49:2	129:9,11			
dining (1)	133:15;1			
21:24	<b>DOT</b> (3)			
direct (10)	77:5,14;			
8:14;9:3;14:4,5;	down (25)			
38:9;87:8;88:8,9;92:4, 8	29:1;36: 52:22;67			
direction (1)	82:22;88			
35:3	101:14,1			
director (4)	103:11,1			
14:2;22:11;92:15,20	117:8;12			
disagree (2)	14;134:1			
111:8;115:4 discontinuance (1)	136:17 downtown			
59:24	16:15,18			
discount (1)	144:21			
19:17	dozen (1)			
discovery (4)	69:21			
101:18;108:16;	<b>drain (1)</b> 139:18			
126:1;136:18 discuss (4)	drawing (1			
32:22;33:1;58:8,10	113:21			
discussed (8)	drawings (			
20:13;30:23;32:20;	113:21			
47:18;58:7;75:6;	dresser (4)			
111:13;146:12 <b>discussion (3)</b>	52:8,12;: drive (1)			
33:4;34:19;95:6	57:4			
discussions (1)	driven (1)			
50.5	102.6			

distorts (1)
106:20
<b>distribution (3)</b>
31:5;119:19;141:23
dive (1)
69:2
divide (1)
102:14
<b>division (5)</b> 11:23;12:1;99:4,5,11
division's (1)
143:4
Docket (8)
4:4;7:21;12:18;37:3;
51:10,17;93:4;122:5
dockets (2)
100:13,14
document (2)
55:11,12
documented (3)
44:14;56:4,5
documents (1)
23:17
dollars (5)
11:20;89:12;123:12;
136:22;144:3
done (30)
8:21;20:2;23:17;
34:7;42:6;48:4;63:18;
66:1,6,15;67:21;74:11;
80:22;98:13;101:16;
102:2,7;105:2;115:21;
116:3;120:6,6;121:8;
129:9,11;132:17;
133:15;135:19;138:4,7
DOT (3)
77:5,14;79:15
down (25)
29:1;36:2;51:22;
52:22;67:18;81:8;
82:22;88:16;89:14;
101:14,19,24;102:13; 103:11,11;115:14,16;
117:8;129:20;131:14,
14;134:12,12;135:13;
136:17
downtown (4)
16:15,18;116:21;
144:21
dozen (1)
69:21
drain (1)
139:18
drawing (1)
113:21
drawings (1)
113:21
dresser (4)
52:8,12;53:8,18
drive (1)

```
driving (3)
  57:1,6;115:13
due (12)
  4:10;16:11;20:10;
  28:22;30:5;37:1;48:3,
  7;60:5;63:23,23;87:20
dug (1)
  43:6
duly (1)
  8:5
duplicate (1)
  112:1
during (32)
  5:1,7;15:8;18:15;
  23:3,5,10;29:23;30:3;
  31:13,24;32:19,21,23;
  33:5;43:21,23;52:2,10,
  22;54:1,4;55:19;56:23;
  57:1;67:19;72:20;
  77:13;86:5;123:13;
  127:21;146:19
           \mathbf{E}
E22 (4)
  107:18,23;125:20;
  145:24
E22s (1)
  126:2
eagle (1)
  43:20
earlier (8)
  20:13;35:20;71:1;
  81:4;95:6;112:23;
  117:14;139:17
early (5)
  55:19;62:3;63:18;
  65:23;128:19
earnest (1)
  132:3
earnestly (1)
  133:11
easiest (1)
  95:12
easily (1)
  104:17
east (3)
  17:13;111:11;139:16
echo's (1)
  85:20
economically (2)
  22:6;71:3
effect (3)
  88:12;121:11;137:18
effective (1)
  50:10
effects (1)
  21:1
efficient (1)
```

50:9

effort (1)

56:7

efforts (1)

```
June 18, 2020
  46:14
either (9)
  23:2;29:14;58:15,16;
  82:23;84:4;107:20;
  123:16;133:3
electronic (2)
  4:22;61:5
electronically (1)
  4:16
elevated (3)
  38:17,20;39:4
eliminate (1)
  130:23
eliminated (1)
  119:19
eliminating (2)
  60:9;130:14
else (3)
  34:8;140:12;146:11
elsewhere (2)
  44:15,16
embers (1)
  144:10
emergencies (1)
  23:10
emergency (6)
  4:11,13,20,21;23:3;
  85:6
emergent (1)
  144:7
emphasize (1)
  125:18
enable (1)
  142:12
encapsulate (1)
  53:17
encounter (1)
  31:13
encountered (2)
  30:11;42:8
encounters (1)
  30:8
encourage (1)
  135:17
encroached (1)
  66:17
end (27)
  15:14;18:12;20:20;
  27:4;31:20,21;45:6;
  52:17;58:6;85:6,21;
  98:4;100:5;101:15;
  102:23;103:1,13,13;
  104:20;106:5;108:21;
  116:8;121:5;123:17;
  141:18,22;144:19
endeavor (1)
  19:1
ended (1)
  119:23
EnergyNorth (1)
  6:19
Engineer (1)
```

50:5

102:6

12:20

Section   Color   Co	anainaanina (2)	115.01	20.2.92.22.126.10.		form (15)
145:23	engineering (3)	115:21	29:3;83:23;126:10;	-	few (15)
145:23				F	
17.13.22.118.4.15				TARRESTO (AA)	
55724/649					
65:24 14 14  entered (1)					
entered (I) 938 everybody's (I) 138:17 28:14 everyone (4) 31:11.23:32:64:124, 47:21 equal (4) 468.769;100:77 103:23 equal (4) 468.769;100:77 103:23 equal (5) 76.8 935:143:65:80:10 12:3 exacit (3) 35:143:65:80:10 12:3 exacit (3) 35:143:13:10:14 13:143:143:14 13:143:14 14:10 14:142 16:141:17:42 14:12 18:11:13:3:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:22 18:11:13:13:13:13 18:11 18:17 exertion (1) 93:0:22:33:91:14:13:13:13:18 18:11 1					
equal (1) 28:14 environmental (7) 31:11,23:32:64:12-4; 42:32,328:64:24 equal (4) 46:87:69;100:7; 103:23 equalit (6) 32:21:38:11 22:38 excalates (1) 33:21 22:38 excalates (1) 32:41:18:76:8;124:23 expecially (6) 32:21:39:29:28; 122:38 excalates (1) 32:64:11:25:26:21; 23:64:11:25:26:21; 23:64:11:25:26:21; 23:64:11:25:26:21; 23:64:11:25:26:21; 23:64:11:25:26:21; 23:64:11:25:26:21; 23:64:11:25:63 excalates (1) 33:81:1 23:88 1-23:88					
138:17					
evalue (4) 33:11:417:49:7; 31:11.23:32:63:41:24; 44:23:23:38:63:10:76:86 35:14:36:58:80:10 22:3					
environmental (7) 31:1123:33:64:124; 42:32,32;68:24 42:32,32;68:24 42:32,32;68:24 42:32,32;68:24 42:32,32;68:24 42:32,32;68:24 42:33 42:33:64:124 42:38 42:31:124:172:142:3 42:38 42:38:13:142:3 42:38 42:38:13:143:142:3 44:512 42:38 42:38:143:142:3 44:512 42:38 42:38:143:142:3 44:512 42:38 42:38:143:142:3 44:512 42:38 42:38:143:142:3 44:512 42:38 42:38:143:142:3 44:512 42:38 42:38:143:142:3 44:512 44:512 42:38 42:38:143:142:3 44:512 44:512 42:38 42:11:12:24:110:22 42:38 42:11:12:24:110:22 42:11:12:24:110:22 42:11:12:24:110:22 41:13:13:13:13:13:143:14 46:10 45:14:14:14:14:14:14:14:14:14:14:14:14:14:					
33111,23326,412424 equal (4) 46.87,69;100.7; 103:23 equally (1) 72:36 equally (1) 22:3 exaclates (1) 35:143:65;80:10 22:3 exaclates (1) 35:143:65;80:10 22:3 exaclates (1) 35:143:65;80:10 22:3 exaclates (1) 35:143:65;80:10 23:36;411;252:6,21; 79:15;86:1 examing (1) 23:38 extablishin (1) 12:38 extimate (18) 34:53:86;41:9,19; 23:34:31744;12;63:16; 68:22,22:69:23;87:11, 138:81:38;19;35:445;82:15;99; 116:5;145:3 22:38 extimate (18) 34:53:86;41:9,19; 22:38 23:11;252:60;138;11;252:61; 101:17;127:12 extimate (10) 229:22;38:9,10;88:8, 10,12;89:5,10,21:99:; 22:18mated (10) 229:22;38:9,10;88:8, 10,12;89:5,10,21:99:; 22:18mated (10) 229:22;38:9,10;88:8, 10,12;89:5,10,21:99:; 22:18mated (10) 23:20:21 extimate (10) 23:20:21 extimate (10) 23:20:21 extimate (10) 23:20:21 23:20:21 extimate (10) 23:20:21 extima					
423,23;88:24 evidenced (1) 60:6 51;2:6:41:19:014 expenditures (2) 13:23; equally (1) 7:68 acculates (1) 35:14;365;80:10 exact (3) 36:16;46;40:10 exact (4) 34:14;40:10 exact (4) 34:14;40:10 exact (4) 34:14;40:10 exact (4) 40:10 exact					
equal (4) 46.87.69;100.7; 103:23 equally (1) 76.8 20tation (1) 212:3 exacti (3) 35:14;36:5;80:10 223:41;18;76:81;24:23 exacti (3) 34:21 especialty (6) 23:64;11:25:26,21; 79:15;86:1 examining (1) 624;47:12;58:5 extablish (1) 1624;47:12;58:5 extablish (1) 1624;10:12;114:9 160:16 160:5 160:60:5 160:10:10:10:10:10:10:10:					
468,76-9;100-7;   could   country   display   country   display					
13:12					
equality (1)   7-68   equation (1)   122:3   41:18,768,8124:23   42:18,768,8124:23   60:8   42:18,768,8124:23   60:8   42:18,768,8124:23   60:8   42:18,768,8124:23   60:8   42:18,768,8124:23   60:8   42:18,768,8124:23   60:8   60:5					
7-6:8 equation (t) 122:3 escalates (t) 34:21 especially (6) 23:64:11:25:26,21; 79:15:86:1 establish (t) 123:8 establishing (3) 16:24:47:12:58:5 estimate (18) 23:43:17:44:12:63:16; 16:24:47:12:58:5 estimate (18) 29:22:3 establishing (3) 16:24:47:12:58:5 estimate (18) 29:22:3 establishing (3) 16:24:47:12:58:5 estimate (18) 29:22:3 establishing (3) 16:24:47:12:58:5 estimate (18) 29:22:38:91:105:114:23:10:1 16:24:12:12:12:12:12:12:12:12:12:12:12:12:12:				,	
equation (1)   22:3   exactly (3)   41:18:76:8;124:23   expension (1)   34:21   92:380:2;92:8;   138:11   expension (1)   92:380:2;92:8;   138:11   expension (1)   60:5   fair (25)   60:5   6					
12:23					
escalates (1) 34:21 especially (6) 23:64:112;52:6.21; 79:15;86:1 23:38 establishing (3) 16:24,47:12;58:5 estimate (18) 34:53:86:419.919, 23:44;144;12.63:16, 68:22,2269:23;87:11, 13:88:13.90:12.9115; 101:17;127:12 estimated (10) 29:223:89,10x88.8, 101;89:5,10,21;99:2 estimated (10) 30:23:24;141;49.04; 122:18 estimating (9) 30:23:24;141;49.04; 14:10:33:44;149.04; 122:18 estimating (9) 30:23:24;141;49.04; 122:18 estimating (9) 30:23:21;24;31:10; 44:20:21;15; 138:11 examining (1) 29:20;517;73:12; 20:16;73:31:1; 20:11;72:4;62:1;80:14; 81;13:83:7,985:12; 29:20;14;42:20:15; 81;13:83:7,985:12; 90:10:17;91:5,10; 116:21;121:22;123:9, 20:124:8,99:13 116:31;42:22:4; 61:17,24;62:1;80:14; 81:13:83:7,985:12; 82:18;84:19:107:2 82:18;84:19:107:2 82:18;84:19:107:2 82:18;84:19:107:2 82:18;84:19:107:2 82:18;84:19:107:2 82:18;84:19:107:2 82:18;84:19:107:2 82:18;84:19:107:2 82:18;84:19:107:2 81:13:38:7;98:12; 81:13:38:7;98:12; 90:10:17;91:5,10 116:21:121:22:123:9, 20:124:8,99:13 116:3(14;19:14;22:24; 61:17,24;62:1;80:14; 81:13:38:7;98:12; 81:13:38:7;98:12; 81:13:38:7;98:12; 90:10:17;91:20;10 116:21:121:22:123:9, 16:21:12:23:9, 16:21:41:29:13; 116:21:121:22:123:9, 16:21:41:49:14; 16:14:19:42:22:4; 81:13:48:49:107:2 81:13:38:7;98:12; 81:13:38:7;98:12; 16:14:19:12:42:13:9 16:14:19:12:12:12:12:13:9 16:14:19:12:12:12:12:12:13:9 16:14:19:					
34:21 especially (6) 23:6:41:12:52:6;21; 79:15;86:1 123:8 examining (1) 123:8 example (9) 123:8 example (9) 16:24:47:12:58:5 extimate (18) 23:43:17:44:12;69:24;38:11; 13:88:13:90:12:91:15; 101:17:127:12 extimated (10) 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:90:10:19:18; 101:18:120:10 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.8, 10;12:18; 29:22;38:91,08:88.9, 10;18:18; 29:22;38:91,08:88.9, 10;18:18; 29:22;38:91,08:88.9, 10;18:18; 29:22;38:91,08:88.9, 10;18:18; 29:22;38:91,08:88.9, 10;18:18; 29:22;38:91,08:18; 29:22;38:91,08:14; 29:22;38:18;84:19;107:2 29:21;18:84:19;107:2 29:21;18:84:19;107:2 29:21;18:84:19;107:2 29:21;18:84:19;107:2 29:21;18:84:19;107:2 29:22;38:91,08:14; 29:22;18:84:19;107:2 29:21;18:88:13;39:12:19;15; 29:22;38:91,08:18; 29:22;38:91,08:18; 29:22;38:91,08:18; 29:22;38:91,08:18; 29:21;18:24;12:19; 29:21;18:24;12:19; 29:21;18:38:13;19;29; 20:12:18;20:10; 29:21;44:14:90:4; 10:11:12;11:10;10; 21:1 21:1 21:1 22:1 24:1 12:18 24:10:12:18:11:10;10; 22:19 22:22:33:19;35:18; 22:22:33:19;35:18; 22:22:33:19;35:18; 22:22:33:19;35:18; 23:19:33:19;35:12; 20:12:18;20:10; 20:12:18					
Sepecially (6)   23:641:1252:621;   79:15:861   92:23   92:35   92:33   92:14   92:23   92:23   92:35   92:33   92:14   92:23   92:23   92:35   92:33   92:14   92:23   92:35   92:3					
23:64.i1.2;52.6,21; 79:15;86:1   92:23   explain (1)   92:23   explain (6)   29:20;51:7;31:12; 82:18;84:19:107:2   example (9)   30:22;124:14;90:4; 12:21:15; 68:18;70:10   et (2)   23:20,21   evacuated (1)   24:1   evacuated (1)   23:20,21   evacuated (1)   24:1   evacuated (1)   25:11   evaluates (1)   77:19   20:21;44:2;55:18; 72:17;82:23;90:20; 12:18;21;21:21; 13:18; 72:17;82:23;90:20; 10:11:10:15; 13:18; 72:17;82:23;90:20; 10:11:10:15; 13:24; 14:14   finelity (1)   10:14;10:15   10:25; 10:15; 10:25; 10:15; 10:25; 10:15; 10:25; 10:15; 10:25; 10:15; 10:25; 10:15; 10:2					
Part					
establishing (3)	79:15;86:1		explain (6)		filled (1)
17.4;18.2;21:15;   31:19;35:4;58:21;59;   51:19;35:4;58:21;   51:19;35:4;58:21;   51:19;35:4;58:21;   51:19;35:4;58:21;   51:19;35:4;58:12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   51:19;35:4;58:14;12;   10:114;10:19;35:4;58:14;12;   10:114;10:19;35:4;58:14;12;   10:114;10:19;35:4;58:14;12;   10:114;12;14;11;12;14;111;12;14;11;13:14;14;14;14;14;14;14;14;14;14;14;14;14;1	establish (1)	example (9)	29:20;51:7;73:12;		79:16
Setablishing (3)   16:24;471:2;58:5   31:19;35:4;58:21;59:9;   116:5;145:3   32:7   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   90:10,179:15;10;   116:21;121:22;123:9,   20:124:8,9:13;   116:21;121:4;   116:20;146:7   116:21;121:22;123:9,   20:124:8,9:13;   10:12,121:12;14;   116:21;121:22;123:9,   20:124:8,9:13;   10:12;121:12;14;   116:21;121:22;123:9,   20:124:8,9:13;   10:12;121:12;14;   116:21;121:22;123:9,   20:124:8,9:13;   10:12;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;14;   116:21;121:12;1	123:8		82:18;84:19;107:2		final (9)
16:24:47:12;88:5   estimate (18)   34:5;38:6;41:9,19, 23;43:17;44:12;63:16; 68:22,226;96:23;87:11, 13;88:13;90:12;91:15; 101:17;127:12   estimated (10)   29:22;38:9,10;88:8, 10,12;89:5,10,21:99:2   estimates (4)   39:21;44:14;90:4; 122:18   estimating (9)   30:2;32:12;43:10; 44:20;62:12;17;24; escution (1)   estimated (1)   23:20,21   estimated (1)   23:20,21   estimated (1)   56:17   estimated (1)   56:17   evaluates (1)   75:17   132:3;137:16   esteroid (1)   23:20,21   evaluates (1)   56:17   29:41   24:14   4   49:19   evaluates (1)   71:19   evaluates (1)   23:20,21   evaluates (1)   23:20,21   evaluates (1)   24:11   23:20,21   evaluates (1)   24:12   24:13   24	establishing (3)	31:19;35:4;58:21;59:9;	explained (1)		12:2,3,6;33:12;
estimate (18) 34:5;38:64:19,19, 23;43:17;44:12;63:16; 68:22,22;69:23;87:11, 13:88:13;90:12;91:15; 101:17;127:12 estimated (10) 29:22;38:9;10;88:8, 10,12;89:5;10,21;99:2 estimates (4) 39:21;44:14;90:4; 122:18 110:14;106:3 39:21;44:14;90:4; 68:18;70:10 et (2) 23:20,21 et (2) 23:20,21 evacuated (1) excrect (1) excution (1) 56:17 evaluates (1) 71:9 evaluates (1) 71:9 evaluates (1) 71:9 evaluates (1) 20:20;24;39:19;10;13:15; 24:1 22:11 23:20,21 evacuated (1) 23:20,21 evaluation (1) 24:14 25:17 24:1 evacuated (1) 25:17:18:21;20:12 7:17:82:23:90:20; 93:47,8:96:2;106:12, 49:19 evaluation (1) 49:19 evaluation (1) 49:19 evaluation (1) 25:17 26:exim (2) 26:form (3) 21:12:12:12:23:9, 20:16:11:12:12:12:23:9, 20:6 57:7;9;77:24;78:2,11 fan (1) 109:1 17:12 finally (1) 39:24 57:79,77:24;78:2,11 fan (1) 109:1 17:12 finally (2) 135:23;136:18 finacia (5) 90:11:95:17;107:9; 122:31:30:8 find (13) 136:55;12:44;54:14,21; 136:31;112:14 feared (1) 143:21 feared (1) 143:	16:24;47:12;58:5	116:5;145:3	32:7		62:19;97:4;112:14;
34:5;38:6;41:9,19, 23;43:17;44:12;63:16; 68:2,222;69:23;87:11, 13;88:13;90:12;91:15; 101:17;127:12 estimated (10)	estimate (18)	excavation (1)	explains (1)		116:20;146:7
23;43:17;44:12;63:16; 68:22,22;69:23;87:11, 7:24 73:5;76:23 9:24;31:17;44:12;63:16; 13:88:13;90:12;91:15; 10:17;127:12 estimated (10) 20:6 explore (1) 21:1 1 10:1 fan (1) 57:79;77:24;78:2,11 fan (1) 57:12 finally (2) 17:12 estimated (10) 21:1 1 10:1 financial (5) 17:12 estimates (4) 12:13 12:1 10:1 fan (1) far (9) 12:22 estimates (4) 12:18 excluded (2) extend (2) 22:22 estimating (9) 23:22:12;43:10: 48:11 105:1;120:8;131:12 execution (1) excerbi (1) excerbi (1) excerbi (1) excerbi (1) excerbi (1) excerbi (2) 13:23;137:16 excluded (3) 4:10:35:2;40:4;41:5; 68:18;70:10 et (2) 23:20,21 excluded (1) excercis (1) excercis (1) excluded (1) excercis (1) excluded (1) exercis (1) excluded (1) exercis (1) excluded (3) excluded (2) extend (2) 13:23;137:16 excluded (3) 10:22;4;10:31:12 execution (1) extend (2) 13:23;137:16 exercis (1) excluded (1) exercis (1) excluded (3) exercis (1) excluded (1) exercis (1) excluded (3) exercis (1) excluded (1) exercis (1) excluded (1) exercis (1) excluded (1) exercis (1) excluded (3) exhibit (13) extract (3) exhibit (13) extract (3) exhibit (13) extract (3) exhibit (13) extract (3) exhibit (16) extract (3) exhibit (16) extract (1) 11:15;113:24 feed (1) 58:24 feel (3) fine (1) 14:21 feels (1) 15:21;116 extracts (1) 50:7;13:73:6 feels (1) 15:3;13:73:6 feels (1) 15:3;13:73:6 feels (1) 13:6;9 finish (7) extract (7) extract (1) 43:73:22:17:82:23;90:20; 92:16:97:8:98:8,19; 10:61:91:11:20;113:15; existence (1) 44:17 finished (7) excerbi (1) 44:17 finished (7) excerbi (1) 43:20;83:17 feet (3) exhibit (7) excerbi (1) 43:20;83:17 feet (3) exhibit (7) exhibit (8) 17:12 finally (2) 13:5:23;13:18;13:18;13:112 extract (3) 4:10:55:240:44:15; 13:11:12 feet (1) 13:11; 11:11; 10:14 final (13) 15:12:14;14:14; 13:12:14 for (1) 10:14;16:3 13:12:14 feet (1) 13:11; 11:14; 10:14; 10:15; 11:14; 10:14; 10:15; 11:14; 10:15; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14; 11:14;	34:5;38:6;41:9,19,	79:2	67:4		finalized (1)
68:22,22;69:23;87:11, 13;88:13;90:12;91:15; 10:17;127:12 estimated (10) 29:22;38:9,10;88:8, 10,12;89:5,10,21;99:2 estimates (4) 39:21;44:14;90:4; 122:18 estimating (9) 30:2;32:12;43:10; 44:20:62:12,17,24; 68:18;70:10 et (2) 23:20,21 evacuated (1) 24:14 24:1 24:1 24:1 24:1 24:1 24:1 24:					
101:17;127:12   estimated (10)   excerpt (2)   29:22;38:9,10;88:8,   117:18;120:10   excerpted (1)   21:1   express (1)   109:1   fan (1)   135:23;136:18   financial (5)   90:11;95:17;107:9; 120:22   extend (2)   22:22   33:19;35:18; 36:55;51:24;54:14,21; 136:3;145:20   fast (6)   20:22;233:19;35:18; 36:55;51:24;54:14,21; 136:3;145:20   fast (6)   20:34,71:3,15;   20:41   extend (2)   35:13;131:18   extend (2)   35:13;131:18   extend (2)   35:13;131:18   extend (2)   35:13;131:18   extend (3)   105:1;120:8;131:12   extent (2)   132:3;137:16   extern (2)   133:17   finding (1)   43:21   finally (2)   135:23;136:18   financial (5)   90:11;95:17;107:9; 120:4;14:14,21; 136:3;145:20   fast (6)   20:3;47:13,15;   136:3;145:20   fast (6)   20:3;47:13,15;   133:17   finding (1)   143:21   finally (2)   135:23;136:18   financial (5)   90:11;95:17;107:9; 120:4;44:14,21;   136:3;145:20   fast (6)   20:3;47:13,15;   120:24;103:1;112:14   fase (d)   143:21   finally (2)   135:23;136:18   financial (5)   90:11;95:17;107:9; 120:4;44:14,21;   136:3;145:20   fast (6)   120:24;103:1;112:14   fase (d)   143:21   fast (6)   finding (5)   140:21   fast (6)   finding (5)   140:21   fast (6)   finding (1)   143:21   finding (1)   fast (6)   finding (1)   fast (6)   finding					
101:17:127:12   46:8;100:7   excerpt (2)   29:22;38:9,10;88:8, 10,12;89:5,10,21;99:2   extimates (4)   120:13   122:22   extend (2)   120:13   122:22   extend (2)   30:2;32:12;43:10; 44:20;62:12,17,24; 68:18;70:10   et (2)   23:20,21   4:14   23:20,21   evaluates (1)   56:17   evaluates (1)   71:9   evaluation (1)   49:19   even (17)   20:21;44:2;55:18; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;13:15; 120:15   120:23   extermely (2)   51:3;73:6   extermely (2)   51:13;73:6   extermely (2)   61:4;87:11;88:2; 146:1   141:17   141:17   141:17   141:17   141:17   141:17   141:17   141:17   141:17   141:17   141:17   141:17   141:17   141:17   142:14   141:17   141:17   141:17   142:14   141:17   141:17   142:14   141:17   141:17   141:17   142:14   141:17   141:17   142:14   141:17   141:17   141:17   141:17   141:17   141:17   142:14   141:17   141:1				familiar (5)	
29:22;38:9,10;88:8, 10,12;99:2 extended (1) express (1) 120:13 22:22 extended (2) 22:22;33:19;35:18; 136:5;51;24;54:14,21; 136:3;145:20 find (13) 4:10;35:2;40:4;41:5; 136:3;145:20 findings (5) 22:27;77:13 feeded (1) 4:66:6 findings (5) 4:10;14;106:3 feeded (1) 4:10;14;106:3 find (13) 4:10;35:2;40:4;41:5; 136:3;145:20 findings (1) 4:10;14;106:3 find (13) 4:10;35:2;40:4;41:5; 136:3;145:20 findings (5) 4:10;24:103:1;112:14 feared (1) 143:21 feared (1) 145:2 findings (5) 42:1;60:24;128:2 feared (1) 11:15;113:24 feared (1) 11:15;113:24 feared (1) 15:118:21,22;120:12 extracts (1) 7:16 feared (1) 58:24 feed (1) 105:3;136:1;140:21 feels (1) 50:7 28:14;48:22;87:22; 131:69 findings (7) 145:2 finish (5) 28:14;48:22;87:22; 131:69 fees (8) 131:69 finish (7) 61:4;487:11;88:2; 93:20;113:15;115:23 feels (1) feet (3)					
10,12;89:5,10,21;99:2 estimates (4)   120:13   122:22   22:2;33:19;35:18;   39:21;44:14;90:4;   101:14;106:3   35:13;131:18   36:5;51:24;54:14,21;   136:3;145:20   fast (6)   20:3;47:13,15;   132:21;43:10;   44:20;62:12,17,24;   68:18;70:10   exceution (1)   extern (2)   23:20,21   4:14   102:6,7   exacuated (1)   exercise (1)   exercise (1)   extra (2)   98:16;103:8   extra (2)   22:7;71:3   federal (2)   11:5;118:21,22;120:12   evaluates (1)   evaluates (1)   eyaluates (1)   eyaluates (1)   eyaluates (1)   eyaluates (1)   20:21;44:2;55:18;   72:17;82;23;90:20;   92:16;97:8;98:8,19;   106:19;111:20;113:15;   120:8;132:24;135:12;   146:1   141:17   extern (1)   141:17   extern (2)   93:00;113:15;115:23   extend (2)   22:2;33:19;35:18;   36:5;51:24;54:14,21;   136:3;19;35:18;   36:5;51:24;54:14,21;   136:3;145:20   fast (6)   20:3;47:13,15;   120:2;4;103:1;112:14   feared (1)   143:21   feared (1)   143:21   feared (1)   143:21   federal (2)   22:7;71:3   federal (2)   11:15;113:24   federal (2)   11:15;113:24   federal (3)   11:15;113:24   federal (4)   58:24   federal (4)   58:24   federal (5)   11:15;113:24   federal (7)   145:2   feel (3)   105:3;136:1;140:21   feel (3)   105:3;136:1;140:21   feel (3)   105:3;136:1;140:21   feel (3)   105:3;136:1;140:21   feel (3)   find (13)   4:10;35:2;40:4;41:5;   feared (1)   143:21   feared (1)   143:21   feel (3)   102:24;103:1;112:14   feared (1)   143:21   feel (3)   11:15;113:24   feel (3)   11:15;114:14   feel (3)   11:15;113:24   feel (3)   11:15;113:24   feel (3)   145:2   feel (3)   145:2   finsh (5)   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:23   13:15;115:13:15;115:13:13   13:15;115:13:13   13:15;115:13:13   13:15;115:13:13:13   13:15;115:13:13   13:15;115:13:13:13   13:15;115:13:13:1				fan (1)	
estimates (4)				109:1	
Seximating (9)					
101:14;106:3   25:13;131:18   extended (3)   136:3;145:20   4:10;35:2;40:4;41:5; 57:2;67:11;72:21;86:4; 48:11   20:3;21,17,24; execution (1)   4:14   102:6,7 extended (2)   23:20,21   4:14   102:6,7 evaluates (1)   24:1   24				22:22;33:19;35:18;	
estimating (9)				36:5;51:24;54:14,21;	
30:2;32:12;43:10; 44:20;62:12,17,24; 68:18;70:10 et (2) 23:20,21 evacuated (1) 56:17 evaluates (1) 71:9 evaluation (1) 49:19 even (17) even (17) 20:21;44:2;55:18; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 105:1;120:8;131:12 extent (2) 132:3;137:16 externally (2) 132:3;137:16 feared (1) 143:21 16eared (1) 143:21 16eared (2) 22:7;71:3 16ederal (2) 22:7;71:3 17:16 extract (3) 11:15;113:24 feed (1) 85:9 findings (5) 42:1;60:24;128:2 feed (1) 15:118:21,22;120:12 extract (3) 11:15;113:24 feed (1) 105:3;136:1;140:21 feel (3) 105:3;136:1;140:21 finding (1) 46:6 findings (5) 42:1;60:24;128:2 feed (1) 105:3;136:1;140:21 feel (3) 105:3;136:1;140:21 feel (3) 105:3;136:1;140:21 feel (3) 105:3;136:1;140:21 finding (1) 46:6 findings (5) 47:12:4,10;97:4,4 finds (1) 85:9 finds (1) 85:9 finds (1) 105:3;136:1;140:21 feel (3) 105:3;136:1;140:21 finds (1) 46:6 findings (5) 42:1;60:24;128:2 feed (1) 105:3;13:12 feerated (1) 145:2 11:1:5;113:24 feerated (1) 145:2 11:1:5;113:24 feed (1) 105:3;136:1;140:21 feel (3) 105:3;136:1;1			*		
44:20;62:12,17,24; 68:18;70:10 et (2) 23:20,21 evacuated (1) 56:17 evaluates (1) 71:9 evaluation (1) 49:19 even (17) 20:21;44:2;55:18; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 120:8;132:24;135:12; 146:1  execution (1) 75:17 Executive (1) 4:14 102:6,7 extra (2) 98:16;103:8 extract (3) 99:16;12:8;13:7;14:8; 42:1;60:24;128:2 extract (3) 42:1;60:24;128:2 extract (3) 42:1;60:24;128:2 extract (3) 42:1;60:24;128:2 extract (3) 61:16;87:15;144:14 feared (1) 143:21 feasible (2) 22:7;71:3 federal (2) 111:15;113:24 feed (1) 58:24 feed (1) 58:24 feed (1) 58:24 feel (3) finity (3) 61:16;87:15;144:14 feared (1) 143:21 feesible (2) 22:7;71:3 feed (1) 58:24 feed (1) 58:24 feel (3) finity (3) finity (1) 145:2 feels (1) 50:7 fees (8) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3) finity (7) finding (1) 46:6 finding (1) 4:4:7;12:4,10;97:4,4 finding (1) 4:4:7;12:4,10;97:4,4 finding (1) 4:4:7;12:4,10;97:4,4 finding (1) 4:4:6:6 finding (1) 4:4:6:6 finding (1) 4:4:7;12:4,10;97:4,4 finding (1) 4:4:7;12:4,10;97:4,4 finding (1) 4:4:7;12:4,10;97:4,4 finding (1) 4:4:6:6 finding (1) 4:4:6:6 finding (1) 4:4:6:6 finding (1) 4:4:6:6 finding (1				` '	
68:18;70:10 et (2) 23:20,21 evacuated (1) 56:17 evaluates (1) 71:9 evaluation (1) 49:19 even (17) 20:21;44:2;55:18; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 120:8;132:24;135:12; 146:1  132:3;137:16 externally (2) 102:6,7 extra (2) 98:16;103:8 extract (3) 98:16;103:8 extract (3) 99:16;12:8;13:7;14:8; 42:1;60:24;128:2 extract (3) 105:3;136:1;140:21 feared (1) 143:21 feasible (2) 22:7;71:3 federal (2) 111:15;113:24 feed (1) 145:0 111:15;113:24 feed (1) 158:9 finding (1) 46:6 finding (1) 45:6 finding (1) 45:7 fied (1) 58:9 6 fine (3) 10:16;87:15;14:14 feel					
externally (2) 23:20,21 evacuated (1) 56:17 evaluates (1) 71:9 evaluation (1) 49:19 even (17) 20:21;44:2;55:18; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 120:8;132:24;135:12; 146:1  Executive (1) 4:14  externally (2) 102:6,7 extra (2) 98:16;103:8 extract (3) 98:16;103:8 extract (3) 42:1;60:24;128:2 extracts (1) 71:16 extract (3) 71:16 extract (3) 71:16 extract (1) 71:16 extract (2) 101:15;113:24 feed (1) 11:15;113:24 feed (1) 11:15;113:24 fine (3) 61:16;87:15;144:14 finer (1) 145:2 finish (5) 105:3;136:1;140:21 fees (8) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3)  11:17 feet (3)  14:17  14:17  14:17  15:23  15:21:10:15 102:6,7 extra (2) 22:7;71:3 11:15;113:24 finds (1) 14:13:21				· · · · · · · · · · · · · · · · · · ·	
23:20,21			,		0 ( )
evacuated (1)       exercise (1)       extra (2)       22:7;71:3       4:7;12:4;10;97:4,4         56:17       24:1       98:16;103:8       federal (2)       85:9         evaluates (1)       9:16;12:8;13:7;14:8;       42:1;60:24;128:2       feed (1)       85:9         evaluation (1)       93:4,7,8;96:2;106:12,       extracts (1)       58:24       finer (3)         49:19       15;118:21,22;120:12       71:16       feel (3)       finer (1)         even (17)       Exhibits (6)       extras (2)       105:3;136:1;140:21       finsh (5)         20:21;44:2;55:18;       7:15,15;117:13;       43:20,23       feels (1)       50:7       28:14;48:22;87:22;         92:16;97:8;98:8,19;       exist (3)       51:13;73:6       fees (8)       131:6,9         106:19;111:20;113:15;       43:7;54:12;110:15       eye (2)       38:8;87:18;88:1,3;       97:11;98:6,8,10       61:4,4;87:11;88:2;         146:1       141:17       43:20;83:17       feet (3)       61:4,4;87:11;88:2;		` /			
56:17 evaluates (1) 71:9  evaluation (1) 49:19 even (17) 20:21;44:2;55:18; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 120:8;132:24;135:12; 146:1  24:1  Exhibit (13) 9:16;12:8;13:7;14:8; 98:16;103:8 extract (3) 42:1;60:24;128:2 extracts (1) 71:16 extract (3) 42:1;60:24;128:2 feed (1) 58:24 feed (1) 58:24 feed (1) 58:24 feed (1) 58:24 fine (3) 61:16;87:15;144:14 finer (1) 145:2 finish (5) 145:2 finish (5) 145:2 finish (5) 145:2 finish (5) 131:6,9 fine (3) 61:16;87:15;144:14 finer (1) 50:7 71:15 feel (3) 105:3;136:1;140:21 feels (1) 50:7 7:15,15;117:13; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 143:17 fees (8) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3) finds (1) 85:9 fine (3) 61:16;87:15;144:14 finer (1) 145:2 finish (5) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3) finds (1) 85:9 fine (3) 61:16;87:15;144:14 finer (1) 61:16;87:15;144:14 fine			,		
evaluates (1)       Exhibit (13)       extract (3)       111:15;113:24       85:9         evaluation (1)       9:16;12:8;13:7;14:8;       42:1;60:24;128:2       feed (1)       fine (3)         even (17)       Exhibits (6)       extracts (1)       71:16       feel (3)       finer (1)         even (17)       Exhibits (6)       extract (2)       43:20,23       feels (1)       145:2         20:21;44:2;55:18;       7:15,15;117:13;       43:20,23       feels (1)       50:7       28:14;48:22;87:22;         92:16;97:8;98:8,19;       exist (3)       51:13;73:6       fees (8)       131:6,9         106:19;111:20;113:15;       43:7;54:12;110:15       eye (2)       38:8;87:18;88:1,3;       finished (7)         120:8;132:24;135:12;       141:17       43:20;83:17       feet (3)       61:4,4;87:11;88:2;       93:20;113:15;115:23				,	
71:9 evaluation (1) 49:19 even (17) 20:21;44:2;55:18; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 120:8;132:24;135:12; 146:1  9:16;12:8;13:7;14:8; 942:1;60:24;128:2 extracts (1) 71:16 extracts (2) 43:20,23 extremely (2) 50:7 51:13;73:6 extremely (2) 50:7 51:13;73:6 eye (2) 43:20;83:17  fine (3) 61:16;87:15;144:14 feel (3) 105:3;136:1;140:21 feels (1) 50:7  61:44;8:22;87:22; 61:16;97:15;144:14 feel (3) 105:3;136:1;140:21 feels (1) 50:7  131:6,9 61:4,4;87:11;88:2; 97:11;98:6,8,10 fine (3) 61:16;87:15;144:14 feel (3) 105:3;136:1;140:21 feels (1) 50:7 61:44;8:22;87:22; 61:46:1 61:44;87:11;88:2; 93:20;113:15;115:23			· ·		
evaluation (1) 49:19 even (17) 20:21;44:2;55:18; 72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 120:8;132:24;135:12; 146:1  93:4,7,8;96:2;106:12, 15;118:21,22;120:12 Exhibits (6) 71:16 extracts (1) 71:16 extracts (2) 43:20,23 extracts (2) 105:3;136:1;140:21 feel (3) 105:3;136:1;140:21 feels (1) 58:24 finer (1) 145:2 finish (5) 28:14;48:22;87:22; 131:6,9 finished (7) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3)  145:2 finish (5) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3) 61:4,4;87:11;88:2; 93:20;113:15;115:23	, ,	` '			
49:19       15;118:21,22;120:12       71:16       feel (3)       145:2       145:2         20:21;44:2;55:18;       7:15,15;117:13;       43:20,23       feels (1)       145:2       finish (5)         72:17;82:23;90:20;       92:16;97:8;98:8,19;       exist (3)       51:13;73:6       50:7       28:14;48:22;87:22;         92:16;97:8;98:8,19;       exist (3)       51:13;73:6       fees (8)       131:6,9         106:19;111:20;113:15;       43:7;54:12;110:15       eye (2)       38:8;87:18;88:1,3;       finished (7)         120:8;132:24;135:12;       43:20;83:17       97:11;98:6,8,10       61:4,4;87:11;88:2;         146:1       141:17       feet (3)       93:20;113:15;115:23					
even (17)       Exhibits (6)       extras (2)       105:3;136:1;140:21       145:2         20:21;44:2;55:18;       7:15,15;117:13;       43:20,23       feels (1)       50:7       28:14;48:22;87:22;         92:16;97:8;98:8,19;       exist (3)       51:13;73:6       fees (8)       131:6,9         106:19;111:20;113:15;       43:7;54:12;110:15       eye (2)       38:8;87:18;88:1,3;       97:11;98:6,8,10         146:1       141:17       feet (3)       93:20;113:15;115:23			, ,		
20:21;44:2;55:18; 7:15,15;117:13; 43:20,23 feels (1) 50:7 fees (8) 131:6,9 finished (7) feet (3)					
72:17;82:23;90:20; 92:16;97:8;98:8,19; 106:19;111:20;113:15; 120:8;132:24;135:12; 146:1 141:17 extremely (2) 50:7 fees (8) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3) 140:9,10,11 extremely (2) 50:7 fees (8) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3)					
92:16;97:8;98:8,19; 106:19;111:20;113:15; 120:8;132:24;135:12; 146:1 141:17 exist (3) 43:7;54:12;110:15 existence (1) 141:17 feet (3) 51:13;73:6 eye (2) 43:20;83:17 fees (8) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3) 131:6,9 finished (7) 61:4,4;87:11;88:2; 93:20;113:15;115:23					
106:19;111:20;113:15; 43:7;54:12;110:15 eye (2) 38:8;87:18;88:1,3; 97:11;98:6,8,10 feet (3) finished (7) 61:4,4;87:11;88:2; 93:20;113:15;115:23					
120:8;132:24;135:12; existence (1) 43:20;83:17 97:11;98:6,8,10 61:4,4;87:11;88:2; 93:20;113:15;115:23				` '	
146:1 141:17 feet (3) 93:20;113:15;115:23					
(1)		, ,	13.20,03.17		
25:19;42:12;121:14					
	···			23.17,42.12,121.14	(=)

26:1;28:4,19,24;29:9,

2020 CHOT INOT VETINE
87:21
fires (1)
57:18
fire's (1)
144:9
fire-type (1)
55:21
firm (3)
16:21;17:1;19:24
<b>first</b> (18)
4:7;8:14;22:17;
42:12;49:19;76:18;
84:1;86:16;94:12;
110:11;111:1;115:9;
117:23;119:3;123:13;
139:16;142:19;143:3
fiscal (17)
24:24;25:2;26:8,17,
22,23;27:15;61:13;
74:8,14,17,19;88:24;
89:20;91:20;141:10,11
fitters (2)
81:1,23
five (17)
17:24;18:4,12;20:20;
44:24;47:5;48:21;75:5; 90:20;102:14;112:24;
131:9;132:12,15;
133:13,14;134:3
five- (1)
58:7
five-year (1)
47:11
fix (1)
52:16
flagpole (1)
84:5
flexibility (1)
80:16
flipping (1)
99:16
flow (2)
27:6;50:19
focus (1)
118:16
focused (1)
99:12
follow (2)
76:1;96:7
following (2)
87:23;117:22 follow-on (1)
75:21
follow-up (4)
18:2;72:21;79:23;
140:3
follow-ups (1)
77:15
foot (5)
29:21;44:18;62:7;
89:6;131:14
footage (1)
134:11

ILITIES (ENERGYNOR STEEL REPLACEMEN'	TH T H
foot-by-foot (1)	
32:15 footnote (1) 99:24	
footwork (1)	
31:16 <b>force (1)</b>	
20:3 forecasting (1)	
69:20 forever (4)	
112:4;113:7;132:21; 133:19	
formal (1) 139:22	
<b>format (2)</b> 126:10;127:19	
forms (1) 13:2	
forth (2)	F
75:15,17 <b>forward (4)</b>	fr
31:8;121:12;142:24; 146:3	fr
forward-looking (2) 32:23;33:6	fr
fought (1) 144:4	fu
<b>found (5)</b> 30:9;43:2,3;53:1;	
86:7 <b>foundation (1)</b>	fu
93:21	c
<b>four (5)</b> 18:11;82:21;83:6;	fu
90:19,20 <b>fractures (1)</b>	fu
105:18 <b>frame (3)</b>	fu
11:20;85:4;139:12 <b>frames (1)</b>	fu
67:7 franchise (1)	fu
143:13	c
freezing (1) 51:12	fu
Frink (10) 7:11;117:15;120:18,	F
22;122:2;128:17; 129:18;130:1;136:5;	
137:14 <b>Frink's (2)</b>	
117:16;118:22 <b>front (1)</b>	ga
53:5 FROST (121)	G
8:4,8;10:22;12:15,	
19,20;13:4,9,13,17,20; 14:13,17,20;15:1,3,10,	
18;16:5,17,24;18:6,14; 19:2,15;20:5;21:7,18;	
22:3;23:5,16;24:3;	ga

```
13,23;30:23;32:2,19;
33:5:36:18.22:37:22:
40:20;42:16,17;43:11;
44:6,19;45:3,15;46:5,
23;47:10;48:1,19,23;
49:14;50:11;51:9;
53:22;54:4;55:6,7;
56:21;58:3,21;60:16,
23;61:16;62:2,16;64:1,
6;65:5,10;68:12;69:12;
70:4,11;71:7;72:9;
73:6,13,23;74:3,13;
75:4;76:5,24;77:12,18;
78:8,13,15,18,24;79:8,
13;86:3,17;87:2,7,17;
88:15,20;89:2,8,18;
90:6,14,22;91:11;
111:3;130:18;139:14,
14;146:1
rost's (2)
14:5;99:23
oze (1)
61:10
ruit (2)
61:22;62:11
rustrated (1)
37:9
ıll (6)
27:10,17;59:11;
92:10;119:9;140:11
ılly (5)
21:1:25:10:44:14:
73:7;77:22
inction (1)
61:20
inctioning (1)
67:24
inding (1)
111:15
ınds (1)
31:10
ırther (6)
24:6;89:14;109:18;
120:9;124:11;139:2
iture (5)
15:14;70:8;89:24;
143:7;145:13
Y (1)
26:1
         G
aps (1)
72:16
as (23)
```

```
6:19;14:2;18:18,19,
  21;19:3;22:11;27:4;
  29:3;31:5;52:4;58:22;
  62:4;64:13;77:23;82:6;
  85:11;101:3;105:1,17,
  19,23;142:5
gave (5)
  5:4;75:2;122:23;
```

```
130:17;135:11
                             54:6
general (6)
                          grading (3)
  12:17;39:16;41:11;
                             52:5,21;84:23
  53:17;62:22;113:5
                          graph (3)
generally (10)
                            74:18,19,20
  15:4;27:3;32:5;
                          great (3)
  37:21;39:6,19;42:21;
                            23:18;59:21;134:17
  72:4;109:13;142:1
                          greater (4)
geographically (1)
                            46:8;100:8;103:24;
  83:11
                             105:6
gets (8)
                          ground (19)
  19:18;34:18,22;
                             5:12;23:7;30:9;31:7;
  65:24;75:19;101:14;
                             35:1;38:24;40:4;41:5;
  102:2;128:7
                            53:23;55:3;56:2;59:11;
Giaimo (17)
                             66:17;72:15;79:8;
  6:10,11,12;48:13,14,
                             84:18;85:15;103:5,7
  18;50:15;59:17,18,22;
                          groundwater (1)
  60:23;67:3;70:12;
                            72:15
  134:21,22;137:15;
  145:21
giant (3)
  95:23;96:1;126:17
gigantic (2)
  26:2;129:19
GIS (2)
  108:12;130:19
gist (1)
  118:10
Given (7)
  16:21;18:6,14;79:10;
  83:7;97:19;140:21
gives (7)
  107:9;120:18;127:8,
  10,10;129:7;134:10
                          guys (1)
gluing (1)
  46:15
goal (9)
  66:9;68:9;69:6;75:4,
  15;100:5;108:20;
```

131:17;141:20

27:19;53:22;54:21;

4:2;6:11,17,22;7:7;

42:17;50:11;59:18;

60:23;64:18;69:14;

23:10;52:14,15;53:6;

75:4;94:2;134:24;

12:19;14:1;32:13;

55:16;57:5;71:3;

130:20;133:18

goals (1)

**goes** (8)

111:6

Good (18)

139:14

44:12

4:11

good-faith (1)

Governor (1)

Governor's (2)

4:13,19

85:1,4,6

graded (1)

Grade (7)

### grout (1) 79:17 grown (1) 98:18 growth (1) 125:22 **guess** (10) 39:12;69:19,21; 72:10;73:21;79:9; 112:22;129:6;130:2; 132:13 guessing (1) 113:23 guidance (2) 62:22;103:18 112:12 Н

## half-hour (1)

83:15 Hampshire (8) 6:8,12;7:2;14:4; 16:20;77:5,14;79:15 hand (3) 5:15;48:13;78:18 happen (7) 35:1;40:6;42:15; 49:13;81:3;120:21; 137:1 happened (2) 27:8:118:12 happening (2) 52:9;132:10 happens (5) 34:9;53:24;63:8; 64:7;113:8

happy (1) 57:14 hard (12)

> 30:1;47:13,15;48:6; 56:21;70:5;72:9; 102:23;103:1;112:14; 128:15;144:4

2020 CHOI IROI VEIRE	STEEL KEI ERGENIER	T TROOM IN RESELTS	·	June 10, 2020
havoc (1) 82:9	18;95:20;108:13; 130:20;145:4	53:13;54:19;85:8; 135:3;136:8	incurred (7) 23:23;24:1;87:18,23;	inspector's (1) 83:14
hazard (3)	hitting (3)	impact (5)	89:19;90:7;91:15	install (2)
31:1;49:23;58:12	69:13,23;98:15	11:12,14;36:9;	indefinite (1)	19:6;21:24
hazardous (1)	hold (3)	107:10;111:9	36:8	installation (1)
85:7	33:7,12;90:8	impacted (1)	indicate (1)	77:21
head (3)	hole (5)	132:6	44:19	installed (6)
48:5;64:21;78:11	72:17;86:5;116:7,10,	impacts (3)	indicated (2)	17:20;32:15;59:1,8;
heads (1)	11	19:11,11;33:11	45:24;107:24	71:20;87:20
59:20	holes (2)	importance (1)	indicates (3)	instance (1)
hear (2)	31:12;85:22	142:6	32:9;69:4,15	40:11
115:15;117:11	home (3)	important (3)	indicating (1)	instead (2)
heard (18)	6:3,7;7:1	127:8;134:9;146:16	69:17	67:21;107:16
29:10;35:7;48:19;	homes (1)	impose (4)	indication (1)	integrity (2)
54:7;68:7;71:1;73:24; 94:11,19,20;96:14,17;	82:2 hooked (1)	115:5,6;116:3; 144:23	90:3 individual (3)	18:21;22:19 <b>intend (2)</b>
98:2;109:7;111:2;	29:4	imposed (1)	68:23;97:17;104:13	27:10;146:24
112:23;133:22;135:15	horizontally (1)	116:16	industry (1)	intended (2)
hearing (18)	86:22	imposing (1)	72:5	35:8;64:18
4:18,23;5:1,6,7,9,10;	horses (1)	115:12	inform (1)	interceptor (1)
7:21;8:18;50:19;59:20;	131:20	impossible (2)	142:13	133:8
67:2;68:17;108:15;	hour (2)	66:2;72:23	information (39)	interest (2)
112:17;117:19;130:15;	30:6;83:15	impression (1)	5:5;10:21;25:24;	17:3;50:14
147:24	hours (2)	43:15	26:13;37:18,19;55:8;	interested (1)
hearings (1)	115:7,24	inability (1)	75:2;107:13;113:3,11;	54:8
30:23	house (2)	63:17	117:18;121:12,21;	interferes (1)
hearing's (1)	43:1,2	incentive (1)	122:4,6,8,16;123:3,7,	133:4
127:2	Hudson (5)	138:22	14;125:6,11,19;126:2,	interject (1)
heart (2)	30:10;41:6,8,12;42:3	incentives (2)	15,16;127:8,8,24;	48:16
116:24;117:1	huge (2)	108:22;109:1	128:9,13;136:13,21;	intermingle (1)
heavy (1)	126:17;130:13	incentivized (1)	137:4,7;139:7,11;	130:9
35:22	hundred (5)	109:3	145:14	internal (1)
<b>help (6)</b> 5:17;21:24;56:7;	47:16;55:4;75:7,13; 85:15	inception (1) 100:23	infrastructure (2) 57:19;146:18	143:2 internally (2)
73:18;129:6,12	hundred-year-old (1)	inches (1)	in-ground (1)	143:23;144:2
helped (1)	59:3	103:24	138:15	internally-driven (1)
143:18	hypothetical (1)	incidents (2)	initial (1)	102:5
helpful (7)	48:16	56:12;57:8	77:12	INTERROGATORIES (2)
7:21;27:9;30:16;	10110	include (4)	initially (1)	41:1;124:16
35:6;62:12;126:7;	I	74:5;100:21;101:1;	133:22	interrupt (4)
140:1		106:19	initiated (2)	48:12;50:18,23;
herself (1)	ID (2)	included (10)	98:7,10	64:20
84:5	140:9,10	26:5;27:15,20;37:18;	initiating (1)	interrupting (2)
high (3)	idea (2)	39:5;46:9;73:9;93:15;	102:11	31:20;77:10
10:12;22:12;39:24	48:10;129:7	97:9,10	inner (1)	interrupts (6)
higher (10)	ideal (1)	includes (2)	20:2	64:24;66:23;73:1;
34:21;35:5;39:15,17; 51:6;56:3;57:20;62:9;	65:12	15:10;87:12 including (1)	in-person (1) 8:18	81:22;85:18;125:15 into (24)
76:15;90:4	ideally (1) 69:22	100:24	in-progress (1)	10:24;29:3;32:12;
high-level (2)	identification (1)	incorporate (3)	64:12	35:15;41:16;58:24;
18:7;19:23	7:16	32:11;70:7;137:18	inputs (2)	66:8,11,19;67:16;69:2;
highlighted (1)	identified (1)	increase (7)	25:5,7	70:8;71:4;74:7;77:7,
125:12	14:8	11:13,19;27:18;	inside (3)	23;86:7;114:2;115:2;
historical (4)	identify (5)	39:13;103:8;116:19;	81:1;82:1,14	121:5;139:21;144:15,
30:12;62:23,24;	5:24;7:5;9:6;13:11;	141:9	insignificant (1)	20,21
68:23	49:17	increased (3)	51:19	introduce (3)
historically (2)	III (1)	24:4;39:1;53:10	inspections (1)	12:16;13:22;92:6
46:13;101:21	12:20	increases (2)	115:11	introducing (1)
history (23)	imagine (3)	39:23;120:22	inspector (5)	93:20
33:11;46:24;49:18,	39:14;45:15;47:10	increasing (1)	34:10;82:20;83:5,10;	investment (5)
20;55:15,18,23;56:4,6,	immediate (1)	116:23	84:1	10:17,24;25:12;
9,18;57:13,23;62:9;	58:11	incremental (4)	inspectors (2)	140:22;145:16
68:20;71:11,13;86:14,	immediately (5)	10:17;11:6,13;25:11	33:19;82:16	involved (6)
	1	I .		

22:22;34:18;54:19;	7:6	knowledge (3)	9,18;57:22;62:9;71:11,	84:19;91:5;97:16,17;
65:14,18;77:19	Keene (12)	27:12;41:11;113:6	12;84:23;85:1,2,6;	104:1;123:17;140:24;
involvement (3)	73:2,8,24;74:2,6;	known (2)	86:14,17;103:10;	145:10
9:8;12:17;13:23	100:9,21,21;106:4,7;	41:15;129:3	105:12,17,19;108:12;	levels (2)
involves (2)	142:2,4	knows (2)	130:20	38:22;84:20
32:8;139:17	Keene's (3)	113:7;128:1	leakage (4)	liaises (1)
iron (28)	74:6;106:16,21	_	23:7;46:16;49:18,20	32:2
16:7;21:22;31:2;	keep (6)	$\mathbf{L}$	leak-detection (1)	Liberty (27)
46:17,20,24;48:1;	33:20;43:20;50:12;		57:5	4:5;6:18;12:20;
51:14;52:1,23;55:3,11,	109:22;127:18;129:23	label (1)	leaking (5)	13:23;14:3;17:16;19:2,
19;58:10;59:3,7,11;	keeping (1)	102:24	55:13;70:22;72:17;	18;27:10;36:10;47:2;
61:11;62:3,4,10;66:16;	83:17	lack (1)	85:23;86:1	68:1;71:2;94:13,15;
74:7;100:19;105:16,	keeps (2)	64:4	leak-prone (13)	100:4,11;105:3,15,24;
18;106:17;127:9	36:2;40:6	Lake (2)	22:5,14,18,24;23:6;	126:2;133:22;138:14;
Iron/Bare (8)	kind (45)	77:8;78:9	52:1,24;62:8;103:22;	141:18,21;142:7;
4:6;53:2;54:10;	23:2;39:15;43:4;	land (1)	138:19;140:23;142:1;	143:12
56:10;57:4;108:10;	45:8;46:15;61:6;96:23;	10:20	144:12	Liberty's (4)
136:11;146:17	97:7;98:17;99:3,12;	landowner (1)	leaks (23)	63:9;92:23;96:2;
issue (16)	101:13;102:22;105:11;	79:12	23:1;52:7,14,15,15,	146:15
18:9;21:10;34:24;	106:21;107:9,10;	large (11)	21;53:1,8;54:24;56:16,	life (1)
62:20;66:22;69:15,17,	111:16;112:11,20,20,	17:5;18:17;20:7;	23;57:2,13;60:5,7;	18:1
18;77:6;80:24;81:21;	24;113:22;114:21;	37:3,5;43:16;45:11;	71:9,23;72:1,3,22;85:4,	likely (3)
85:17;89:12;125:14;	116:3;118:16;125:7,	79:16;96:4;103:3;	9;86:7	113:12;139:8,11
138:4;145:20	11,18,19;126:6,21;	107:6	leaky (1)	limit (2)
issued (2)	127:13;128:2;129:15;	large-diameter (2)	144:12	26:5;68:15
12:2,3	130:2,7,8;131:10;	58:9;141:24	learn (1)	limited (1)
issues (8)	133:24;134:1,5;	largely (1)	31:18	142:10
16:21;20:1;30:21;	136:15,16,19	144:8	least (4)	line (12)
31:19,23;36:14;62:2;	kinds (1)	larger (4)	63:18;100:14;	50:13;88:17;89:9;
144:7	117:4	16:9;18:18;45:23;	113:13;147:4	90:8;106:15;107:19;
item (3)	Knepper (112)	46:11	leave (4)	119:3,3,8;121:3;
20:12;71:14;107:19	7:10;8:5,10,21;	last (39)	28:4;40:14;66:16,16	122:21;136:14
items (1)	14:14;15:19;36:20;	15:8,11;16:5;23:16,	leaves (1)	Lines (3)
31:1	46:5;58:9;70:19;71:15;	17,24;44:24;47:19,22;	43:4	28:9;89:15;99:20
	73:4,10,17,19,21;92:6,	49:8;51:10,17;55:3;	leaving (1)	lingering (1)
${f J}$	10,12,14,20;93:1,5,9,	59:1,23;61:1;67:13;	79:6	132:20
	13,17;94:11,15;95:8,	68:8;71:22;80:4;86:19;	led (4)	list (1)
job (11)	14;96:1,11,22;99:16,	89:14,21;107:5;109:8;	12:21,22;29:20;	20:14
33:22;34:5,7;43:21,	19,21;100:11;102:21;	117:13,19;118:11;	30:20	listed (3)
23;44:1;50:11;68:11;	104:3;105:10;106:7;	119:12;120:11;124:3;	Ledge (4)	30:19;99:1;125:19
83:14,22;87:8	107:4;108:5,24;	127:3;131:14;135:1;	77:18;78:4,7;98:16	listen (2)
jobs (3)	109:16,19;110:11,17,	139:1;143:20;144:8;	left (19)	4:17;5:3
33:20;40:15;44:9	21;111:11;113:9,18;	146:7,8	16:8;35:17;44:21,22;	lists (2)
joint (2)	114:6,21;115:10,15,17;	late (4)	45:1,5,13;48:15;60:18;	95:16,18
14:5;28:9	116:13,22;117:6;	28:11;66:12;67:10,	64:9;70:17;79:8;88:7,	little (18)
joints (3)	118:2,7,10,15,21,24;	15	21;100:20;101:6;	30:10;35:5;37:5;
46:14;105:13,14	119:8,15,21;120:2,4,	later (6)	129:11;131:7;140:22	47:4;52:19;56:8;63:20;
juggle (3)	16;121:3,10,24;122:6,	59:9;66:14;98:3;	length (3)	80:9;82:9,18;101:24;
50:13;63:5,6	8,11;123:10,22;124:9,	111:24;121:15;133:16	41:19;80:11;127:10	107:19;124:18;125:8;
juggling (1)	22;125:1,7,10,16;	latter (1)	Leone (1)	126:4;129:20;131:22;
63:9	126:21;127:1,17;	113:9	7:12	136:17
jumped (2)	128:15;129:2;130:2;	layers (1)	less (22)	live (3)
63:13,14	131:4,11;132:8,16;	108:12	16:1;17:23;19:20,21;	19:3;137:12;146:2
June (1)	133:17,21;134:24;	laying (2)	22:21;39:9;46:17;53:7;	loaded (9)
93:3	135:5,9,11,21;136:9;	82:5;93:21	62:7;65:16,18;69:11;	38:9;86:23;87:5,7;
justice (1)	137:2,8,10,12;138:13,	lead (1)	76:10,11;90:7,19;	88:10,12;89:11;99:2,3
122:23	16,24;142:9	92:22	127:4,7;134:13,14;	local (1)
	Knepper's (10)	leads (1)	142:1;145:20	144:3
K	14:16,17,20;15:1,5;	56:8	letting (1)	locally (1)
-	36:23;45:24;46:7;	leak (36)	50:24	144:1
Kathryn (1)	145:23;147:10	51:3,5,9,11,13,18,22;	level (17)	located (3)
6:7	knew (1)	52:3,10,19;53:21;54:1;	10:12;22:12;32:4,14,	5:23;16:18;71:6
Katie (1)	144:19	55:11,15,18,23;56:4,5,	14,15;38:18,19;42:21;	location (4)
				<u> </u>

-		1	1	, , , , , , , , , , , , , , , , , , ,
4:17;21:5;33:22;	7:8;92:13;95:8;	manner (3)	McNAMARA (37)	47:16,21;50:18;61:14;
132:5	99:16	36:13;47:23;72:5	8:3,7;9:5,5,9,10,14,	66:21;72:2,7;84:6;
locations (2)		many (25)	18,21;10:1,4,6,11,17,	128:20
71:17,18	$\mathbf{M}$	15:23;17:15;20:10;	21;11:5,11,16,21,24;	Mike (5)
long (6)		21:13;23:19;28:15,15,	12:3,9,13;23:22;24:20,	6:12,17;91:11;
51:6;54:11,14;55:2;	Madam (7)	16;29:7;37:5,15;63:13,	23;25:4,9,20,24;26:11,	115:15;123:22
103:21;111:18	24:15;59:15;70:12;	22;64:3;91:18;94:13;	20;27:2,13,18;28:3;	milages (1)
longer (4)	92:6;134:19;138:9;	100:11;105:23;111:3;	107:8	109:7
58:19;110:15;	141:7	122:15;129:8;130:21,	McNamara's (1)	mile (1)
120:21;143:1	Main (32)	21,21,21	124:6	101:10
longstanding (1)	21:19,23;35:3;38:6;	map (1)	mean (9)	mileage (9)
49:15	41:21;42:11;45:23;	42:6	8:14;56:21;62:16;	16:17;20:12;45:22;
look (43)	46:20;47:6;49:4,17,20;	mapped (1)	91:6;112:17;114:23;	48:3;61:9,11;64:16,17;
35:16;41:13;56:11,	51:14;54:20;58:23;	16:12	116:18;130:3;131:3	72:23
18;67:8,20,22;68:18,	59:7,8,8;81:4,19,24;	mapping (4)	meaning (2)	miles (46)
20;70:9;75:9;88:5;	82:4,5;83:23;104:7,22,	16:6,11;55:12;61:1	76:4;82:20	15:24;16:7,8,13,14,
91:6;96:24;97:8,14,18;	23;105:1,23;116:15;	mappings (1)	means (6)	23;20:13,15,20;45:2,
	136:12;139:18	41:13	58:17;72:13;83:5;	13;58:16;60:17,22;
98:22,23,24;99:4;	*			
100:12;101:5;103:2;	mains (15)	maps (2)	87:5;115:21;116:1	61:18;65:2;72:7;74:11,
104:13;105:24;106:9,	16:7;46:8,12,17;	16:8;61:5	meant (1)	15,19,21;100:19;101:1,
13,13,14,15,16;114:21;	49:17;51:24;54:23;	March (1)	73:24	6,11,13,16,23;102:1,2,
121:24;125:1;129:18;	72:19;100:7,9;103:23;	27:6	measurements (1)	14,17;106:17;109:8;
130:2,9;133:5,6,9,11;	105:6;106:4;142:2,3	mark (1)	71:17	114:24;117:7,8;
145:16	maintain (2)	58:7	meet (4)	122:13;129:11;131:7,
looked (1)	16:10;37:22	marked (6)	4:16;44:11;111:10;	8;132:12;134:13,13;
51:5	maintains (1)	9:16;12:7;93:3;	141:20	143:15,16
looking (25)	37:24	99:18;117:13;120:10	meeting (1)	miles' (1)
22:9;25:15;35:15;	major (5)	marketing (1)	136:2	121:13
36:3,7;53:20;64:15,21;	75:8;83:22;98:11,14;	108:9	meetings (1)	million (8)
65:1;73:22;74:13,18;	139:16	MARTIN (44)	32:16	11:7;25:21,22,23;
76:24;90:12;95:24;	majority (3)	4:2;6:1,9,14,20;7:4,	members (1)	107:15,15;122:13;
96:19;97:6;104:11;	45:10;98:12;105:13	14,23;8:11,24;14:22;	4:23	125:16
107:3;111:18;122:24;	maker (1)	23:12;24:8,13;40:21;	mention (3)	mind (4)
126:14;127:24;130:3,7	84:2	48:11,17;50:24;59:16;	73:2,8;78:21	14:22;35:14;38:20;
looks (7)	makes (4)	66:24;70:15,18;79:21;	mentioned (10)	65:5
56:22;72:11;88:17;	45:16;66:1;104:14;	92:1;93:19,23;94:4,7;	47:8;56:24;74:23;	minds (2)
99:5,20;121:3;124:24	115:8	109:20,24;110:5;	76:21;78:8;80:17;	122:1;136:2
loss (3)	making (4)	123:23;124:13;134:20;	82:15;97:5;100:15;	minimum (2)
70:21;85:16;143:21	5:15;35:23;54:23;	137:22;138:5;139:4;	118:2	82:19;83:3
lost (3)	147:1	140:2,6,16,20;141:4;	merely (1)	minor (1)
37:11;123:22;138:5	managed (2)	140.2,0,10,20,141.4,	105:7	141:23
		massive (3)	Merrimack (1)	
lot (32)	38:18;39:10	` '	` '	minus (15)
35:20;37:6,7;40:3;	management (2)	13:1;37:19;129:22	17:14	16:11;44:12;60:19,
41:4;42:18;43:3;46:17;	65:19;78:20	match (1)	message (1)	20;61:7;69:5,8,14,24;
51:12;53:23;56:1;62:6,	manager (1)	50:2	143:23	89:16,18;90:3,20;
17,21;66:11;68:20;	34:18	material (1)	Messrs (1)	94:21;96:16
70:6,16;72:12;76:11;	manages (1)	42:22	40:20	minutes (2)
91:12;94:11;98:16,20;	56:22	materials (4)	method (1)	84:13;118:4
125:23;127:4,7;128:3;	managing (3)	30:8;31:4,14;105:21	38:11	misunderstanding (1)
134:4;136:21,22;	58:13;90:23;91:2	matter (6)	mic (1)	29:19
142:22	Manchester (30)	6:18;12:8;31:14;	14:19	mitigate (1)
low (4)	16:19;17:11;18:2;	37:11;38:2;147:19	Michael (1)	22:21
52:3;54:6;63:15;	20:15,24;35:21;40:11;	matters (1)	86:23	mitigated (1)
72:12	47:24;48:1,15,21;49:5;	7:20	micromanaging (1)	42:14
low-cost (1)	50:6,19,20;54:11;	may (12)	121:21	mix (2)
95:1	58:22;76:12,14;87:24;	14:18;18:23,24;20:3;	microscopic (3)	19:20,21
lower (3)	88:2;99:9;111:5,12;	42:11;67:10,20;69:16;	91:4,4;97:16	model (1)
17:9;82:23;89:16	113:4;129:12,15;	75:7;81:9;118:7;136:5	middle (2)	74:7
low-hanging (2)	133:15;139:15;145:4	maybe (13)	81:19;110:12	modernize (1)
61:21;62:11	Manchester's (1)	17:16;39:6;47:14,17;	mid-October (1)	57:18
low-pressure (1)	48:4	50:1;55:20;58:8;71:20;	65:24	modified (2)
86:2	mandate (3)	75:20;95:4;129:20;	might (13)	107:21,23
Lynn (4)		137:17,17	17:2;30:20;31:20,21;	
Lynn (4)	120:5,7;133:18	13/.1/,1/	17.2,30.20,31.20,21;	money (1)

113:24	77:9;80:19,22;81:7;	need (42)	118:12;119:10	occurring (1)
monitor (5)	82:8;111:23;131:24;	4:7;5:17;7:17;14:18;	Northern's (2)	119:13
33:22;34:7;83:22;				
	132:4,4;139:21	27:3;31:6;44:3,11,13,	119:4,17	off (8)
85:2;104:20	moved (3)	19;56:1;64:8,12;68:10;	nose (1)	14:19;34:10;48:5;
monitored (1)	82:10;114:19;133:3	70:9;84:3,12;85:19;	69:24	54:3;64:21;67:15;
85:4	movement (3)	86:11;101:2;103:17;	note (6)	78:11,18
monitoring (6)	23:7;112:2;139:24	105:8;109:2,12;	4:16;20:12;31:15;	office (2)
23:8;34:3;54:15,22,	moving (1)	114:16;117:19,21;	71:14;100:1;103:10	6:13,24
23;58:4	133:4	121:11,20;122:16,18,	noted (6)	offices (1)
month (1)	much (28)	20;123:18;128:11;	46:5,7;61:13;64:19;	6:13
66:20	16:2;19:17;22:19;	131:21;132:23;136:5,	71:8;91:1	officially (1)
monthly (1)	23:9,19;26:17,23;38:8,	5,7;137:3;140:8,13	notes (2)	62:20
77:15	9;41:17,20;44:2;57:11;	needs (9)	15:10;73:15	officials (4)
months (12)	66:6;73:13;87:14;98:6;	18:19;20:1;49:6;	notice (3)	31:17,17,23;32:17
22:20;23:5,11;32:21,	105:21,22;111:7,22,23;	54:18;76:5;85:7;122:3;	5:4,6;135:12	offset (1)
24;52:10,17;54:1;61:3;	116:17;129:9,11;	127:18;144:23	noticed (1)	35:4
66:8;67:16;85:5	131:2;133:6;134:17	negative (1)	115:10	often (11)
more (51)	mud (1)	97:1	November (1)	12:24;14:21;16:10;
15:24;23:9;38:12,19;	85:24	neighborhood (3)	65:24	30:2;32:9;33:7;37:5;
41:3;55:8,17,21;58:14;	multiple (2)	32:14;45:7;147:2	number (26)	49:24;63:8;71:16,18
61:22,22,23,23;62:8,	77:15;91:14	neighborhoods (1)	10:19;17:6;18:4;	oftentimes (1)
13,13;63:20;66:21;	municipal (3)	139:21	20:18;24:21;28:11;	18:19
69:11,18;75:13;76:9,	17:13;101:20;109:9	New (16)	38:3,10;39:24;43:1,2,	old (3)
22;80:6,10,15;82:18;	municipalities (2)	6:8,12;7:2;14:3;	18;69:4;70:20;74:10;	17:24;19:8;71:18
103:12,16;109:3;	79:13;102:8	16:19;19:6,7;29:2;	89:3;97:12;98:24;99:4;	One (46)
113:12;115:8,12,12;	municipality (4)	69:3;77:5,5,14;79:15;	100:18;106:11;107:7;	20:11;34:4;35:3;
116:20,20,24,24;117:1;	63:9;79:11;102:10;	81:11;122:6,8	110:23;113:1;143:16;	37:13;42:18;47:20,21;
122:13,20;126:2,5;	111:16	next (11)	144:6	49:8;51:15;55:14;
128:3;130:13,21;	must (1)	27:6;56:8;73:16;	numbers (21)	58:14;59:23;61:20;
136:17;138:7;142:1,9;	95:23	103:19;114:13;132:12,	20:17;23:22;37:6,8,	62:2;63:15;64:18;
145:3	mute (7)	15;139:20,24;146:10,	10,11,12;38:2;44:11;	66:15;71:14;75:11,20;
morning (18)	5:14;14:23;23:13;	15,137.20,24,140.10,	53:4;60:17,24;94:11,	77:24;80:17,19;82:20;
4.0 4.6.11 17 00.7.7.				00.6.00.15 16.04.17.
4:2,4;6:11,17,22;7:7;	38:21;85:19;92:11;	Nice (1)	21;96:5,6;97:6;98:23;	88:6;89:15,16;94:17;
10:3,10;12:19;13:12;	123:24	4:3	21;96:5,6;97:6;98:23; 101:8;109:10;126:5	95:22;99:8,8;107:7;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18;	123:24 myself (3)	4:3 niece (1)	101:8;109:10;126:5	95:22;99:8,8;107:7; 112:8;117:24;118:3;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20;	123:24	4:3 niece (1) 7:2		95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18;	123:24 myself (3) 6:13;92:17;122:2	4:3 niece (1)	101:8;109:10;126:5	95:22;99:8,8;107:7; 112:8;117:24;118:3;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20;	123:24 myself (3)	4:3 niece (1) 7:2	101:8;109:10;126:5	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22	123:24 myself (3) 6:13;92:17;122:2	4:3 niece (1) 7:2 night (2)	101:8;109:10;126:5 <b>O</b>	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22;	123:24 myself (3) 6:13;92:17;122:2	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4)	101:8;109:10;126:5  O  object (1) 112:19	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9;	123:24 myself (3) 6:13;92:17;122:2 N name (6)	4:3 <b>niece (1)</b> 7:2 <b>night (2)</b> 37:13;40:12 <b>nine (4)</b> 49:10;116:9,10;	101:8;109:10;126:5  O  object (1)     112:19 objected (2)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1;	4:3 <b>niece (1)</b> 7:2 <b>night (2)</b> 37:13;40:12 <b>nine (4)</b> 49:10;116:9,10; 121:13	101:8;109:10;126:5  O  object (1)     112:19 objected (2)     110:22;143:11	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2)	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24	4:3 <b>niece (1)</b> 7:2 <b>night (2)</b> 37:13;40:12 <b>nine (4)</b> 49:10;116:9,10; 121:13 <b>nobody (1)</b>	101:8;109:10;126:5  O  object (1)     112:19 objected (2)     110:22;143:11 objection (3)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 <b>ones (4)</b> 88:6;97:18;99:12; 104:19
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1)	4:3 <b>niece (1)</b> 7:2 <b>night (2)</b> 37:13;40:12 <b>nine (4)</b> 49:10;116:9,10; 121:13 <b>nobody (1)</b> 43:5	101:8;109:10;126:5  O  object (1)     112:19 objected (2)     110:22;143:11 objection (3)     5:16;124:7;140:10	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59)	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1)	101:8;109:10;126:5  O  object (1)     112:19 objected (2)     110:22;143:11 objection (3)     5:16;124:7;140:10 objective (1)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21;	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35)	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19	101:8;109:10;126:5  Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8,	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1)	101:8;109:10;126:5  O  object (1)     112:19 objected (2)     110:22;143:11 objection (3)     5:16;124:7;140:10 objective (1)     69:9 obligation (1)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3,	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5	0  object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18;	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3)	0  object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3,	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5	0  object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2,	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8	0  object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8;	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1,	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2)	101:8;109:10;126:5  O  object (1)     112:19     objected (2)     110:22;143:11     objection (3)     5:16;124:7;140:10     objective (1)     69:9     obligation (1)     84:22     observation (3)     61:17;70:4,9     observations (4)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13;	123:24 myself (3) 6:13;92:17;122:2 N name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17	0  object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8;	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1)	0  object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10;	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15,	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1)	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18) 17:18;20:23;25:5,7;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16,	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3)	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12  ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18) 17:18;20:23;25:5,7; 26:4;43:18;55:22;57:9;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3;	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1)	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12  ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18) 17:18;20:23;25:5,7; 26:4;43:18;55:22;57:9; 75:19;80:24;95:16;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3; 116:5	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5 near (1)	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1) 17:24	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1) 140:20	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12  ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18) 17:18;20:23;25:5,7; 26:4;43:18;55:22;57:9; 75:19;80:24;95:16; 105:15;107:17;130:24;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3; 116:5 Mostone's (1)	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5 near (1) 104:9	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1) 17:24 normally (1)	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1) 140:20 occur (4)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12  ones (4)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3; 116:5	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5 near (1)	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1) 17:24	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1) 140:20	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12  ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18) 17:18;20:23;25:5,7; 26:4;43:18;55:22;57:9; 75:19;80:24;95:16; 105:15;107:17;130:24;
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3; 116:5 Mostone's (1)	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5 near (1) 104:9	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1) 17:24 normally (1)	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1) 140:20 occur (4)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12  ones (4)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3; 116:5 Mostone's (1) 99:23	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5 near (1) 104:9 necessarily (4) 34:14,15;44:7;85:3	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1) 17:24 normally (1) 115:22 North (5)	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1) 140:20 occur (4) 18:1;20:24;72:22; 76:1	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12  ones (4)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3; 116:5 Mostone's (1) 99:23 mouse (1) 126:13	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5 near (1) 104:9 necessarily (4) 34:14,15;44:7;85:3 necessary (5)	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1) 17:24 normally (1) 115:22 North (5) 45:4,6,7;104:8;	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1) 140:20 occur (4) 18:1;20:24;72:22; 76:1 occurred (5)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18) 17:18;20:23;25:5,7; 26:4;43:18;55:22;57:9; 75:19;80:24;95:16; 105:15;107:17;130:24; 135:21;141:23;145:9, 11 onto (1) 59:7
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3; 116:5 Mostone's (1) 99:23 mouse (1) 126:13 move (13)	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5 near (1) 104:9 necessarily (4) 34:14,15;44:7;85:3 necessary (5) 5:3,5;10:23;58:19;	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1) 17:24 normally (1) 115:22 North (5) 45:4,6,7;104:8; 139:19	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1) 140:20 occur (4) 18:1;20:24;72:22; 76:1 occurred (5) 30:15,18;38:5;61:15,	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18) 17:18;20:23;25:5,7; 26:4;43:18;55:22;57:9; 75:19;80:24;95:16; 105:15;107:17;130:24; 135:21;141:23;145:9, 11 onto (1) 59:7 open (5)
10:3,10;12:19;13:12; 14:1,11;42:17;59:18; 60:23;94:12;115:20; 133:22 most (10) 5:12;16:14;34:22; 43:9;48:1;50:9;57:9; 107:11;134:2;147:7 mostly (2) 13:3;52:7 MOSTONE (59) 8:4,9;10:22;13:6,21; 14:1,2,9,12,18;22:4,8, 11,16;28:4;33:19;34:3, 14;35:13;36:10,18; 38:15,21;39:12;40:2, 20;41:3,11;42:5;48:8; 51:4,24;53:4,15;54:13; 56:24;60:13;66:5;67:8; 68:4;78:2,4,7,10; 80:21;81:15,23;82:15, 19;83:8,13,19;84:8,16, 19,23;85:13;111:3; 116:5 Mostone's (1) 99:23 mouse (1) 126:13	123:24 myself (3) 6:13;92:17;122:2  N  name (6) 6:1;9:9;12:19;14:1; 92:11;145:24 name's (1) 6:23 Nashua (35) 16:19;17:4;19:10; 20:16,22;21:15,19,21; 30:9;35:21;47:4,9,10; 50:6;52:6;53:9,14; 54:10;56:11,15;75:1, 14,24;76:11,14,19; 77:1,2,18;99:5;104:9; 111:6;112:8;115:18; 132:12 Natural (3) 6:19;101:3;142:5 near (1) 104:9 necessarily (4) 34:14,15;44:7;85:3 necessary (5)	4:3 niece (1) 7:2 night (2) 37:13;40:12 nine (4) 49:10;116:9,10; 121:13 nobody (1) 43:5 nod (1) 59:19 no-go (1) 113:5 nominal (3) 16:9;46:9;100:8 none (2) 27:19;140:17 nonetheless (1) 22:4 non-hazardous (1) 85:2 normal (1) 17:24 normally (1) 115:22 North (5) 45:4,6,7;104:8;	Object (1) 112:19 objected (2) 110:22;143:11 objection (3) 5:16;124:7;140:10 objective (1) 69:9 obligation (1) 84:22 observation (3) 61:17;70:4,9 observations (4) 51:16;60:2,3;70:6 observe (2) 4:17;54:16 obviously (1) 47:7 OCA (1) 140:20 occur (4) 18:1;20:24;72:22; 76:1 occurred (5)	95:22;99:8,8;107:7; 112:8;117:24;118:3; 119:4;130:12,22; 132:19;135:7;136:14; 138:7;139:20;144:6; 146:7;147:12 ones (4) 88:6;97:18;99:12; 104:19 one-to-four (4) 33:21;82:17,20;83:4 one-to-three (1) 82:23 one-to-two (1) 83:1 one-year (1) 102:21 ongoing (2) 33:1;112:6 only (18) 17:18;20:23;25:5,7; 26:4;43:18;55:22;57:9; 75:19;80:24;95:16; 105:15;107:17;130:24; 135:21;141:23;145:9, 11 onto (1) 59:7

2020 CAST IRON/DAKE	STEEL REI LACEMEN	I I KOGKAWI KESUL IS		Julie 10, 2020
86:19;132:11	124:6;142:9	130:21	39:15,19;44:13,17;	143:5
	outreach (3)			
opening (1)		paid (1)	47:16;65:7,11,17;68:6,	pin (1)
78:24	32:1;33:2,5	38:8	8,9,9;69:5,8,9,10,11,13,	54:1
opens (1)	outset (2)	pandemic (1)	14,15,24;70:1,21;75:7,	pipe (53)
132:15	43:17;62:9	4:12	14;76:13;85:16;89:5,9,	18:13,14;19:6,7,8;
operate (1)	outside (3)	panel (1)	16,17,18,22;90:10,15,	20:8,22;22:5,9,14,16,
72:12	81:2;82:2;102:3	8:12	20;91:21;94:21,22;	18;23:6;29:2;31:2,3;
operating (2)	over (37)	paragraph (1)	96:16,17;97:12;98:24;	36:12;41:8;42:3;45:10;
74:6;101:2	17:6;18:4,8;19:6;	121:16	99:6,8,9,9,10,14;	48:7;52:1,24;54:17;
operational (1)	23:20;31:12;39:15,24;	parallel (1)	113:21;134:15	55:12;56:3;59:3,12;
130:4	41:10;44:17;47:20;	59:6	percentage (8)	60:5;62:8;71:12,18;
Operations (2)	55:9;56:15;68:8,16;	part (24)	52:4;72:7,10,24;	72:11,17;74:7;76:10,
14:2;22:12	69:10;76:13;79:2;	25:12;33:6;45:22;	76:15;86:24;87:6;	13,15,18;79:8,16;
opinion (3)	80:22;81:7;82:10;	55:24;57:9;58:20;	94:24	84:18;85:14;86:8;
23:23;130:12;133:21	86:22;91:8;95:19;	64:18;71:1;82:11;93:6;	percentages (1)	87:19;103:22;114:19;
Opposing (1)	97:23;98:18;99:7,10;	97:12;98:8;100:22,23;	39:14	133:1,4;138:19;
122:8	101:21;122:13;125:7;	105:8;106:4,8;117:11;	perfect (1)	140:23;144:12;145:13
optimal (1)	131:19;138:18;143:12,	118:15;120:20;142:24;	58:21	pipeline (4)
106:5	16;145:12;146:22	143:7,17,21	perform (1)	24:4;32:15;79:6;
oral (1)	overage (1)	participate (1)	21:4	133:7
13:15	70:1	5:4	performed (1)	pipes (41)
orally (1)	overages (3)	particular (7)	10:23	17:15,17;19:3;22:24;
9:23	34:12;39:18;66:10	21:4,5,6;35:4;53:10;	period (5)	45:8;46:15,16;53:3,14;
Order (14)	overall (14)	89:9;124:8	18:8;95:19;101:21;	54:10;55:13,17,22;
4:14,14,20,21;5:6;	22:23;50:12;52:1;	parties (4)	111:18;120:19	56:1,10,14,19;58:4;
84:9;108:16;110:15;	68:14;69:16;90:11,23;	36:24;37:9;140:13;	permanent (1)	59:5;61:23;62:7;70:20,
126:8;128:9;136:7;	91:2;96:15,23;97:2,6;	146:19	53:19	24;71:7,10;72:12;
146:8,21;147:20	98:23;99:1	parties' (1)	permissions (1)	78:21;79:14;82:1;
ordered (1)	overestimate (2)	63:10	114:15	85:22;86:2,4,11,15;
135:6	44:1,4	past (11)	permit (9)	103:4;105:20;131:19,
orderly (1)	overhead (1)	17:21;30:13;33:10;	30:6;33:7;62:20;	21,24;138:15;139:24
47:23	87:9	40:1;42:7;43:6;52:14;	77:4,6,11,13;79:1;	piping (5)
orders (1)	overnight (1)	53:6;56:15;71:19;	80:18	18:19,21;54:21;
129:2	81:12	100:11	permits (1)	82:14;141:24
original (7)	overrun (1)	patched (1)	54:5	o2.14,141.24 pitting (1)
	41:4	88:2		32:8
9:15;13:5;14:13;			permitting (1)	
84:10;87:10;91:15; 131:12	overruns (1)	pause (1) 70:1	68:24	place (10)
	40:1		persist (1)	30:3,4;33:17;65:8,9,
Otherwise (2)	oversee (1)	pavement (1)	53:23	22;79:14;94:14,16;
7:22;144:14	33:17	88:2	person (3)	138:22
out (61)	oversight (2)	pavers (1)	84:1,13;94:17	places (1)
15:7;17:5;18:8;	33:18,19	104:24	perspective (2)	104:9
22:18;31:2,6;33:20;	overview (1)	paving (12)	15:6;113:7	plan (15)
34:11;35:17;36:12,16;	15:5	19:10,12,13,16,17;	pertaining (1)	28:14;32:24;33:9;
37:10;40:14;42:13;	own (4)	67:12;75:1;87:18;	38:23	66:5;75:10,13,18;80:6;
45:20;47:20;53:18,22;	36:1;37:20;102:13;	111:6;112:9;132:14;	phase (2)	84:3,10;101:4;108:11,
54:3,4,22;56:2;57:17;	106:22	144:22	17:22;30:2	14;128:4;139:16
58:18;59:11;61:21;	owner (1)	pay (1)	phased (1)	planned (6)
62:18;63:13,14;66:9,	79:19	132:14	20:19	21:17;28:15;29:8;
18;67:11;72:2,17;		penalties (3)	phasing (1)	80:15,20;95:1
75:10;76:6,9,18;79:19;	P	108:22;109:4,12	45:21	planning (11)
85:14;86:8,10,15;		pencil (1)	phrase (2)	30:22;31:24;33:2,5;
87:21;88:22;103:22;	Page (30)	68:11	85:15;87:5	65:21;66:3;73:3,10;
107:17;111:17;113:16;	9:17;13:8;26:15;	people (4)	physical (1)	111:23;130:11;142:15
128:16;130:15;131:16;	28:8;46:7;64:22;73:14,	26:3;56:16;59:19;	4:17	plans (6)
132:1;133:24;134:2,	19,21;88:5;94:24;	94:17	pick (1)	21:10,13;32:23;
13;136:14;143:20;	95:10,14;96:3,9,11;	per (14)	37:10	113:15;130:18;142:8
144:8,10;147:20	99:13,18;100:6;	11:17,20;20:8,19,20,	picked (1)	plant (2)
outages (1)	106:11,12,14;118:17,	20;29:21;44:18;48:4;	52:7	26:14;104:10
19:5	23;120:13,17,24;121:1,	62:7;74:11;89:6;	picture (1)	plastic (3)
outdoor (1)	5;126:3	143:15,16	90:11	45:10;56:3;104:17
21:24	pages (4)	percent (55)	piece (4)	plate (1)
outlined (2)	99:17;120:12,12;	11:18;26:5,12,13;	34:21;47:20;120:10;	40:13
	77.11,120.12,12,	11.10,20.5,12,15,	31.21,77.20,120.10,	10.13
		CAN I DODIDAC MILI		

2020 CAST IRON/BARE
platform (1) 5:1
Please (12)
4:16;5:8,17,22,24;
9:6;12:15;13:21;92:10;
120:15;123:14;139:12 <b>pleased (1)</b>
65:20
plus (14)
16:11;44:12;60:18,
19;61:7;69:5,8,13,24; 87:8;90:1;91:16;94:21;
96:16
pm (1)
147:24
pockets (1) 45:6
point (19)
5:13;20:21;29:6;
36:8;59:23;64:13;
67:22;70:21;74:17; 75:24;77:24;103:7;
118:17;128:20;132:22;
134:7,16;141:15;145:2
pointing (2)
15:6;88:6 points (2)
24:21;71:18
polyethylene (1)
132:24
<b>pops</b> (1) 34:5
population (4)
51:15;56:5;62:11;
64:6
<b>portion (5)</b> 59:5;70:23;98:11,14;
101:13
portions (2)
13:10;14:6
<b>poses (1)</b> 102:19
posing (1)
104:1
<b>position (6)</b> 9:7;12:16;13:22;
92:18;131:7;140:21
possibility (1)
67:8
possible (9) 22:10;32:10;36:12,
16;71:11;129:17;
135:19;143:9;145:1
posted (1)
108:16
potential (3) 23:6;30:20;63:15
practical (2)
134:6;143:9
practically (1) 22:6
practice (2)
32:6;116:6

STEEL REPLACEMEN
precluding (1)
146:14 <b>predict (1)</b>
33:10
predominantly (1) 16:17
preference (1) 8:16
preliminary (4) 7:17;10:5;31:16;
108:11
premarked (1) 7:16
prepare (1) 93:2
prepared (1) 9:12
pre-piping (3)
81:5,10;82:3
pre-planning (1) 81:13
presence (1) 5:22
present (7)
17:1,2;43:12;56:2; 58:11;145:14,15
presenting (1) 49:23
presents (1) 14:21
pressure (2)
72:12,16 pretty (1)
134:16 prevent (4)
18:21;19:5;49:2;
86:1 <b>previous (3)</b>
53:7;97:22;100:13
previously (3) 5:4;26:6;86:9
primary (1)
142:21 printout (1)
96:5
<b>prior (14)</b> 30:23;34:6;35:7;
57:13;65:14;67:4; 71:20;73:3,10;74:12;
77:13;90:17,24;130:16
<b>priorities (2)</b> 49:8;112:9
prioritize (1)
81:16 prioritizing (1)
86:15 <b>priority (3)</b>
105:4;143:23;144:1
<b>probably (14)</b> 71:23;98:15;101:16;
103:8;104:20;107:7;
111,12,112,02,100,17

111:13;113:23;122:17,

19;123:12,18;133:9;

```
134:14
probe (1)
  63:20
problem (3)
  5:7;50:22;58:2
problematic (1)
  61:23
problems (5)
  30:20;43:18,19;
  144:16,20
proceed (6)
  7:22;9:1;94:8;
  113:12;139:9,11
proceeding (6)
  7:11;8:12;9:8;108:1;
  127:21;142:21
proceedings (1)
  35:7
process (12)
  31:24;33:16;43:14;
  68:18;81:10;82:12;
  84:4,11,15;120:21;
  121:22;128:19
produce (1)
  128:23
Program (102)
  4:6;12:21;15:6,7,11,
  16;16:6;20:21;23:9,17;
  24:2;45:19;46:2,4,7,
  10;47:2;49:16;52:3;
  55:9,16,20;56:1;57:3;
  58:20;60:1;61:10;62:3;
  65:15;67:24;68:14,19;
  69:4,12,16,21;70:8;
  74:11,18;78:19;88:24;
  89:11,21,23;90:14,24;
  91:2,19;92:24;94:13,
  15;96:21;98:7,10;
  100:6,22;102:4,4,12,
  12,18;103:14;104:23;
  105:9:106:8:107:4:
  109:4,15;110:13,14,19,
  24;117:16;118:1,13;
  119:4,5,18,23;123:1;
  125:12;127:2,3;
  136:11;138:17,18,23;
  141:10,14,17,19;142:6,
  11;143:1,2,12,14;
  144:5;145:11;146:9,
  14;147:3
programs (1)
  62:10
program's (1)
  105:10
progress (3)
  47:9;129:24;142:13
project (80)
  17:9;18:12;19:10,12;
  21:5,17,23;23:19;29:2;
  31:8;32:12;33:17;34:9;
  35:11;39:5,10;41:20;
  43:15;48:5,22;49:6,9;
  63:4;64:1,8;67:5,9;
```

```
68:19,23;69:3;74:4,5;
  75:1:77:2.19.24:78:3.4.
  6,7,9,10,13;80:12,18,
  22;81:2,6,12;83:15,18,
  20;90:12;91:7,7;94:20;
  96:16;97:19;111:6,13;
  112:5,6;113:4;114:5,8,
  16,17;129:14;131:6;
  132:3,5,9,19;133:5,9;
  135:3;139:6,8;145:4,
project-by-project (3)
  97:15;123:15;130:10
projecting (3)
  35:13,17;48:6
projections (1)
  18:7
projects (66)
  16:12;17:7,8;28:11,
  15,16,17,19,21;29:8,
  13,17;30:22;31:20;
  32:18;33:1;38:4,5;
  39:22;40:9,18;50:9;
  62:15;63:2,16,22;
  64:13;65:2,7,22;66:7;
  67:14,19,20;68:22;
  69:1;76:21;80:4,6,15;
  81:8,18;82:7;83:6,11;
  95:1;96:24;98:12;99:7;
  101:20;102:5,6,7;
  104:16;111:17;115:8,
  13;117:2;123:5;127:6;
  129:9:139:16:144:21,
  22;145:9,9
propane (1)
  142:5
properly (1)
  109:6
property (4)
  25:8,14;26:8,11
proposal (3)
  146:15,19;147:2
propose (1)
  126:21
proposed (3)
  65:3;111:2;141:9
proposing (2)
  122:6,10
protocols (1)
  67:12
provide (11)
  37:6;55:8;72:21;
  95:5;123:3,14;127:15;
  128:9,12;139:12;142:7
provided (5)
  10:21;25:24;122:7,9;
  126:3
provides (2)
  10:7;58:24
providing (1)
  126:17
prudency (2)
```

123:8,19

```
prudent (4)
  24:1,3;31:9;64:11
prudently (1)
  23:24
Public (12)
  4:9,15;5:2,5,9;6:2;
  22:17;36:15;50:14;
  60:4;102:20;141:15
PUC (2)
  6:13;143:1
pull (1)
  42:13
pulled (1)
  26:14
purposes (1)
  24:20
pursuant (2)
  4:14,19
push (2)
  66:18;113:15
pushing (1)
  102:18
put (11)
  5:14;9:20;59:7;65:8;
  104:20;113:2;126:4;
  131:20;133:18;145:2,
  12
puts (1)
  107:8
putting (6)
  35:15;38:24;57:17;
  114:18;128:6;144:8
           Q
```

quantify (4)
30:1,24;43:4;72:9
quantifying (1)
31:10
quantity (4)
20:1,6,7;37:10
quick (7)
36:16;48:16;58:4;
82:6;84:19;92:13;
134:23
quickly (5)
22:9;36:12;66:18;
80:19;135:19
quite (2)
103:20;129:22
quote (8)
46:6;112:4;121:7,12,
13;146:10,13,20

### R

raise (1)
18:10
ramp (1)
143:13
ran (1)
16:5
RANDALL (3)

0.4.10.00.14	• (1)	20.20	5.12	4 (11)
8:4,10;92:14	receive (1)	28:20	5:13	report (11)
Randy (3)	145:10	reductions (2)	remotely (1)	12:2,4,5,7,11;26:15;
7:10;92:6,11	received (2)	29:14,17	4:8	93:6;108:9;121:7;
rate (47)	33:8;114:15	redundancy (1)	removal (2)	126:9;145:24
20:21;25:6,8,8,13,13,	recent (3)	49:2	15:21;16:22	reported (2)
14,17,21;26:8,9,12;	21:15;90:18;113:4	refer (5)	remove (8)	86:13,17
27:10,17,21,24;45:16;	recently (3)	95:13;99:14;103:23;	18:23;22:9;27:24;	Reporter (10)
46:16;51:3,5,9,14,18,	17:4;21:20;53:2	108:7;117:21	131:21;132:22;134:9;	8:6;64:24;66:23;
22;52:19;57:20;	recess (1)	reference (3)	141:22;142:2	73:1;81:22;85:18;94:2,
112:22;120:22;123:3,	5:17	73:14;96:12;99:24	removed (1)	6;109:23;125:15
5,13,17;124:5;127:21;	recited (1)	referenced (5)	103:5	reporting (14)
128:11;130:1;137:5;	118:4	37:2;60:24;71:15;	removing (5)	15:15;36:19,23;
142:22;143:18;145:13,	recognized (4)	74:14;116:6	22:5,14,16;119:24;	106:24;108:2;125:5;
15;146:6,12,15,20,24;	5:15;31:3,4,6	references (2)	145:7	136:3;140:24;142:8;
147:13	recommend (1)	38:16;39:4	repair (5)	145:8,22;146:3,23;
ratepayers (2)	54:20	referred (1)	53:15,19;71:21,22;	147:9
7:1;17:3	recommendation (9)	26:3	72:22	reports (6)
rates (7)	46:5;60:4;108:19;	referring (7)	repaired (5)	16:5;37:2;42:19,23;
9:10,10;51:11;74:8;	110:18;118:1;128:24;	25:20;39:3;95:9,22,	55:1;72:4;85:3,7;	85:11;101:9
103:10;115:13;127:22	135:2,2;142:23	23;108:18;118:18	86:9	represent (1)
rather (4)	recommendations (3)	refined (1)	repairs (2)	6:18
41:10;43:14;69:1;	15:14;117:14;142:24	19:21	23:9;54:3	request (11)
129:1	recommended (8)	reflected (1)	repave (2)	77:12;78:24;109:14;
rating (1)	15:15;17:21;36:20,	27:17	17:5;75:15	124:8;125:4;126:1,1;
52:20	23;100:3;106:23;	regarding (11)	repaying (1)	128:18;138:1;139:22;
ratio (3)	125:5;145:22	15:14,19;19:24;	87:22	142:21
33:21;82:17,20	recommending (3)	42:20;71:14;94:19;	repeat (3)	requested (1)
reach (1)	117:15;138:13,20	95:1;107:1;108:1;	22:12;26:20;96:12	141:1
64:13	recommends (4)	111:1;142:14	repeatedly (1)	requesting (3)
reactions (1)	15:20;141:8,21;	regardless (1)	141:16	27:19;66:13;124:4
36:19	13.20,141.8,21,	71:6	rephrase (1)	require (8)
read (9)	record (4)	regular (1)	39:7	15:20;79:16;100:4;
15:1,17,18;63:12;	9:20;39:6;92:11;	8:18	replace (22)	106:24;125:6;128:24;
70:19;95:7;96:5,6;	147:18		20:7;46:20,23;49:18,	141:21;142:7
119:9		regulator (1) 77:20	22;55:14,24;62:7;	
	recorded (1)	Regulatory (2)		required (4)
reading (1)	105:23		71:10;86:11;103:12,	52:16;82:19;83:21;
43:4	records (8)	9:11;60:8	15;104:2,14,16,17;	142:10
ready (1)	32:4,9,11,13;37:20;	re-laid (1)	105:1;130:11;132:12;	requirement (19)
7:22	42:24;43:6;61:4	127:12	138:18;140:23;146:17	9:13;10:9,14;11:1,3,
real (2)	recover (4)	related (5)	replaced (14)	5,7,9;25:1,3,18;26:18,
58:1;84:11	26:19,24;119:10;	75:1;78:22;108:22;	18:10,15;20:23;38:6;	24;27:16;116:7;
realistic (3)	123:2	138:2;139:5	49:21;54:20;58:16;	129:23;141:10,13;
43:18;58:6;144:18	recovered (1)	reliably (1)	74:18;85:5;105:6;	146:3
really (16)	27:23	58:12	106:17;121:13,14;	requirements (10)
5:16;38:2;50:14;	recovery (5)	relies (1)	133:1	15:15;30:4;36:20;
57:14;63:14;85:23;	10:16;105:8;109:15;	86:14	Replacement (37)	62:19;107:1;115:5,7;
96:8;100:22;106:8,16;	119:22;138:22	relocated (1)	4:6;17:15,23;20:4;	116:4;136:3;147:10
118:16;120:4;124:18;	re-digging (1)	18:20	21:22;31:21,22;35:9;	requires (1)
130:3;133:12;139:5	49:3	reluctant (1)	46:2,4,10;49:7,12;	24:2
reason (11)	REDIRECT (3)	44:4	51:8;56:7;57:10,11,14,	re-ran (1)
19:10;61:15;66:21;	80:2;138:3,11	remain (1)	19;58:20;61:12,18;	60:16
80:10,23;97:24;	redone (1)	145:6	62:6;73:2,9,24;74:1;	rescheduled (1)
105:11;116:23;117:24;	104:24	remaining (26)	102:12;108:20;112:22;	5:10
135:11;144:7	reduce (1)	15:21,24;16:3,13;	119:11,17;125:22;	research (5)
reasonable (6)	97:2	20:12;45:2,20;48:2;	138:14;139:23;141:14;	32:4,4,8,9,12
68:9;104:2;107:16;	reduced (7)	54:9;56:10,19;57:23;	142:15	residential (3)
114:18;122:11;141:1	28:11,17,20;60:6,9;	70:24;76:10,13,15;	replacements (3)	7:1;11:14,16
reasons (6)	64:1;117:7	84:18;102:1;129:8;	35:21;62:13;112:2	resolve (3)
49:21;106:1;110:23;	reduces (2)	130:24;137:24;140:22,	replacing (12)	77:14;136:6;145:20
118:3;128:6;144:6	101:19;115:24	23;144:9,11,12	17:17;18:13;19:4;	resolved (1)
recall (4)	reduction (1)	remember (3)	53:14;55:17,22;59:12;	34:22
90:21,22;118:14;	95:2	75:2;102:4,22	101:22;102:9;107:17;	respect (3)
143:10	reduction-only (1)	reminder (1)	136:12;143:8	50:10;65:21;136:2

2020 CAST IKON/DAKE	STEEL REI LACEMEN	I I ROGRAM RESULTS		Julie 10, 2020
respond (4)	right-of-way (1)	58:11;60:4;84:17;	52:18,19;140:16	sewers (1)
70:5;73:5,11;84:22	79:19	92:15,20;102:20;	seeking (3)	17:15
responded (1)	ripped (1)	141:15;144:6,7	10:9,15;11:4	shaded (3)
72:3	46:21	Salmon (1)	seem (1)	88:18,23;89:15
responds (1)	rise (2)	139:18	38:12	shades (1)
28:5	38:19;62:8	same (17)	seems (5)	88:22
response (1)	risk (9)	9:22,24;13:16,17,21;	37:8;44:23;56:14;	share (2)
125:4	31:4;49:16;53:13;			19:13,16
		20:10,11;34:2;36:3;	112:24;141:1	The state of the s
response] (1)	54:8,9;56:3;74:7;	76:3;93:14,16;104:1;	segment-by-segment (1)	sharpening (1)
140:15	102:19;104:1	113:1;116:2;117:17;	127:23	68:11
responses (1)	risks (1)	124:24	segments (1)	Sheehan (31)
70:13	60:5	samples (7)	104:12	6:16,17,18;7:19;
responsibility (1)	River (1)	71:15,16;72:2;85:14;	self-initiated (1)	8:15;9:1,2,4;14:24;
28:7	17:14	86:8;95:18;130:15	109:10	23:12,14,15;24:6;
responsible (3)	Road (5)	satisfactory (1)	send (1)	79:23,24;80:3;91:23;
	` '			
14:7;21:8;92:23	58:22,23;59:4;77:5;	21:12	143:22	110:6,7,10;123:23;
rest (1)	78:24	satisfied (2)	sense (7)	124:1,2,11;137:17;
119:16	roadway (1)	65:16;134:16	47:18,21;70:23;72:6;	139:7;140:2,5;142:18,
restate (1)	79:7	satisfy (2)	77:23;104:14;106:19	19;147:22
67:1	ROBERT (5)	129:22,24	sent (1)	Sheehan's (1)
restaurants (1)	8:4,9;10:22;14:1;	saw (1)	139:15	138:3
22:1	99:22	67:14	sentence (5)	shift (1)
restore (1)	<b>Robidas (6)</b>		119:4,5,9,16;121:16	21:19
		saying (9)		
19:19	8:1;67:1;93:24;94:1;	18:23;42:24;44:1;	separate (1)	shooting (1)
restrictions (3)	109:21;147:16	57:22;76:2;81:11;	106:21	69:23
30:7;33:8;69:1	role (3)	121:19;122:12;144:17	separation (7)	show (9)
Result (4)	34:13,14,15	scattered (2)	17:13;18:4;111:12;	42:9;55:15;58:5;
4:7,12;20:9;62:14	roll (1)	45:9;104:6	112:5;132:2,5,9	71:10;87:4,10;97:1;
results (6)	5:19	scenario (1)	series (1)	116:10;145:5
12:23;17:9;32:11;	room (4)	43:9	111:1	showed (2)
37:23;92:24;95:7	7:3;92:15,16,16	scenarios (1)	Service (4)	126:22;130:18
retains (1)	rough (1)	40:6	14:3;16:16;26:14;	shown (1)
37:20	41:23	schedule (5)	58:18	58:11
returns (1)	rougher (1)	20:4;50:2;77:7;82:4,	services (7)	shows (3)
88:18	19:20	13	38:3,11;42:24;79:2;	42:6;89:5,6
revenue (15)	roughly (1)	scheduled (1)	82:5;122:15;129:8	shut (1)
9:13;10:8,14;11:3,5,	139:18	82:8	session (1)	67:18
6,8;25:1,3,17;26:18,23;	rounded (1)	scope (8)	108:14	Shute (10)
27:16;141:9,13	20:17	28:11,17;29:14,17;	set (5)	6:21,22,23;7:6;
review (9)	routinely (1)	31:1;64:1;95:3;127:13	75:15,17;100:4;	24:10,11;110:2,3;
14:15,17;39:20;	145:19	screens (1)	108:20;147:11	140:18,19
84:14;94:22;96:18;	row (1)	126:14	sets (1)	side (8)
141:12;142:8;143:4	125:13	scroll (5)	134:8	17:13;64:7;65:19,20;
reviewing (1)	rubber (1)	86:22;88:16,21;	setting (2)	111:12;116:16;122:3;
34:4	52:11	89:14;120:23	111:5;114:5	139:16
rid (1)	rules (7)	ao ( 1 )		growed (7)
* *	rules (2)	se (1)	settlement (1)	signed (2)
129:20	5:12;68:21	20:19	142:11	34:10;84:9
* *	5:12;68:21 run (7)	20:19 <b>seal (5)</b>	, ,	
129:20	5:12;68:21	20:19	142:11	34:10;84:9
129:20 right (55) 6:15;7:14;8:1,11;	5:12;68:21 <b>run (7)</b> 57:17;66:8,19;67:16;	20:19 <b>seal (5)</b> 46:14,15;52:13;	142:11 <b>setup (1)</b> 54:22	34:10;84:9 <b>significant (3)</b> 51:21;60:7;102:19
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13;	5:12;68:21 <b>run (7)</b> 57:17;66:8,19;67:16; 76:18;144:15,20	20:19 <b>seal (5)</b> 46:14,15;52:13; 53:16;71:23	142:11 setup (1) 54:22 Seven (10)	34:10;84:9 <b>significant (3)</b> 51:21;60:7;102:19 <b>significantly (3)</b>
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4)	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7)	142:11 <b>setup (1)</b> 54:22 <b>Seven (10)</b> 11:20;28:20;29:17;	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5;	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24;	142:11 <b>setup (1)</b> 54:22 <b>Seven (10)</b> 11:20;28:20;29:17; 63:21,22;64:1;96:24;	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8)
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12	142:11 <b>setup (1)</b> 54:22 <b>Seven (10)</b> 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17;
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2)	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7)	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2)	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14;
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5,	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20; 84:16;89:1,7;92:1,17;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2) 115:20,21	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5, 9;121:4;138:6	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17 severe (1)	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14 simply (3)
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20; 84:16;89:1,7;92:1,17; 94:2,5;96:11,12;98:9;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2)	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5, 9;121:4;138:6 Section (1)	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17 severe (1) 57:23	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14 simply (3) 18:24;138:21;144:17
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20; 84:16;89:1,7;92:1,17; 94:2,5;96:11,12;98:9; 102:5,15;105:9,11;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2) 115:20,21	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5, 9;121:4;138:6 Section (1) 97:5	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17 severe (1) 57:23 sewer (22)	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14 simply (3) 18:24;138:21;144:17 single (7)
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20; 84:16;89:1,7;92:1,17; 94:2,5;96:11,12;98:9; 102:5,15;105:9,11; 116:13;124:13,24;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2) 115:20,21  S  safe (2)	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5, 9;121:4;138:6 Section (1) 97:5 sections (1)	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17 severe (1) 57:23 sewer (22) 17:13,18;18:4,15,17,	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14 simply (3) 18:24;138:21;144:17 single (7) 20:8;74:5;98:13;
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20; 84:16;89:1,7;92:1,17; 94:2,5;96:11,12;98:9; 102:5,15;105:9,11;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2) 115:20,21	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5, 9;121:4;138:6 Section (1) 97:5	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17 severe (1) 57:23 sewer (22)	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14 simply (3) 18:24;138:21;144:17 single (7)
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20; 84:16;89:1,7;92:1,17; 94:2,5;96:11,12;98:9; 102:5,15;105:9,11; 116:13;124:13,24;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2) 115:20,21  S  safe (2) 36:13;64:14	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5, 9;121:4;138:6 Section (1) 97:5 sections (1) 98:15	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17 severe (1) 57:23 sewer (22) 17:13,18;18:4,15,17,	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14 simply (3) 18:24;138:21;144:17 single (7) 20:8;74:5;98:13;
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20; 84:16;89:1,7;92:1,17; 94:2,5;96:11,12;98:9; 102:5,15;105:9,11; 116:13;124:13,24; 126:23;127:1;129:5; 130:6;134:20;135:20;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2) 115:20,21  S  safe (2) 36:13;64:14 safety (17)	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5, 9;121:4;138:6 Section (1) 97:5 sections (1) 98:15 Security (1)	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17 severe (1) 57:23 sewer (22) 17:13,18;18:4,15,17, 20;31:20;48:4,22;49:6, 9;111:6,12;112:4;	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14 simply (3) 18:24;138:21;144:17 single (7) 20:8;74:5;98:13; 107:19;122:20;125:13; 131:15
129:20 right (55) 6:15;7:14;8:1,11; 9:1;11:10;24:8,13; 28:2;36:6;40:21;45:3; 54:18;55:1;59:16; 62:20;63:23;66:21; 67:7;68:2;69:8,11; 70:15;76:12;79:20; 84:16;89:1,7;92:1,17; 94:2,5;96:11,12;98:9; 102:5,15;105:9,11; 116:13;124:13,24; 126:23;127:1;129:5;	5:12;68:21 run (7) 57:17;66:8,19;67:16; 76:18;144:15,20 running (4) 59:6;82:7;84:5; 144:20 rush (2) 115:20,21  S  safe (2) 36:13;64:14	20:19 seal (5) 46:14,15;52:13; 53:16;71:23 season (7) 15:9,12;32:21;63:24; 64:10;66:2;75:12 second (7) 88:4;106:11;119:3,5, 9;121:4;138:6 Section (1) 97:5 sections (1) 98:15	142:11 setup (1) 54:22 Seven (10) 11:20;28:20;29:17; 63:21,22;64:1;96:24; 114:20;132:10,17 several (2) 46:22;84:17 severe (1) 57:23 sewer (22) 17:13,18;18:4,15,17, 20;31:20;48:4,22;49:6,	34:10;84:9 significant (3) 51:21;60:7;102:19 significantly (3) 52:23;91:8,9 similar (8) 19:8;63:7;79:17; 81:6;108:4;123:14; 127:24;145:14 simply (3) 18:24;138:21;144:17 single (7) 20:8;74:5;98:13; 107:19;122:20;125:13;

situation (1)	137:11;146:8	110:18;124:7;127:21;	Steve (1)	61:12
49:11	sort (4)	128:1;129:7;141:1,8,	7:11	success (1)
six (4)	8:17;13:1;103:17;	16,20;142:6,8,12,13,20	still (8)	91:1
52:16;85:5;90:20;	126:8	Staff's (10)	22:4;35:15;43:24;	successful (2)
133:1	sounds (1)	92:7;93:6;97:21;	98:20;107:14;109:21;	65:13;90:23
sizable (1)	68:2	112:19;117:14,24;	128:11:131:20	successfully (2)
77:19	source (1)	135:1;140:20;142:23;	stop (2)	38:17;39:10
size (1)	23:1	143:4	21:22;116:11	sudden (2)
105:19	sourcing (1)	stage (4)	stoppages (1)	42:13;136:23
slight (2)	99:22	33:2,6;113:19,24	30:5	sufficient (3)
44:8;61:14	South (5)	standpoint (4)	stops (1)	72:15;123:7;142:12
slightly (5)	45:3;78:10,13,15;	70:1;130:5;137:10,	130:19	suggest (1)
19:21;38:17,20,22;	104:8	12	story (1)	49:12
39:4	speak (3)	start (25)	128:3	suggested (3)
slow (1)	5:16;128:16;136:12	5:19;9:5;24:19;	straggler (2)	59:23;145:21;146:9
81:8	speaking (4)	42:10,11;63:21;67:5;	58:10;112:18	suggesting (2)
slowing (2)	27:3;37:21;39:6;	69:16;77:1;81:4,17,18;	stragglers (3)	105:5;135:24
115:14,16	137:14	82:5,5;84:4,14;98:4;	47:15;75:7;134:3	suggestions (1)
slowly (2)	special (1)	103:14;115:18,19,22,	street (34)	107:22
5:16;119:10	30:4	23;128:5,6;139:23	17:5;18:11;21:19,23;	sum (1) 87:7
small (5)	specific (6)	started (17) 10:13;28:16;29:8,11,	32:14;43:1;45:4,4,7,	
16:10;21:14;45:5; 96:9;101:12	27:2;75:3;79:3; 104:12;113:3;139:10		23;46:21;47:6;49:5; 59:5;77:2,8,18;78:4,7,	summarizing (2) 18:9;120:20
smaller (3)	specifically (6)	15,18;61:10;64:3; 76:22;78:6,17;80:5;	9,15;87:22;104:7,8,8,	summer (5)
56:6;62:6;67:21	26:24;32:17;60:3;	81:9;89:4;98:2;112:7;	23;114:11,13;116:15,	32:23;54:5;72:21;
smell (1)	64:22;65:1;104:22	136:14	17;121:15;132:11;	139:17;147:1
85:11	specifics (4)	starting (1)	139:19,19	superfluous (1)
smolders (1)	114:6,7,9,22	6:15	streets (12)	38:12
144:9	spend (2)	starts (7)	20:10;44:22;45:9;	supervisor (3)
Smyth (3)	31:9;122:12	66:12;69:17;75:13;	47:22;57:12;58:10;	34:11,16,22
58:21,23;59:3	spending (10)	84:11;120:23;126:4;	63:7;104:5,12;116:14,	supervisors (1)
snow (1)	25:9,11;26:19;27:1,	130:19	20;131:21	44:10
32:22	14,20;33:18;44:2,6;	state (9)	Street's (1)	supervisor's (1)
snuck (1)	107:14	4:11;5:22;28:10;	104:24	34:15
64:5	spent (3)	45:4,4;74:3;77:4;	stretch (1)	support (5)
soil (2)	37:7;119:23;142:22	92:10;104:8	18:8	109:14;142:20;
85:24;86:7	spool (1)	stated (4)	stretched (1)	143:5,19;145:15
somebody (2)	29:1	29:9,13;35:19;117:4	111:17	supporting (1)
44:21;51:7	spot (3)	statements (7)	Strike (4)	123:5
someone (3)	42:19,23;48:6	60:10,11,14;94:19;	89:13;123:21;140:9,	supportive (2)
34:23;80:17;83:10	spread (3)	96:14;140:17;141:2	10	135:16,21
something's (1)	45:19;76:6,9	states (1)	strives (1)	supports (1)
80:23	spreadsheet (38)	5:21	71:9	140:20
<b>sometime (1)</b> 27:5	13:1;26:3;37:2,4,13, 16,19,23;38:1;76:24;	station (1) 77:20	strong (1) 57:12	supposed (2) 43:16:65:8
sometimes (6)	86:20;87:3;94:23;	statistically (2)	strongest (1)	sure (18)
30:7;37:9;43:12;	95:11,15,24;96:1,19;	51:19,20	134:7	5:13;25:10;35:24;
86:4;87:20;115:6	98:18;103:3;107:6;	stay (2)	struggling (1)	39:3;44:8;51:15,21;
somewhat (1)	108:6;121:6;124:19,	69:9;109:11	49:3	54:2,23;64:9,12;69:7;
147:5	22;126:3,18;127:5,20;	steam (5)	studies (1)	95:8;96:14;114:18;
somewhere (1)	128:7,12,21;129:19;	30:12;63:2,6;73:24;	31:11	118:20;137:1;138:16
101:22	130:12,17,22;131:3;	74:4	stuff (5)	surrounding (1)
soon (6)	145:17	Steel (27)	38:7;106:21;113:22;	85:24
22:6;55:1;71:11;	spreadsheets (1)	4:6;16:7;31:2;48:2;	130:9,23	survey (2)
143:8;144:24;147:20	107:8	52:8;53:2;54:8,10;	submits (1)	23:8;52:3
sooner (2)	Spring (3)	55:19;56:10;57:4;	105:24	surveys (3)
49:21,22	78:10,14,15	58:23;59:8,8;95:15,21;	subset (1)	72:19,21;85:10
sorry (19)	staff (34)	100:20;108:10;119:11,	126:19	Sutton (1)
23:14;25:6;26:21;	6:23;7:8,9;8:13,16,	13,17,18;120:1;127:9;	substantial (1)	6:8
38:21;48:12;50:17;	22;14:14;17:20;46:1;	129:8;136:11;146:17	65:6	swear (2)
73:6,23;74:2,4;77:6;	51:16,21;55:10;59:23;	step (6)	substantially (4)	7:18;8:2
119:6;123:22;124:1,	70:7;87:11;91:1,3;	59:24;60:9;95:4;	47:14;60:6;64:10,17	switch (1)
18;126:13;135:10;	92:4;93:3;108:3;	119:12,13;146:10	subtracting (1)	81:11
		L	i .	

sworn (8)
8:5,7,8,9,10;10:2;
13:18;14:11
sympathetic (1)
131:22
system (35)
16:3;22:15,18,19,22,
23,23;29:3;30:12;31:5
37:24;52:5,9,20,23;
53:16,17;54:8,15;
55:12;60:7;61:1,5;
64:14;77:23;84:20;
100:9,20;101:3;
103:13;119:19;133:7;
134:15;141:23;142:4
T

```
tackle (1)
  50:19
talk (2)
  51:3;111:3
talked (6)
  26:22;45:20;58:15;
  87:14;91:12;144:16
talking (13)
  5:14;31:16;39:13;
  50:20;56:20;84:23;
  85:20;102:15;112:18;
  114:23;115:1;127:3;
  129:13
talks (1)
  125:21
target (18)
  100:4,10,15;104:2;
  106:5;108:20,23;
  111:2,5,10;114:5;
  117:5;133:14,18;
  141:22;144:18,24;
  147:11
targeted (8)
  31:17.18:102:23:
  103:1;104:3;112:15;
  134:10;144:24
targeting (2)
  112:21;141:18
targets (1)
  146:23
task (1)
  81:12
tax (4)
  25:8,14;26:8,11
tea (1)
  43:4
team (3)
  12:22;35:15;70:10
tech (1)
  108:14
technical (3)
  42:20;46:11,18
technically (1)
  52:9
```

```
111:19
telling (1)
  128:3
temporary (2)
  71:21,21
ten (11)
  18:5,8;28:19;29:13;
  47:5;48:21;49:10;64:6;
  119:5,12;133:16
tend (9)
  31:15;32:20;33:7,12;
  97:14,18;105:22;
  106:1:130:9
tended (1)
  62:8
tends (3)
  30:24;68:18,20
ten-year (2)
  58:7;114:17
term (1)
  64:5
terminate (3)
  110:19,24;118:1
terminated (5)
  107:5;109:4;118:13;
  135:4;142:12
terminating (2)
  146:8,13
termination (2)
  117:16;143:11
terms (3)
  39:10:133:10.12
territory (1)
  16:16
test (4)
  27:11,21;31:12;32:8
testified (2)
  35:8:146:1
testify (1)
  8:21
testifying (1)
  8:19
testimony (78)
  9:12,14,19;10:2,7;
  13:6,10,15,18;14:5,7,
  10,11,14,15,16,17,20;
  15:2,5,13;23:16;24:22;
  28:8,10;29:24;36:21;
  38:15;41:6;45:24;
  51:17,18;58:15;61:8;
  63:13;64:15;70:19;
  73:4.10:74:13:86:13.
  20;93:2,7,11,15;94:23;
  95:10,12;96:3;97:21,
  22;99:13,22,23;100:7;
  106:9;108:16;110:12;
  112:23;113:2;114:8;
  115:5;117:17,18;
  118:22;120:11,14;
  122:5,22:124:6,20,22;
  126:15.19:128:10:
  145:23;147:10
```

Thanks (7)

```
33:24;60:15;63:12;
  103:23:106:3:107:24:
  109:23
Thanksgiving (3)
  65:23;66:6,10
that'll (1)
  123:12
thawing (1)
  51:13
therefore (4)
  18:18;20:17;31:7;
  62:10
therms (1)
  11:17
thicker (2)
  46:12;105:21
thickness (2)
  46:12;85:16
thinking (1)
  81:3
third (2)
  78:6:136:18
though (2)
  55:18;72:6
thought (8)
  29:10;48:19;50:18;
  51:20;68:7;97:20;
  135:15:146:7
thousands (2)
  37:12,17
three (20)
  28:21:29:9.10.11.11.
  17:45:11.18:56:19:
  64:2.3:74:12:76:21:
  83:6;84:20,21;100:14;
  109:8;116:9,12
throughout (2)
  104:6;141:17
tie (3)
  19:6;79:2;83:23
tied (1)
  29:3
tie-over (2)
  82:6;83:21
tighter (2)
  22:20,23
timeline (6)
  47:11;71:4,6,8;
  74:24;75:3
timely (1)
  115:9
times (9)
  41:16;42:18;53:24;
  54:23;56:15;62:21;
  79:14;83:1;91:3
timing (1)
  131:5
titled (1)
  86:23
today (18)
  7:10;9:13,20,23;
```

```
112:24;114:19;142:9;
  144:16:146:2
today's (1)
  7:11
together (6)
  35:16;37:1;46:16;
  63:4;83:12;107:9
told (3)
  127:13;132:16;
  136:15
tolerance (1)
  52:4
tone (1)
  134:8
took (3)
  17:4;143:12,13
top (4)
  48:5;64:21;78:11;
  120:17
topic (2)
  80:4;82:15
topics (1)
  32:19
torn (2)
  18:11;44:23
total (18)
  10:13,15;23:21;38:3,
  4,5;50:14;56:6;57:10,
  11,13;61:18;65:7;69:4;
  88:1;89:2,22;91:19
totally (1)
  97:9
totals (2)
  38:12:88:24
total-wide (1)
  90:14
touch (2)
  83:14:135:23
tough (2)
  54:13:55:2
towards (2)
  41:24;69:18
town (5)
  31:17,23;32:17;
  48:20;112:8
town-by-town (1)
  134:1
towns (14)
  30:2;31:18;32:2;
  33:3,7,12;35:18;36:1,
  15;40:8;62:18;66:13;
  67:11:112:9
track (2)
  129:23;142:13
tracking (1)
  106:18
traffic (11)
  20:9,9;21:9,12;30:6;
  33:9,11,13;35:22;
  111:7;116:17
transcript (1)
  121:1
```

```
57:16
trench (1)
  18:16
trenches (1)
  19:19
tries (2)
  17:7;43:17
trim (1)
  129:20
trouble (3)
  67:2;73:13;126:13
troublesome (1)
  17:20
truck (1)
  57:5
true (4)
  23:2;60:10,12,14
try (20)
  32:11;33:10;36:16;
  39:20;41:15;49:17;
  66:5,16,18;76:7,9;
  80:21,22;81:15,20,24,
  24;82:21;83:19;111:22
trying (21)
  20:3;37:10;40:10;
  50:12,13;57:2,17;66:2,
  14;69:19;76:16;87:4,9;
  106:12,18;111:7;
  112:21;113:23;122:21;
  125:24;126:6
turkey (2)
  107:12:136:20
turn (4)
  10:24;14:18;28:3;
  128:16
turning (2)
  12:15;38:15
twice (3)
  18:13,15;131:24
two (19)
  15:13:17:19:19:23:
  24:7;45:18;47:20,22;
  55:14;63:14;71:20;
  75:11;76:2;83:6;89:14;
  99:6;107:10;112:18;
  130:8;139:20
type (4)
  17:22;19:2;108:6;
  111:20
types (3)
  30:14;32:19;91:18
typical (2)
  11:14,16
typically (25)
  17:9;18:16;19:3,16,
  19;27:7;30:9;32:13,22;
  33:1,20;46:11;51:11;
  55:13;68:21;75:8,20;
  76:5,7;78:18;79:13;
```

technologies (1)

11:4,9;13:16,19;87:15;

treading (1)

93:16;96:15,18;98:2;

82:21,24;87:17;105:12

U

2020 CHST INGIVERINE	STEEL REI EITEENEIT	I I KOGKENI KEBELIB		June 10, 2020
	using (4)	57:16;111:12;	32:21;51:23;52:10,22;	wrote (2)
21:3	11:17;26:11;27:11;	129:14;133:8	53:10,11;54:1;56:24;	114:8;117:15
ultimately (1)	126:11	way (11)	57:1;63:24;64:4,14;	<b>T</b> 7
110:24	usually (1)	17:18;18:19;31:14;	66:1;67:16;72:20;77:8,	X
unable (1)	27:5	67:15;83:16;88:21;	13,13;81:19	W (4)
5:9	Utilities (8)	105:16;111:24;123:1;	winters (1)	X-ray (1)
uncertain (1)	4:5,10;6:2,19;12:21;	133:2,3	51:12	72:10
75:21	14:3;17:9;118:12	ways (1)	wise (4)	Y
uncompleted (1) 96:24	utilizing (1) 4:22	91:14	113:12,17,18;114:3 within (24)	ĭ
under (12)	4.22	•	10:19;16:18;17:6;	year (105)
23:20;33:21;41:10;	${f V}$		20:2;37:23;46:1,10;	11:18,21;12:24;
44:4;69:9,10;74:9,19;	•	'We (1)	49:15;52:16;53:21;	17:19;18:10;20:8,20;
91:9;138:23;142:10;	vacations (1)	121:12	55:14;58:6;59:1;68:6,	21:6,18;23:4,18,24;
147:19	83:1		15,17,19;69:10;85:3,5;	24:24;25:2;26:8,18,19,
underestimating (1)	value (2)	$\mathbf{W}$	86:9;89:20;99:7;	22,23;27:1,7,11,11,14,
63:16	37:6;38:13		133:15	16,21,22;28:12,18;
understands (1)	variability (1)	weather (4)	without (5)	29:22;30:13;32:19;
137:9	51:11	51:10,13;63:23;	59:11;95:2;123:1;	36:5;40:1;44:17;47:6;
understood (2)	variance (19)	67:17	131:17;140:9	48:4;52:17;53:6;56:13,
43:11;118:9	38:19;86:24;87:6;	Webex (1)	witness (3)	15;59:23;67:6,10,14,
underway (1)	88:9,11;89:4,10,19,23;	4:22	7:11;92:7;93:20	19;68:8,8;71:20;74:8,
32:18	90:1,11,15;91:5,13,18,	week (2)	witnesses (5)	11,14,15,17,20;75:18,
unfamiliar (1)	20;95:1;96:15,20	16:5;61:1	7:18;8:2,19;24:7;	18,20,21;80:7;87:19,
77:3	variances (9)	weekly (2)	70:13	23;88:4,24;89:21,22,
unless (1)	38:16;39:5;90:18,21;	32:3,16	wondering (4)	24;90:2;91:20;92:24;
5:15	91:16;94:20;95:6;97:1;	weeks (1)	60:20;73:11;79:4;	95:19;98:13;100:5;
unmuting (2)	122:19	33:13	136:1	101:15;102:17;103:8;
92:12;126:14	various (1)	well-accepted (1)	word (1)	107:5,15,15;108:20;
unquote (1)	61:20	22:13	112:15	109:9;110:16;114:12,
112:4	vary (2)	weren't (3)	word-for-word (1)	13,20;117:7,8,14,15;
up (41)	32:20;97:19	98:8,9,11	118:7	118:11;120:11;131:8;
5:15;18:11,12;22:20;	verbal (1)	whatever' (1)	work (44)	132:12;135:1,7;
28:4;29:4;31:20,21;	140:15	121:15	12:1;13:3,4;17:22;	136:10;139:1,24;
34:5,20;39:22;40:7; 43:21,23;44:2,7,23;	version (1) 119:22	whatnot (1) 69:3	18:3;19:8;20:1;21:19; 23:17;29:5;30:5,18;	141:10,11,18,22;
45:21,25,44:2,7,25,46:21;48:13;51:14;	versus (10)	what's (9)	31:13;35:18,23,24;	143:15,16,21 year-end (4)
52:7,19;58:9;61:19;	32:14;38:7,9,10;	12:7;40:9;44:21;	37:1;40:10;44:20;	12:23;25:21;35:9;
64:5;68:16;71:23;	57:13,16;89:21;90:13;	52:9;60:20;66:3;83:17;	47:23;49:24;63:7;66:4;	61:12
80:12;81:18;83:24;	99:2;116:16	137:13;144:3	67:10;74:23;76:6;79:1,	yearly (1)
84:5;89:23;97:1;	veto (2)	WHEREUPON (1)	18;89:23;90:2;102:11;	120:22
115:13;116:10,12;	21:3,7	8:3	109:10;111:8,20;	years (69)
128:11;132:12,15;	view (2)	whole (6)	113:14;115:24;116:8,	17:6,24;18:5,8,12;
143:13,15	34:1;121:7	41:19;62:5;68:19;	10,11;127:13;132:1;	43:6;44:24;45:18;
upcoming (1)	vision (1)	101:4;114:16;146:22	133:14;135:17;146:5	46:22;47:5,21,22;
147:13	72:11	whomever (1)	working (18)	48:22;49:10,10;53:7;
updated (1)	volume (1)	79:10	19:11;30:13;35:19;	55:4,10,14;59:2;62:3;
25:12	19:17	width (1)	37:13;39:21;40:7;	65:14;68:1,3,17;69:21;
upfront (2)		18:16	42:19;45:3,21;47:1;	70:8;71:23;74:12;75:5,
123:16;129:5	${f W}$	wild (2)	55:10;63:1,3;81:2;	11;86:9;90:17,18,19,
<b>upon</b> (6)		62:17;63:1	83:7;114:11,12;116:15	24;94:13,16;98:18;
20:9;30:4;109:5;	wait (5)	willing (1)	works (1)	100:12;102:1,15;
111:15;112:3;140:3	47:21;59:19;112:3;	147:17	113:6	103:6,19,20;105:1;
upwards (2)	113:13;132:21	Wind (1)	worries (1)	109:8;111:14;112:24;
43:14;107:14	walk (1)	5:11	73:8	113:16;114:24;119:6,
urban (1)	25:18	winding (1)	worst (1)	12,24;126:12,17;
16:18	wall (3)	135:13	43:8	131:10;132:10,15,17;
use (7)	46:12;70:21;85:16	window (1)	writing (1)	133:2,13,14,16;134:3;
25:17;61:6;62:23,24;	wants (2)	116:9	9:23	139:20;143:13,17;
	45 10 10 4	wings (1)	written (3)	145:12
94:1;97:13;126:10	45:19;136:4		, ,	
94:1;97:13;126:10 used (4)	wasteful (1)	7:12	11:1;13:15;14:10	years' (1)
94:1;97:13;126:10			, ,	

# DG 20-049 LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) 2020 CAST IRON/BARE STEEL REPLACEMENT PROGRAM RESULTS

·		T	T	T
	13 (4)	2020 (18)	38 (1)	6-inch (1)
125:12;127:3;146:8	68:1,2,9;121:3	4:5;25:1;26:2,9,18,	99:10	104:18
	14 (3)	23;27:16;40:2;74:8,14;	39 (2)	_
77:5	25:22,23;68:1	88:24;89:21;91:20;	127:5,6	7
	14- (2)	93:3;109:15;119:6;	4	- (4-)
73:19;94:6;116:22;	101:10;105:20	141:10,11	4	7 (15)
121:10;135:5,9	146 (1)	2020-04 (1)	4 (5)	99:13,18;100:1;
7	99:9	4:15	4 (5)	101:16;102:2,17;
Z	<b>14-inch (1)</b> 104:11	<b>2021</b> (1) 102:15	101:13;118:21,22;	117:8;124:23;125:1,3,
zoom (1)	15 (9)	2022 (1)	120:13;143:15 <b>4.3</b> (1)	24;126:19;128:10; 129:1;137:13
96:8	68:8;69:15;89:5,9;	102:16	16:8	7:00 (1)
90.8	94:21;96:17;98:24;	2023 (1)	40 (3)	115:22
1	99:9,20	102:16	25:21;114:24,24	<b>76</b> (1)
	151 (1)	2024 (10)	42 (1)	89:15
1 (13)	99:8	15:22;16:22;35:10;	101:20	79 (1)
	16-inch (4)	74:24;100:12,15;	48 (1)	89:15
14:8;23:10;28:9;85:6;	101:11;104:10,17;	102:16;131:12;141:18;	88:17	05.12
96:2;101:10;106:12,	105:20	144:17	49 (1)	8
	17 (4)	2025 (11)	88:17	
1.6 (3)	89:16,18;90:3;99:20	100:5,10,17;102:16,	4-inch (1)	8 (10)
	17.2 (1)	18;108:21;113:16;	104:18	73:21;89:17,22;
1.75 (1)	20:16	114:5;117:5;131:13;		90:10,15;91:21;94:22;
102:1	18 (1)	141:22	5	97:12;101:16;102:2
1:30 (1)	119:24	2029 (1)		809 (1)
	1892 (1)	49:13	5 (8)	11:17
10 (22)	103:5	2-1/2 (1)	26:5;69:24;99:6;	88 (2)
39:15;44:13;46:7;	1s (1)	26:13	101:13;102:1;118:21;	65:7,11
68:6,9;69:5,8,9,10,11,	53:6	22-inch (1)	121:2;134:13	8-inch (1)
13,14;70:1;74:19;		130:11	50 (8)	104:18
94:21;96:16;100:6;	2	24-hour (1)	16:13;43:2,6;59:1;	
103:19,24;117:7;	- (0)	70:21	76:13;88:17;101:15;	9
	2 (8)	26 (1)	106:14	
100 (2)	52:15;85:4;86:20;	146:21	55 (2)	9 (4)
42:12;70:21	93:4,7;97:5;101:23;	2667 (1)	100:19;101:6	26:15;28:8;73:15,19
106 (1)	134:15	146:21	550 (1)	9:00 (1)
	<b>2,000 (3)</b> 97:23,24;123:15	<b>27 (1)</b> 99:14	121:14	115:23
<b>10-inch</b> ( <b>10</b> ) 16:2,9;45:23;46:9;	2,000-cell (4)	271-2431 (1)	<b>56 (4)</b> 60:17,22;72:7;131:7	90 (2)
100:8;101:12;104:7;	127:4,20;128:12,21	5:8	56.63 (1)	65:17;113:21 <b>95 (1)</b>
105:5,11,20	<b>2.71</b> (1)	3.6	16:7	120:13
11 (6)	26:12	3	10.7	96 (3)
	20 (7)		6	120:24;121:1,5
117:8;122:13;131:8	39:19;69:18;94:24;	3 (5)	Ü	97 (1)
11.1 (2)	95:10,14;103:19;	12:8;52:14;85:1;	6 (6)	121:5
65:3;74:15	111:14	93:8;143:15	7:16;28:9;120:12;	1210
	200 (1)	3.7 (1)	129:11;134:13;140:11	
58:16	42:12	101:11	6.7 (3)	
	2000 (3)	3:00 (1)	20:13;45:2,13	
4:14;68:2;74:21;	119:7,14,23	115:24	6.75 (1)	
94:16;95:19;126:12	20-049 (1)	30 (6)	101:1	
12- (1)	4:4	43:1;44:17;71:23;	60 (3)	
105:20	2018 (6)	86:21;96:3,9	11:18;43:6;59:1	
12.6 (1)	26:12;51:5;74:20;	30-something (1)	603 (1)	
65:2	119:20;120:6,6	143:20	5:8	
	2018-2019 (1)	31 (1)	<b>60-pound</b> (2)	
103:6	53:11	9:17	53:17;58:22	
12-inch (2)	2019 (12)	31.8 (1)	66 (1)	
` /	25.2.26.10 12 10.	20:15	127:5	
101:12;104:6	25:2;26:10,12,19;			
101:12;104:6 <b>12th (1)</b>	27:1,8,11,15;29:22;	32 (1)	6A (1)	
101:12;104:6 12th (1) 93:3	27:1,8,11,15;29:22; 40:2;51:22;74:17	<b>32 (1)</b> 92:16	125:10	
101:12;104:6 12th (1) 93:3	27:1,8,11,15;29:22;	32 (1)		