| 1 | STATE OF NEW HAMPSHIRE |
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| 2 | PUBLIC UTILITIES COMMISSION |
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| 4 | July 17, 2014 - 10:04 a.m. |
| 5 | Concord, New Hampshire NHPUC JUL29'14 PM 4:07 |
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| 7 | RE: DE 13-248 PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE: |
| 8 | Petition to Amend Rate EOL to Include Light Emitting Diode Technology. |
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| 10 | PRESENT: Commissioner Martin P. Honigberg, Presiding Commissioner Robert R. Scott |
| 11 | |
| 12 | Sandy Deno, Clerk |
| 13 | |
| 14 | APPEARANCES: Reptg. Public Service Co. of New Hampshire: Matthew J. Fossum, Esq. |
| 15 | Reptg. the City of Manchester, N.H.: |
| 16 | Susan S. Geiger, Esq. (Orr & Reno) |
| 17 | Reptg. PUC Staff: Michael J. Sheehan, Esq. |
| 18 | Thomas C. Frantz, Director/Electric Division Leszek Stachow, Asst. Dir./Electric Division |
| 19 | Al-Azad Iqbal, Utility Analyst |
| 20 | |
| 21 | |
| 22 | |
| 23 | Court Reporter: Steven E. Patnaude, LCR No. 52 |

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1 PROCEEDING

CMSR. HONIGBERG: Good morning. As you can see, only two of us are here. The Chair, unfortunately, was called away just a few minutes ago and won't be here for this morning's hearing. And, she apologizes for that. So, Commissioner Scott and I will try not to mess things up too badly in her absence. We're here this morning on Docket DE 13-248 regarding Public Service Company of New Hampshire and their petition to amend the rate, their rates on EOL tariff and to include light emitting diode technology. We understand there is a proposed settlement, which we have seen.

Let's start by taking appearances.

MR. FOSSUM: Good morning,

Commissioners. Matthew Fossum, for Public Service Company of New Hampshire.

MS. GEIGER: Good morning,

Commissioners. Susan Geiger, from the law firm of Orr & Reno, representing intervenor City of Manchester.

MR. SHEEHAN: Good morning. Michael Sheehan, for Staff. And, present with me is the Director of the Electric Division, Tom Frantz, and the Assistant Director, Les Stachow, and Utility Analyst Al-Azad Iqbal.

CMSR. HONIGBERG: Are there any other

| 1 | intervenors in this matter who aren't here? |
|----|--|
| 2 | MR. SHEEHAN: No. We've had some |
| 3 | communications with others, but they never filed and they |
| 4 | are not here today. |
| 5 | CMSR. HONIGBERG: What are people's |
| 6 | expectations for how we're going to proceed this morning? |
| 7 | MR. FOSSUM: It was the Company's |
| 8 | intention to put on a panel of witnesses from the Company. |
| 9 | And, we would present both the testimony that the Company |
| 10 | has filed by its witnesses, as well as the Settlement |
| 11 | Agreement between the Company and the City of Manchester. |
| 12 | And, as far as I understand, those would be the only |
| 13 | witnesses for this morning. |
| 14 | CMSR. HONIGBERG: Everybody's nodding? |
| 15 | MR. SHEEHAN: That's correct. |
| 16 | CMSR. HONIGBERG: All right. That |
| 17 | sounds good. Why don't we begin then. |
| 18 | MR. FOSSUM: Then, I would ask Charles |
| 19 | Goodwin and Paul Ramsey to take the stand. |
| 20 | (Whereupon <i>Charles R. Goodwin</i> and |
| 21 | Paul E. Ramsey were duly sworn by the |
| 22 | Court Reporter.) |
| 23 | CHARLES R. GOODWIN, SWORN |
| 24 | PAUL E. RAMSEY, SWORN |

DIRECT EXAMINATION 1 2 BY MR. FOSSUM: Good morning. Mr. Ramsey, if you could state your name 3 Q. and place of employment and your responsibilities for 4 5 the record please. (Ramsey) My name is Paul Ramsey. I work for Public 6 7 Service Company of New Hampshire as Vice President of 8 Engineering. And, I'm responsible for all engineering matters within the Company. 9 10 And, Mr. Goodwin, if you could also state your name and Q. 11 your position and your responsibilities for the record 12 please. (Goodwin) Sure. My name is Charles Goodwin. 13 14 Director of Rates and Forecasting for Northeast 15 Utilities. And, part of my responsibilities is to 16 support PSNH's rate activities. 17 CMSR. HONIGBERG: Can we go off the 18 record for just a second? 19 (Brief off-the-record discussion ensued 20 regarding the microphones' sensitivity.) 21 CMSR. HONIGBERG: All right. Sorry 22 We're back on. about that. 23 Thank you. MR. FOSSUM:

24

BY MR. FOSSUM:

[WITNESS PANEL: Goodwin~Ramsey]

- Q. Mr. Goodwin, back on August 28, 2013, did you submit prefiled testimony in this proceeding?
- 3 A. (Goodwin) Yes, I did.
- Q. And, was that testimony prepared by you or under your direction?
- 6 A. (Goodwin) Yes, it was.
- 7 Q. And, do you have any changes or corrections or updates to that testimony today?
- 9 A. (Goodwin) Not to that particular testimony, no.

MR. FOSSUM: Thank you. I would offer

11 the August 28, 2013 filing in this docket as the first

12 exhibit for identification.

13 CMSR. HONIGBERG: Mark it please. Thank

14 you.

15 (The document, as described, was

herewith marked as **Exhibit 1** for

identification.)

- 18 MR. FOSSUM: Just for convenience.
- 19 BY MR. FOSSUM:
- Q. And, Mr. Goodwin, on July 1st, 2014, did you submit
- 21 additional prefiled testimony in this proceeding?
- 22 A. (Goodwin) Yes.
- 23 Q. And, was that testimony prepared by you or under your
- 24 direction?

- 1 A. (Goodwin) Yes, it was.
- 2 Q. And, do you have any changes or updates or corrections
- 3 to that testimony today?
- 4 A. (Goodwin) No.
- Q. And, Mr. Ramsey, in the July 1st, 2014 filing, was
- there a Settlement Agreement that was also submitted?
- 7 A. (Ramsey) Yes, there was.
- 8 Q. And, that Settlement Agreement bears your signature, is
- 9 that correct?
- 10 A. (Ramsey) That's correct.
- 11 Q. And, you're familiar with the terms of that Agreement?
- 12 A. (Ramsey) I am.
- 13 MR. FOSSUM: And, so, I would offer the
- July 1st, 2014 filing, containing the testimony and the
- 15 Settlement Agreement, as the second exhibit for
- 16 identification.
- 17 CMSR. HONIGBERG: It will be so marked.
- 18 (The document, as described, was
- 19 herewith marked as **Exhibit 2** for
- 20 identification.)
- 21 BY MR. FOSSUM:
- 22 Q. And, just for completeness, on July 2nd, 2014, under a
- cover letter from me, was there an additional
- 24 attachment, Mr. Goodwin, to your testimony that was

- 1 also submitted?
- 2 A. (Goodwin) Yes. It was inadvertently left out of the July 1st filing.
- Q. And, so, that attachment should be included as part of the testimony submitted on July 1st, is that accurate?
- 6 A. (Goodwin) That's correct.
- 7 Q. And, do you have any changes or updates to that attachment today?
- 9 A. (Goodwin) No.

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MR. FOSSUM: Then, I would offer that

July 2nd submission of the omitted attachment, I guess at

the discretion of the Commissioners, either as "Exhibit 3"

or as an additional part of Exhibit 2?

CMSR. HONIGBERG: Let's make it its own "Exhibit 3", since it was submitted separately. So, that will be marked "3".

(The document, as described, was herewith marked as **Exhibit 3** for identification.).

MR. FOSSUM: Now, in that, between the testimony and the Settlement Agreement, there are some more generic items on PSNH's proposal, as well as specific ones to the City. I believe we would discuss the generic items in the tariff filing and testimony first, unless the

1 Commissioners wish to have that changed?

> CMSR. HONIGBERG: No. That's fine.

BY MR. FOSSUM:

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- In that case, Mr. Goodwin, could you very briefly Q. explain what PSNH is proposing in its filing regarding the inclusion or addition of LED technology under its existing Rate EOL.
- (Goodwin) Yes. Rate EOL is an existing tariff for Α. 9 street lighting customers, in which the Company provides traditional poles and wires distribution delivery service, but for which the customer effectively purchases its own street lighting equipment. So, we would not have an additional charge for the equipment itself. Under that tariff, based on developments in the marketplace in the last number of years and the level of interest from some of our customers, we've investigated and ultimately have proposed a new offering for LED lighting technology. Within that tariff, we would also potentially accommodate other new high efficiency lighting technologies should they develop in the future.
 - And, for clarity, for the LEDs or the other potential Q. lighting technologies that you've just mentioned, how would those be accommodated under the tariff?

- A. (Goodwin) They would be accommodated by additional
 language in the tariff that addresses specifically
 certain clarifications around installation costs and
 responsibilities, maintenance costs and
 responsibilities, and, ultimately, a different set of
 pricing for the distribution-related services for LED
 lights under the EOL tariff.
 - Q. Could you explain by what standards the Company would determine whether LED technology or the other technologies would be added onto its system --
 - A. (Goodwin) Sure.

- 12 Q. -- under this tariff?
 - A. (Goodwin) Sure. First of all, we've developed a fairly broad set of high-level criteria. We've intentionally not tried to be too specific, because these technologies are evolving. This is our first foray into implementation of these technologies. But, in speaking with internal operations folks, as well as others at a high level, we would be looking for technologies that have been vetted to an extent throughout through the industry. There is an industry, effectively, standards group called the "Design Lighting Consortium" that evaluates and tests technologies. So, we'd be looking for technologies

that have been approved by that consortium. We would look at whether the technology itself is compatible with our existing operation system, in terms of voltage, for example. We would want to assure that the new technology includes standard brackets, standard photocells, so that there's no new equipment that would have to be obtained to install. We'd be wanting to ensure that no special training or special tools are necessary for our workforce to install these. So, effectively, looking that the technology kind of fits in, from an operations and installation perspective, with the existing system.

- Q. Thank you. And, are there any other changes to the tariff that PSNH is proposing for incorporating the LED or other technologies?
- A. (Goodwin) Well, we've made a couple of other what we hope to be beneficial offerings in the tariff. One is that we would allow customers to hire their own, basically, lighting installation vendors, that would have to be licensed and approved by the Company. But, rather than rely solely on PSNH's workforce to install LED lights, we would allow customers, again, using qualified installers, to do that on their own. We think that would potentially allow for some savings for

customers, from the standpoint that a vendor could potentially install cheaper than the Company, and also allow for some greater flexibility, in terms of scheduling. We're not sure exactly what the demand for LED lights will be. But, obviously, we have a limited workforce. And, if there's a pent-up demand for LED installations, by allowing customers to arrange their own installations, there's an opportunity for them to get it in (a) sooner, and (b) closer to the schedule that they desire.

So, that's one change. That's primarily, beyond the Settlement Agreement, the changes generally to the LED tariff.

- Q. Is there a more general change related to the maintenance or the cost of maintenance of the LED technology?
- A. (Goodwin) Yes. For standard technologies, under the Rate EOL, we have embedded into our monthly charge a cost of approximately 95 cents per month per fixture, to accommodate the Company's responsibility to do maintenance on these technologies.

For LEDs, because of the relative newness of the technology, the fact that the initial installations will likely be under some kind of a

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vendor warranty, we're not exactly sure what the actual maintenance requirements will be for that. So, what we've proposed for LED is that the Company would continue to be responsible for maintenance. But, rather than charge from day one 95 cents per fixture per month, rather, we would charge for maintenance based on a per visit occurrence. So, from the standpoint that, just as a hypothetical, a new LED technology were to come with a five-year vendor warranty, conceivably there would be no maintenance requirement in the first five years. So, we don't think it would be fair to necessarily charge that same 95 cent per fixture cost. So, we'll continue to be responsible for maintenance. But, rather than charge as a fixed cost per month, we'll charge on a per visit basis.

- Q. And, so, those changes that you've described, those are changes, I guess, more universally or globally to any customer that would be taking service under Rate EOL, is that correct?
- A. (Goodwin) Right. Everything that I've described so far would be generic provisions under the tariff and available to any customer who were to take LED service.
- Q. And, so, just to close out. So, that would be the sum

- of PSNH's proposals relating to the addition of LED or other technology under the Rate EOL, is that correct?
 - A. (Goodwin) Correct.

- Q. And, Mr. Ramsey, in addition to those proposals, the Company has entered into a Settlement Agreement that it's presented to the Commission as "Exhibit 2", and you've said you're familiar with the terms of that Settlement Agreement?
- 9 A. (Ramsey) Uh-huh. Yes, I am.
 - Q. Could you briefly describe the terms of that Settlement
 Agreement to this extent that they may differ from the
 more general requirements or expectations under PSNH's
 proposal for Rate EOL this morning?
 - A. (Ramsey) The primary difference is that it deals with the maintenance of the lights. We have had received over the years many requests from cities and towns as to whether or not they could maintain the lights themselves. And, so, we were and a part of our Settlement Agreement anticipates working with the City of Manchester on a pilot basis, and explore that opportunity going forward for all of our customers, not just for LED lighting.

We don't have enough information on that. And, so, working with the City, we would figure

out all the logistics associated with the City
maintaining lights, as opposed to PSNH. And, if there
are cost-effectiveness in doing so for each city or
town, we would afford them that, that savings.

There are a lot of logistical issues with customers. Customers will call us to repair lights. We have to figure out a way so that they call the City or get that information to the City. There's monitoring, after the lights get -- gets repaired or not repaired. And, so, all those logistical items will be worked out in the pilot. And, then, we would evaluate the results of the pilot when completed.

- Q. And, for clarity, would the City be responsible for maintaining both its existing lights, as well as any new LEDs that it installs?
- A. (Ramsey) Yes, they would be. And, that would support the pilot agreement that we have with the City.
- Q. Are there any other, either Mr. Ramsey or Mr. Goodwin, any other specific terms of the Settlement Agreement that are specific to the City that differ from the terms of the Rate EOL as proposed this morning?
- A. (Goodwin) Yes. There's a few additional items. I think the primary one relates to potential energy efficiency grants or funding. The City, to our

understanding, will be bonding a significant amount of dollars associated with this conversion. So, obviously, the City needs to and has done their own cost/benefit associated with a conversion to LED technologies. As part of that cost/benefit, they needed to get a handle as to what the total expected cost of the entire installation effort would be.

So, what we've done is to, like we would for any other customer under our energy efficiency programs, we've essentially gone through an initial screening, where the City has provided us their estimates as to the number of fixtures that they would convert, the cost of those fixtures, the wattage savings associated with those fixtures. And, based on those set of assumptions, we've run that project through our energy efficiency screening model, and have come up with an estimate as to what we believe could be the capital grant associated with the conversion. And, so, that estimate has been included in the Settlement Agreement.

There's a couple of other minor provisions that would be unique to the City under this Settlement. One is that, associated with the maintenance pilot project, where, for current

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technologies, we include the same 95 cent per fixture per month maintenance costs. In recognition of the fact that the City will be responsible for all maintenance, including existing fixtures, we've agreed in the Settlement to give the City a 95 cent per fixture per month credit on their bill, again, because they're relieving us of the maintenance responsibility and doing that themselves.

There's another item in the Settlement Agreement, I guess this is more generic as well, and I probably should have mentioned that earlier, and that is that it would be our proposal, in a future rate case within the next five years, that the total rate negotiated under the Settlement for LED street lighting service would not increase by any greater than the Company's proposed average overall distribution increase. And, the reason for that provision is, again, not just for the City of Manchester, but for any customer who is contemplating undertaking a conversion program, again, there's a cost/benefit and some expected, you know, economic value associated with a conversion project. And, that value is largely predicated on the rates that LED would cost. And, so, we're attempting to provide, you know, some level of

- certainty within a range as to what the cost that LED
 will be for the foreseeable future. So, that is
 another generic provision.
 - Q. And, Mr. Goodwin, back on December 4th, 2013, the Staff filed a recommendation in this docket. Do you recall that recommendation?
- 7 A. (Goodwin) Yes.

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- Q. And, that recommendation had -- well, recommended various reporting requirements or expectations for reporting. Is that consistent with your recollection?
- 11 A. (Goodwin) Yes.
- Q. Could you briefly explain the Company's position
 relative to, I guess we'll take them more or less as
 they were presented, that the Company would -- I'm
 sorry, I apologize. One of those recommendations was
 that the Company would track the costs of installations
 of LEDs and their installation and maintenance. Do you
 recall that recommendation?
- 19 A. (Goodwin) I do.
- Q. And, could you explain what the Company's position is on that recommendation.
- A. (Goodwin) Sure. Well, from a distribution system

 perspective, which is the service that's provided under

 Rate LED [EOL?], we would evaluate the performance of

1 the LED fixtures, evaluate any additional cost that the 2 Company may incur, in terms of maintenance and 3 associated operations around LED. The cost of LED 4 themselves is something that would really come from 5 customers, who would be working with vendors, 6 presumably under an RFP process to get bids associated 7 with LEDs. So, we would accumulate information to the best we can from customers on their experiences with 8 9 various types of new technologies. We would also look 10 at the performance and maintenance track record to see 11 whether LEDs are performing, you know, as advertised, 12 for the lack of a better term, and that is with 13 relatively low levels of maintenance is what we're told 14 about LEDs. So, we would monitor those types of 15 activities and provide some kind of a regular report. 16 Q. I guess that leads into the next recommendation Staff 17 had asked for, was a report on the LEDs and their 18 costs. And, if I'm understanding the Company's 19 position, is that it's open to providing such a report? 20 Α. (Goodwin) Absolutely. 21 And, the final recommendation was to develop certain Q. 22 processes and criteria for evaluating new technologies. 23 I believe you've testified to that already.

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Α.

(Goodwin) Right.

Q. But, just for clarity, could you indicate what the Company will be doing in that regard?

A. (Goodwin) Sure. And, these criteria are included both in the Settlement, as well as our marked up tariff provisions. But, effectively, we don't want to put too rigid a set of criteria around that, because, again, this is an evolving marketplace. LED technology itself has evolved fairly substantially in the last few years, and I expect it would continue to evolve. There are potentially other competing high-efficiency technologies that may evolve in the future as well.

So, we really don't want to put, you know, too narrow of a set of rules around that.

Again, in speaking with our operations folks largely, what they have said is that, to the extent that the technology is compatible with the existing distribution voltages, that is that it fits into the, you know, the distribution system from an operations perspective, then that would be acceptable.

From the standpoint that we may be installing, to the extent customers don't hire vendors, installing ourselves, we want to make sure that there's no additional training or tools that would be required to accommodate the installation.

| 1 | We would, as I mentioned earlier, look |
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| 2 | to that Design Lighting Consortium group, who |
| 3 | effectively is a standards type group in the industry, |
| 4 | as it relates to new energy efficiency technologies, we |
| 5 | would look that these particular LEDs or other lighting |
| 6 | technologies have been tested and approved by them, so |
| 7 | there is some form of an industry standard associated |
| 8 | with that. So, those are the primary criteria. |
| 9 | MR. FOSSUM: Thank you. And, with that, |
| 10 | I have no more direct. |
| 11 | CMSR. HONIGBERG: Attorney Geiger, do |
| 12 | you have any questions? |
| 13 | MS. GEIGER: The City has no questions. |
| 14 | Thank you. |
| 15 | CMSR. HONIGBERG: Attorney Sheehan? |
| 16 | MR. SHEEHAN: Yes. Good morning. |
| 17 | WITNESS GOODWIN: Good morning. |
| 18 | CROSS-EXAMINATION |
| 19 | BY MR. SHEEHAN: |
| 20 | Q. When you, in your initial testimony back last fall, |
| 21 | proposed a certain rate for the LED technology, and |
| 22 | then the Settlement Agreement and document, the |
| 23 | testimony you filed just this month has a different |
| 24 | rate for the technology. Can you explain for us how |

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you reached the first rate, and then what happened to come up with the second rate?

A. (Goodwin) Sure. The initial rate, we evaluated the existing Rate EOL technologies and pricing, and effectively ran a regression analysis that simply compared wattages to monthly cost. And, where that regression line went through the intercept, we initially defined as the "fixed monthly charge for LED", and the slope of that line effectively gave us the per wattage charge for LED. So, the initial implementation I would say is conceptually revenue neutral with the existing EOL technologies.

In working with the City, it was clear that, based on that pricing, there was really not a realistic opportunity for most of our customers to economically convert to LED service. And, that is because the vast majority of our existing Rate EOL customers have relatively low wattages, in the 50 to 70 watt range. We have very few customers out at the tail end, say 500 to 1,000 range. So, the result of that regression analysis really provided little, if any, savings opportunities for, again, the vast majority of our customers, including the City of Manchester.

So, we went back and looked at a number

of things. We were aware of the fact that, generally, street lighting rates for PSNH are substantially higher than they are for the other Northeast Utilities' operating companies in both Connecticut and Massachusetts. So, we looked a little closer at what that driver was. And, it became apparent to us that, in the last rate case, we filed the cost of service study, there was some attention to that cost of service study, but largely rates were not designed based on cost of service rates for PSNH in past most recent rate cases have generally been some function of an across—the—board average increase. So, as a result of that, we think that the New Hampshire street lighting rates are probably escalated higher than what we really think the cost of service for them might be.

So, we looked at street lighting cost of service and rates for the other companies, and realized that, in the next PSNH rate case, we're required to file both an embedded and an allocated -- embedded and marginal cost of service study. And, it's our expectations that there will be much greater focus on cost-based rate design. That would be my expectation, that the result of that would indicate a lower street lighting cost of service. So, in other words, I would

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expect street lighting rates to come down in the future for PSNH.

So, we set a fixed and a variable piece that's somewhere between the existing PSNH level of costs that we filed initially and where our other sister operating companies' street lighting rates are, we more or less split the difference to a degree on And, when we developed that, we have been continually evaluating that relationship between the fixed piece that I spoke to and the per wattage piece, and looking at it across the spectrum of wattages that we have in our EOL territory, to make sure that there continues to be a savings opportunity. Then, in evaluating that, there was clearly a savings opportunity that, to the City of Manchester's minds, is sufficient to go forward with an LED conversion plan. And, in looking across the spectrum, there's a fairly significant savings across the spectrum, including even at the higher wattages.

So, we got comfortable that this is a rate design that we think is more reflective of our expectations going forward, more competitive relative to our other sister electric operating companies, and one that we think will attract, rather than be a

- disincentive, to the conversion to LEDs on a going-forward basis.
- Q. Thank you. I think I got all that, but I'm going to break it down into a few steps.
- 5 A. (Goodwin) Yes. That was probably a long paragraph.
- 6 Q. And, then, you probably --
- 7 CMSR. HONIGBERG: It has to be multiple 8 paragraphs.
- 9 WITNESS GOODWIN: Multiple paragraphs.
- 10 BY MR. SHEEHAN:
- Q. So, first, the original proposal is not a cost-based proposal, that is a translation of what you're already charging.
- 14 A. (Goodwin) Correct.
- Q. And, what you're already charging itself is not a cost-based, it's sort of a leftover from whatever happened some years ago?
- A. (Goodwin) Right. And, it's largely dependent on how you define "cost", or based on how I would define "cost", I would say that it's overstated.
- 21 Q. And, that the slope you were talking about, where you
 22 have the classic graph and where it intercepted the
 23 vertical, I always forget which one's "x" and which
 24 one's "y", that was the \$8 something base charge, and

- 1 then the slope was the wattage charge, I think it was a penny and a half or something. 2
- 3 (Goodwin) Roughly, yes. Α.
- So, that resulted in a relatively narrow slope from the 4 Q. 5 smaller fixtures up to the larger fixtures?
- 6 (Goodwin) That's correct. Α.
- 7 And, what you changed was you dropped that intercept Q. 8 down to about \$3.00, and the wattage charge is higher, 9 so you end up with a steeper slope, correct?
- 10 (Goodwin) Doing good.

- Q. Okay. Which means that the smaller ones have -- the 12 smaller lighting has gotten quite a bit cheaper, the 13 more expensive ones they come together somewhat. 14 there's a less of a savings at the other end, at the 15 bigger end.
- 16 Α. (Goodwin) That's correct.
- 17 That's what you described. There's still the savings Q. 18 at the big lights, but less than there was under the 19 old proposal. But there's a significant drop in the 20 price of the smaller fixtures, which you say is the 21 bulk of the lights that are out there?
- 22 Α. (Goodwin) Exactly.
- 23 And, the basis for that change was a good faith guess Q. 24 based on what you're charging in Connecticut -- what

- your affiliates are charging in Connecticut and
 Massachusetts?
- A. (Goodwin) Yes. That are based more on cost of service studies that we've filed.
 - Q. So, is it fair to say that what we have in the proposal now is not an actual cost-based one, but probably much closer to one than what we had last fall?
- 8 A. (Goodwin) That's my expectation, yes.

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- 9 Q. And, you're other expectation is, when PSNH goes into
 10 its next rate case, it will do the cost of service, we
 11 will get a cost-based rate for these lights, and you
 12 expect it to even be lower?
- 13 A. (Goodwin) If I had to guess right now, I would say,
 14 yes, that's correct.
 - Q. Okay. And, that leads into the one part of the

 Settlement Agreement where you've agreed not to raise

 -- to a rate cap on these lights, and the cap is not a

 fixed cap, it's a cap, if all rates go up 2 percent,

 these will go up two percent as well. But you're not

 going to increase LED lights more than whatever the

 overall increase is.

And, my question is, you're not worried or are you worried that the LED lights, if you have that cap, are going to become too low for the Company's

1 purposes? Is that a concern of PSNH's or no? (Goodwin) Not really. Because how rate design, you 2 Α. 3 know, kind of correlates to ratemaking overall in the 4 rate case, is that we'll have an approved revenue 5 requirement. And, then, what rate design will do is to 6 put a set of proposed tariffs together that, in 7 aggregate, equal that allowed revenue requirement. from the standpoint that street lighting rates, you 8 9 know, may be lower or different than cost of service, 10 then that will be made up in rate design from other 11 classes. It's not my expectation that, in the next 12 rate case, we're going to go in one fell swoop from the 13 level of rates that we have today to full 100 percent 14 cost of service based rates. There's a concept of rate 15 continuity, rate gradualism. We evaluate bill impacts 16 when we do that. 17 And, so, if you think of that, you know, 18 in a broad sense, as a revenue neutral type 19 proposition, where, in total, our current rates are at 20 cost of service. The question is, among customers and 21 classes. So, certain customers today are paying 22 arguably higher than the cost of service and others 23 will pay lower. So, as we move in a future rate case

to more cost-based rates across the board, there will

be winners and losers. So, part of the rate design methodology that we'll evaluate and propose in the next rate case, you know, includes kind of a balancing among that. So, again, I don't think we're going to move 100 percent to cost of service in one fell swoop. And, so, somewhere in that spectrum is why I think this proposed level of street lighting probably fits. I'm not so sure we're going to get from current street lighting rates all the way down to a cost of service level in one step. So, I think that's why I've kind of cut the difference here.

- Q. In your testimony, Page 7 of your testimony, you don't have to go there, but you mention that the rates proposed here is about a dollar -- the flat charge is about a dollar higher than what it would be under Mass. or Connecticut. Do you see that?
- A. (Goodwin) Yes. I believe I reference that, in Connecticut, the \$3.00 is about a dollar, the equivalent of the \$3.00 is about a dollar. So, I think we're actually a couple of dollars higher than Connecticut.
- Q. And, as you testified with Mr. Fossum, Staff's proposed conditions about reporting, the Company has no problem making -- providing that data to Staff as time goes

- forward. And, the other part of that question is, some of that data will have to come from customers, and with the pilot from Manchester in particular. And, as I understand it, Manchester has been agreeable to providing that information to you as well?
- A. (Goodwin) Right. Everything we've talked about that Staff has indicated an interest in, the City has been completely supportive of that. So, you know, I would envision that, between the City, the Company, and Staff, we continue to more or less work on that, you know. I could envision maybe an annual reporting requirement. And, then, maybe at the end of each annual report, we sit down and discuss with Staff, you know, what additional, what's missing, how can we improve on, you know, whatever it is you'd be looking for, metrics or other types of things. So, clearly, a collaborative of some form.
- Q. And, the reason this agreement or Staff's recommendation doesn't have a precise template for the information Staff wants is, is it fair to say we really don't know what information we're going to get yet?
- A. (Goodwin) Right. And, we don't know what information we're going to give you yet.
- 24 Q. Okay.

1 A. (Goodwin) Exactly.

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- Q. So, it's something that's going to have to be a work-in-progress as we go forward?
 - A. (Goodwin) Right. But, clearly, and I think I can speak for the City, I can certainly speak for the Company, both parties are absolutely committed to working with Staff on whatever reporting you deem necessary.
 - Q. And, my last question, before I check with the gentlemen to my left, the programs that energy efficiency programs that you talked about, where the Company has basically said that the City of Manchester looks like it qualifies for a certain amount of grants, and it's about \$400,000 over two years, is that correct?
- 15 A. (Goodwin) Right. Yes.
- 16 Q. There's a line in the Settlement Agreement that says
 17 that that money will be provided "in accordance with
 18 the requirements of the individual programs", is that
 19 correct?
- 20 A. (Goodwin) Yes.
- Q. And, that was to allay both the Company's and Staff's concerns that Manchester isn't getting any special treatment here or any favoritism, they still have to apply to the program and the usual rules will apply to

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- A. (Goodwin) Exactly. That's my understanding. That we have evaluated this in the same way we would evaluate a non-street lighting energy efficiency potential project, and run it through the screening. Again, you know, given an indication, based on a set of assumptions, that it would be our expectation that, if all of those assumptions hold true, that that would be the value of the grant that they would qualify for under the existing program rules.
- MR. SHEEHAN: May I just have a minute please?
- 13 (Atty. Sheehan conferring with PUC Staff representatives.)
- 15 BY MR. SHEEHAN:
- 16 Q. The last question is, the maintenance cost, I

 17 understand that the proposed LED rate does not include

 18 the 95 cents per meter per month.
- 19 A. (Goodwin) Right.
- 20 Q. That was one of the things that got it to come down.
- 21 And, instead, you propose the \$95 per visit charge.
- What is the basis for that figure? Why \$95? Why not
- 23 something else?
- 24 A. (Goodwin) My understanding is it's a cost, our

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          estimated cost of one manhour/one truck to do a site
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          visit. So, these types of maintenance costs tend to be
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          an inspection of the equipment, a check of the
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          photocell. If the photocell is faulty, replace it.
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          So, we expect that to be about a one-hour process.
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          And, so, it's based on an internal estimate of labor,
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          plus overhead costs.
                         (Atty. Sheehan conferring with PUC Staff
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                         representatives.)
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                         MR. SHEEHAN: Thank you. I have nothing
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       further.
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                         CMSR. HONIGBERG: Mr. Scott, do you have
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       any questions?
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                         CMSR. SCOTT: Yes. Thank you. And,
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       good morning.
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                         WITNESS GOODWIN: Good morning.
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                         WITNESS RAMSEY: Good morning.
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                         CMSR. SCOTT: The usual caveat, whoever
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       feels best to reply, please do so. I just want the best
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       answer.
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     BY CMSR. SCOTT:
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          So, why don't we pick up where we just left off with
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          Staff. So, that was one of the questions I was going
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          to ask is the basis for the $95, and what's a
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typical -- what's inherent, what happens in maintenance, which you just described a little bit.

So, you use, if I heard you, so, it's a one manhour, cost of the truck. And, interesting to me, so, I was -- again, I was going to ask, you know, "what is maintenance?" And, so, it sounds like you said it was a check of the photocell, and potentially you replace the photocell if it was bad. Does that \$95 include if you do replace the photocell or is that -
A. (Goodwin) Yes. Yes. So, effectively, for EOL

- fixtures, where the Company has on our books at a zero value, but the customer has essentially paid for the fixture and is responsible for replacing the fixture. So, what we would do in maintenance is essentially go out and see, is the "problem" related to our system or the photocell? And, if it's related to our system or the photocell, then we'd repair it. If it's not related to our system or the photocell, then fixture is faulty. And, we would notify the customer and they would have to incur the cost of replacing that fixture.
- Q. Thank you. That's helpful. And, back to your, I think it was Mr. Goodwin, your Exhibit 1, just to help me out, you reference "all-night" and "midnight" service,

- versus "midnight" service?
- 2 A. (Goodwin) Yes. Right.

- Q. Could you educate me what's the difference?
- A. (Goodwin) Sure. Sure. In the last PSNH rate case, more or less consistent with what we had done in both CL&P and Western Mass. Electric, there was an interest to offer, rather than a complete dusk-to-dawn street lighting service, a service that would effectively only go till midnight. So, it wouldn't operate in the extreme off-hours. And, so, essentially, the only difference in those two services is that, obviously, one has a longer number of burn hours and the other has a shorter number of burn hours. So, if a town or a customer would like to have the shorter "midnight only" option, then they would simply elect that. And, all of the kilowatt-hour based charges would be computed on that, on those fewer burn hours schedule.
 - Q. Thank you. That makes sense. The language in the tariff, obviously, you try to be forward-thinking, so it's not just LED. I saw you changed that. But, then, when I looked forward in the tariff, then it basically is specific for LEDs, even the \$95 charge is LED. So, is that the use of the word "LED" meant to be inclusive of the other technologies or is it just for

1 LED?

- A. (Goodwin) I'd say, if a practical alternative
 high-efficiency technology were to develop, and it met
 the criteria that I described, that we would apply the
 LED-based rules to that. So, I would say that, in that
 context, "LED" is more of a generic term.
- Q. And, do you feel the tariff is specific enough to include that?
 - A. (Goodwin) Well, now that you mention it, probably not.

 So, I think that we could easily go back, in some kind of a compliance filing, and try to make that more generic, and be specific as to where it's LED only versus another new technology.
 - Q. You had an earlier discussion with Staff regarding the next rate case on this issue. Is there -- do you have an idea of a timing on that?
 - A. (Goodwin) No. Only that I can say we are under a five-year Settlement Agreement that precludes coming in earlier than mid 2015. So, it would be beyond mid 2015 at the earliest. But I don't have a particular schedule.
 - Q. Okay. Thank you. Obviously, you're working as a pilot, and, obviously, as part of the Settlement with the City of Manchester. Do you have an idea for the --

what the demand is for municipal LED outdoor lighting in this case?

- A. (Goodwin) Well, I know that I personally met with two other municipalities beyond the City. And, I anecdotally heard that there are other customers who are kind of keeping an eye on this docket, if you will, because there is some additional level of interest.

 So, I can't tell you that I know that there are cities that, once this docket concludes and the rate becomes available, that they'll absolutely commit. But there's clearly many municipalities that are interested in a potential LED conversion.
- Q. And, perhaps a little bit off the topic, I was curious, the City's, obviously, looking for grants. You know, you mentioned this grant opportunity for the energy efficiency side. Does this program at all preclude photovoltaic installations to be associated? I don't know if that's going on at this point.
- A. (Goodwin) As it relates to LED-type activity or are you asking is photovoltaic a different technology that could also be eligible for grants?
 - Q. No, I'm sorry. I didn't -- more specifically, do you see efforts to pair those two together, the LED -- upgrading LED technologies and, while people are on the

poles, upgrading, adding photovoltaics?

A. (Goodwin) I honestly can't speak to that. I'm kind of on the edge of my knowledge as it is about the energy efficiency programs. So, I don't know the answer to that question.

CMSR. SCOTT: That's fair. And, again,
I think I caveated saying "it's a little bit off the
mark", I understand. So, all right. I think that's all I
have. Thank you.

CMSR. HONIGBERG: I think I don't have much.

12 BY CMSR. HONIGBERG:

Q. Regarding the Settlement Agreement, the major difference between what was proposed and what is in the Settlement has to do with maintenance, according to what I understood you both to be testifying. That there's a pilot project to allow the City to take over maintenance. And, the question, at least to the next sentence, as one of you said, with the potential leading to other cities being able to do something similar, how many places could actually do that?

There's a scale issue here with Manchester, is unlike any other place in the state. How realistic is it to expect that really any town would have the capacity to

do that kind of maintenance?

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- (Goodwin) Well, Mr. Ramsey can follow on, but what I Α. can testify to is that, in our Connecticut and Massachusetts jurisdictions, we do offer that, if customers were to buy their lights, that they would take the maintenance as well. I can't give you the absolute demographics of which cities and towns have, but a large number have. So, I can speak to, in Connecticut, it has been beyond, there's many municipalities much smaller than the City of Manchester in New Hampshire who have taken that on. I would expect that what they're probably doing is not performing the maintenance with their own workforce, but rather contracting it out. So, I think it's that contractor network that probably allows the opportunity.
- A. (Ramsey) And, that would have been my reference. You have to think through whether or not small towns have the capacity to do this type of maintenance. The reality of life is, is you probably can outsource this from a contract perspective. If there are enough cities and towns, small or large, in a particular area, in an aggregated area, they could collaborate and then get one contractor, if you will, to take care of all of

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          their needs. So, there's a variety of options here
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         that they could explore, to reduce, you know, to go
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          after the maintenance issue. So, we're basing that, to
          some degree, as speculation, but, to some degree, based
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          on our own experience of maintaining these lights over
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          cities and towns of that nature.
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                         CMSR. HONIGBERG: That's helpful.
                                                            Thank
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       you.
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                         WITNESS RAMSEY: Yes.
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                         CMSR. HONIGBERG: That's all I have.
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      Mr. Fossum, do you have any other questions?
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                         MR. FOSSUM: No. Thank you.
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                         CMSR. HONIGBERG:
                                          I think then we're
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       done with these two witnesses. So, you gentlemen are
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       excused. There are no other witnesses, correct?
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                         MR. FOSSUM: None from the Company.
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                         MR. SHEEHAN: No. And, given the
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       reference to the Staff's recommendation, I'd like to mark
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       a copy of that as an exhibit, if I may. That would be
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      Mr. Iqbal's November [December?] 4, 2013 recommendation.
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                         CMSR. HONIGBERG: I've got it. All
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       right. So, we'll mark that as "4".
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                         (The document, as described, was
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                         herewith marked as Exhibit 4 for
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1 identification.) 2 CMSR. HONIGBERG: Is there any objection 3 to striking identification on those four exhibits? 4 MR. SHEEHAN: No, sir. 5 MR. FOSSUM: No. 6 CMSR. HONIGBERG: All right. 7 none, then those will become full exhibits. 8 I think the only other thing we need to 9 do is to ask people to sum up. We'll start with Attorney 10 Geiger. And, as you speak, I'd ask you to address 11 something that Mr. Goodwin said in his testimony, where he 12 said that he thought he could speak for the City regarding 13 cooperation going forward with data collection. 14 not be in a position to speak for the City, but you are. 15 So, I would ask you to deal with that please. 16 MS. GEIGER: Yes. Thank you, Commissioner Honigberg. The City of Manchester, as Mr. 17 18 Goodwin correctly noted, intends to cooperate fully with 19 PSNH and Staff in developing whatever data is necessary 20 for the purpose of evaluating the success or the 21 implementation of the pilot plan as it rolls out. 22 The City also would note, just for the 23 record, that its intervention in this docket was made 24 because it had some serious concerns with the originally

filed tariff proposal. Those, through negotiation with PSNH and, ultimately, with Staff, have been resolved to the satisfaction of the City. And, therefore, the City would respectfully request that the Commission approve the Settlement Agreement and the remainder of PSNH's filing, so that the City can begin as soon as possible to deploy and roll out the pilot program for converting its existing City lighting to the more energy efficient LED option.

The only other thing I would note is that the City appreciates the efforts of PSNH and Commission Staff in reaching the Settlement Agreement that we're presenting today. Thank you.

CMSR. HONIGBERG: Thank you. Attorney Sheehan.

MR. SHEEHAN: Thank you. Staff supports both aspects of this case, that is the proposed new tariff and the Settlement Agreement between the City and PSNH. Staff's primary concern -- well, the first concern was that the proposed rates are not cost-based. And, as you heard Mr. Goodwin testify, we don't have -- they don't have the information to do a true cost-based. They did the best they could, and what they have done Staff believes is reasonable. And, with their agreement to provide data going forward, when the time comes, we will

have the data to do a better job in reaching a cost-based rate. So, for those reasons, Staff's concern in that regard has been met. Otherwise, including LED technology is reasonable, and certainly forward-thinking, and the right thing to do for all of the other reasons.

As for the Agreement, the Settlement
Agreement, the primary concern Staff had was that the
provision about the energy efficiency programs didn't
somehow give Manchester an inappropriate head start or a
cut in the line to others. And, as you heard, there's
language in the Agreement that precludes that. PSNH is
very concerned as well that that not happen. And, I think
the Settlement Agreement before you does a nice job of
giving the City the comfort it needs, and yet leaving to
PSNH the ability to administer the program the way it's
supposed to be administered. So, again, we think that the
Agreement and the conversation has met Staff's concern in
that regard.

So, the standard that the Commission applies here for the rate change is that it's in the public interest and that it's just and reasonable. We believe it is. And, the provisions of the Agreement itself operate under similar standards. And, again, we support the approval of the Agreement.

CMSR. HONIGBERG: And, you'll be working with the Company regarding the language of the tariff that is now perhaps more specific than it should be?

MR. SHEEHAN: Correct.

CMSR. HONIGBERG: Okay. Mr. Fossum.

MR. FOSSUM: Thank you. As the others have indicated, we're here seeking approval for two things. One is PSNH's proposal, or as modified in the July 1st, plus July 2nd filing, relative to its Rate EOL and the inclusion of LED lights. And, PSNH believes that the resulting rates that are in there for LED lighting, and other new technology for that matter, are just and reasonable and should be approved.

We've tried to put together a proposal that allows some flexibility for municipalities to begin moving toward newer and more efficient lighting options. And, we are confident that this proposal does that, and that it provides the kind of savings that municipalities would be looking for to incent them to actually move in that direction.

As for the terms of the Settlement

Agreement, on which we are also here for, PSNH believes

that the Settlement Agreement is also just and reasonable

and is consistent with the public interest. It gives an

| 1 | opportunity for the Company, the Staff, and the Commission |
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| 2 | for that matter, and the City as well, to determine what |
| 3 | might be needed for maintenance of this type, for work of |
| 4 | this type, and whether it truly does make sense for this |
| 5 | activity to be performed by municipalities. And, so, |
| 6 | we're very hopeful that, as this pilot continues, we'll |
| 7 | gather information about that. We are, as witnesses have |
| 8 | testified, we're certainly open to providing the |
| 9 | information that we gather from the City, and the |
| 10 | information that we have internally, to help everyone |
| 11 | determine the value and the benefits of such maintenance. |
| 12 | And, so, with that, I would request that |
| 13 | the Commission approve both the revised tariff filing and |
| 14 | the Settlement that have been presented this morning. |
| 15 | Thank you. |
| 16 | CMSR. HONIGBERG: Anything else? |
| 17 | (No verbal response) |
| 18 | CMSR. HONIGBERG: All right. With that, |
| 19 | we'll close the hearing, take it under advisement, and get |
| 20 | an order out as soon as we can. Thank you very much. |
| 21 | (Whereupon the hearing was adjourned at |
| 22 | 11:00 a.m.) |
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