

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 19-057

Date Request Received: 09/20/2019

Date of Response: 10/04/2019

Request No. STAFF 12-044

Page 1 of 3

Request from: New Hampshire Public Utilities Commission Staff

Witness: Erica L. Menard

Request:

Reference testimony of Ms. Erica L. Menard at Bates 924; Attachment ELM-3 (Perm) at Bates 1262, 1263, and 1281; and 1264, 1282; and Attachment ELM-4 at Bates 1287 to 1311. For each of the projects and plant additions listed below for 2013 and 2014, please provide all copies of all documentation required under the pre-2015 Capital Project Authorization Policy (Attachment ELM-4) including capital work orders, work requests, engineering work requests, work order approvals (including all levels), project estimate analysis reports, project revision forms, CBRC project approval forms and revision sheets, and all reports and analysis utilized or produced by the monthly ED project review meetings:

Program Operations Projects & Plant Additions 2013

Program Operations Projects & Plant Additions 2013					Pre-Construction		Revised		Total Costs	
Line	Year	Plant Type	Specific Project No.	Project Description	Estimated Costs	Estimated Costs	Estimated Costs	Estimated Costs	Of Project w/COR	
	Col. A	Col. B	Col. C	Col. D	Col. E	Col. F	Col. G	Col. H	Col. I	Col. J
2	2013	Distribution	A06N30A	REBUILD 386 LINE NO ROCHESTER S/S	\$	1,928,000	\$	4,965,700	\$	4,378,831
5	2013	Distribution	A08S08B	3701L (32W4 & 32W5) NEW 12.47K	\$	1,319,000	\$	2,502,100	\$	2,295,983
6	2013	Distribution	A08S43	REBUILD 34.5KV BUS AT BROOK ST S/S	\$	600,000	\$	6,680,600	\$	6,466,577
7	2013	Distribution	A08S43C	CANAL S/S 3056 BREAKER REPLACEMENT	\$	1,102,700	\$	1,945,600	\$	1,838,132
10	2013	Distribution	A08W49	REPL 2 SF6 SWITCHES WITH TRAYER KEENE URD	\$	150,000	\$	4,219,475	\$	3,379,788
13	2013	Distribution	A09W15	317L - RBLD LINE PENACOOK TO DAVISVILLE	\$	2,647,000	\$	4,198,820	\$	4,185,809
14	2013	Distribution	A10N03	32 LINE - NEW 34.5 KV LINE	\$	419,300	\$	1,235,600	\$	1,236,261
17	2013	Intangible	A10K05	GIS CAPITAL PROJECT	\$	1,000,000	\$	9,262,600	\$	9,261,330
18	2013	Distribution	A11N02	BERLIN EAST SIDE S/S RENOVATION	\$	1,500,000	\$	2,870,100	\$	2,712,795
20	2013	Distribution	A11S17	MALVERN ST S/S DIST. LINE WORK	\$	4,000,750	\$	6,721,256	\$	5,616,874
21	2013	Distribution	A12N01	REBUILD COMMUNITY STREET SUBSTATION	\$	1,600,000	\$	7,475,000	\$	8,029,062
22	2013	Distribution	A12N01A	BERLIN 4KV SYSTEM RECONFIGURATION	\$	970,000	\$	2,268,000	\$	2,229,403
26	2013	Distribution	A12S02	REPLACE NOWELL ST S/S TRANSFORMER	\$	400,000	\$	1,140,500	\$	1,108,555
46	2013	General	GCMEXT	GCBM BUILDING EXTERIOR SIDING/WINDOWS	\$	978,251	\$	1,201,343	\$	1,208,867
2	2013	Distribution	A04334	Direct Buried Cable Replacement	\$	800,000	\$	2,000,000	\$	1,820,780
10	2013	Distribution	A07K98	NESC Capital Repairs	\$	750,000	\$	3,000,000	\$	2,879,780
18	2013	General	GK9R	Tools/Equipment Construction	\$	489,540	\$	613,000	\$	612,970

Program Operations Projects & Plant Additions 2014

5	2014	Distribution	A12S06	INSTALL STEP TO ELIM PROJECT OVERL	\$	20,000	\$	710,800	\$	712,821
6	2014	Distribution	A12X04	PURCHASE NEW 115-12.47KV MOBILE	\$	70,000	\$	1,790,000	\$	1,959,389
12	2014	Distribution	A14N06	MILL POND DISTRIBUTION LINE WORK	\$	1,049,000	\$	3,643,000	\$	3,722,034
13	2014	Distribution	A14N11	DOWNTOWN PORTSMOUTH UG SYS IMPROVE	\$	600,000	\$	2,943,000	\$	2,951,856
25	2014	Distribution	UB1313	CONSTRUCT NEW CIRCUIT-BRISTOL S/S	\$	1,000,000	\$	1,746,485	\$	1,701,232
34	2014	Distribution	UB1412	2014 DA DEPLOYMENT	\$	3,230,000	\$	4,433,300	\$	4,419,313
1	2014	Distribution	A04S34	Direct Buried Cable Replacement	\$	1,000,000	\$	1,552,600	\$	1,552,910
18	2014	Distribution	A14X02	Replace Obsolete RTU's	\$	2,000,000	\$	2,803,900	\$	2,905,750

Response:

The following attachments contain project approval documentation, a list of work orders under the project and work order authorization documentation. The list of work orders is provided to demonstrate the set of work order within each funding project. Work orders are generated from either the MIB/PowerPlan syatem or the work management system STORMS. In 2013 and 2014, MIB/PowerPlan work orders used a manual work order authorization process, however STORMS utilized an electronic approval process. Due to the voluminous nature of the STORMS work order requests, copies of the electronic work order approvals were provided only for work orders over \$200,000.

Attachment Staff 12-044 A contains the A06N30A project and work order authorization documentation.
 Attachment Staff 12-044 B contains the A08S08B project and work order authorization documentation.
 Attachment Staff 12-044 C contains the A08S43 project and work order authorization documentation.
 Attachment Staff 12-044 D contains the A08S43C project and work order authorization documentation.
 Attachment Staff 12-044 E contains the A08W49 project and work order authorization documentation.
 Attachment Staff 12-044 F contains the A09W15 project and work order authorization documentation.
 Attachment Staff 12-044 G contains the A10N03 project and work order authorization documentation.
 Attachment Staff 12-044 H contains the A10X05 project and work order authorization documentation.
 Attachment Staff 12-044 I contains the A11N02 project and work order authorization documentation.
 Attachment Staff 12-044 J contains the A11S17 project and work order authorization documentation.
 Attachment Staff 12-044 K contains the A12N01 project and work order authorization documentation.
 Attachment Staff 12-044 L contains the A12N01A project and work order authorization documentation.
 Attachment Staff 12-044 M contains the A12S02 project and work order authorization documentation.
 Attachment Staff 12-044 N contains the GCMEXT project and work order authorization documentation.
 Attachment Staff 12-044 O contains the UB1161 project and work order authorization documentation.
 Attachment Staff 12-044 P contains the A04S34 2013 project and work order authorization documentation.
 Attachment Staff 12-044 Q contains the A07X98 2013 project and work order authorization documentation.
 Attachment Staff 12-044 R contains the GX9R 2013 project and work order authorization documentation.

Attachment Staff 12-044 S contains the A12S06 project and work order authorization documentation.
Attachment Staff 12-044 T contains the A12X04 project and work order authorization documentation.
Attachment Staff 12-044 U contains the A14N06 project and work order authorization documentation.
Attachment Staff 12-044 V contains the A14N11 project and work order authorization documentation.
Attachment Staff 12-044 W contains the A14S07 project and work order authorization documentation.
Attachment Staff 12-044 X contains the UB1313 project and work order authorization documentation.
Attachment Staff 12-044 Y contains the UB1412 project and work order authorization documentation.
Attachment Staff 12-044 Z contains the A04S34 2014 project and work order authorization documentation.
Attachment Staff 12-044 AA contains the A14X02 2014 project and work order authorization documentation.

In addition, Attachment Staff 12-044 AB contains the end of year capital budget authorization committee reports for 2014 and 2015 and meeting notes for the monthly meetings.

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 19-057

Date Request Received: 09/20/2019

Date of Response: 10/10/2019

Request No. STAFF 12-045

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Request from: New Hampshire Public Utilities Commission Staff

Witness: Erica L. Menard

Request:

Reference testimony of Ms. Erica L. Menard at Bates 930 - 932; Attachment ELM-3 (Perm) at Bates 1265 to 1268 and Bates 1283 to 1286; and Attachment ELM-5 at Bates 1362 - 1399. For each of the projects and plant additions listed below for 2015, 2016, 2017 and 2018, please provide all copies of all documentation required under the post-2015 Capital Project Authorization Policy (Attachment ELM-5) including project authorization forms, work orders, project approvals (all levels), project reviews performed by Eversource Enterprise Risk Management group, project reviews performed by Financial Planning and Analysis group, authorizations for additional resources (supplement request forms) and related reviews and approvals by the Project Authorization Committee, and Subsidiary Board packages and presentation materials (if applicable) including Board minutes and Board resolutions. Also, please indicate if any of the projects were designated as "Corporate Shared Services Projects" and provide any additional documentation as required by Attachment ELM-5:

Program Operations Projects & Plant Additions 2015

<u>Line</u>	<u>Year</u> Col. A	<u>Plant Type</u> Col. B	<u>Specific Project No.</u> Col. C	<u>Project Description</u> Col. D	<u>Pre-Construction Estimated Costs</u> Col. E	<u>Revised Estimated Costs</u> Col. F
1	2015	General	15703	PSNH - BLDGS STRUCTURES & GEN PLANT	\$ 293,565	\$ 1,047,314
3	2015	Distribution	A09N10	3601 LINE, BUILD NEW LINE	\$ 324,000	\$ 652,937
5	2015	Distribution	A12W05	REPL LACONIA UNDERGRD SWITCHGEAR 70W	\$ 326,687	\$ 1,882,000
11	2015	Distribution	A14W18	NO KEENE S/S - NEW DISTRIBUTION CIR	\$ 906,000	\$ 1,335,000
12	2015	Distribution	A15CDA	CENTRAL REGION 2015 DA	\$ 1,056,200	\$ 3,787,200
15	2015	Distribution	A15EDA	EASTERN REGION 2015 DA	\$ 236,240	\$ 3,692,000
18	2015	Distribution	A15NDA	NORTHERN REGION 2015 DA	\$ 2,333,600	\$ 6,096,000
24	2015	Intangible	AMRP6DCA	PSNH AMR PROJECT	\$ 1,508,880	\$ 2,487,800
25	2015	General	C14002	NH DISPATCH CENTER	\$ 915,000	\$ 1,354,928
26	2015	Distribution	C15ETT	ETT (REP II)	\$ 3,000,000	\$ 6,557,400
33	2015	Distribution	R15EDA	REP 3 2015-2016 Eastern Region DA	\$ 1,821,499	\$ 4,030,000
34	2015	Distribution	R15HLDH	Hit List Reliability Enhancements	\$ 2,009,000	\$ 3,514,000
35	2015	Distribution	R15NDA	REP3 - 2015-2016 Northern Region D	\$ 1,247,900	\$ 2,923,000
38	2015	Distribution	R15RPR	Reject Pole Replacement	\$ 1,796,000	\$ 6,353,000
40	2015	Distribution	R15WDA	REP3 - 2015-2016 Western Region DA	\$ 3,982,394	\$ 5,560,000
15	2015	General	GX9R	Tools/Equipment Construction	\$ 481,934	\$ 2,009,000

Program Operations Projects & Plant Additions 2016

<u>Line</u>	<u>Year</u> Col. A	<u>Plant Type</u> Col. B	<u>Specific Project No.</u> Col. C	<u>Project Description</u> Col. D	<u>Pre-Construction Estimated Costs</u> Col. E	<u>Revised Estimated Costs</u> Col. F
6	2016	Distribution	A13S01	RIMMON S/S ADD 2ND 115-84.5KV 44.8M	\$ 5,100,000	\$ 9,511,670
8	2016	Distribution	A13S02	3750 LINE. REBUILD RIVER CROSSING	\$ 118,140	\$ 559,000
14	2016	Distribution	A15N01	CONVERT LACONIA 4KV TO 12.47KV	\$ 144,339	\$ 1,918,406
24	2016	Distribution	R15CTC	Circuit Tie Construction	\$ 4,214,000	\$ 6,509,000
26	2016	Distribution	R15DBR	REP3 Direct Buried Cable Replace	\$ 1,866,000	\$ 3,178,308
32	2016	Distribution	R15RDA	REP 3 Relay upgrades (2015-2016)	\$ 1,120,000	\$ 2,756,485
33	2016	Distribution	R15SDA	REPS - 2015-2016 Southern Re	\$ 1,847,594	\$ 4,052,000
34	2016	Distribution	R15SSAI	4 & 12 KV Substations	\$ 1,796,000	\$ 2,092,448
35	2016	Distribution	R16ETT	NH REP 3 ETT	\$ 2,971,800	\$ 9,483,803
13	2016	Distribution	DL9R	Distribution ROW Annual	\$ 626,198	\$ 1,310,300
15	2016	Distribution	DS9RE	ROW Replace Field Equipment - Annual	\$ 218,189	\$ 763,000
17	2016	Dist/General	GM9R	TLS/Equip S/S - Dist Maint & Asset MGT	\$ 145,081	\$ 667,000
18	2016	General	GX9R	Tools/Equipment Construction	\$ 830,618	\$ 1,513,100

21	2016	General	VEHICLES	Purchase Vehicles	\$	2,889,945	\$	4,268,000
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Program Operations Projects & Plant Additions 2017

8	2017	Distribution	A14N21	BERLIN EASTSIDE 34.5KV LINE BREAKER	\$	1,071,000	\$	2,838,000
9	2017	Distribution	A14S08	GARVINS SUBSTATION REBUILD	\$	3,449,000	\$	4,368,444
11	2017	Distribution	A16C01	3271 Line Reconductor	\$	771,000	\$	2,193,000
12	2017	Distribution	A16C02	12H4 West Side Conversion	\$	273,000	\$	491,000
16	2017	Distribution	A16N03	31W2 - Extend Three Phases Rte 106	\$	194,000	\$	534,000
27	2017	Distribution	NHRMTR17	NH Remote Disconnect 2017-2018	\$	1,235,618	\$	1,985,629
28	2017	General	R15TDA	TELECOM EXPANSION TO SUPPORT DA	\$	865,000	\$	2,379,000
29	2017	Distribution	R17CTC	REP 4 CIRCUIT TIES	\$	1,777,300	\$	3,042,000
5	2017	Distribution	DL9R	Distribution ROW Annual	\$	1,239,800	\$	1,869,600
7	2017	Distribution	DS9RE	ROW Replace Field Equipment - Annual	\$	717,200	\$	1,044,200
10	2017	General	GX9R	Tools/Equipment Construction	\$	745,000	\$	975,800
11	2017	General	IT6DWANA	Telecom WAN Annuals - PSNH	\$	494,365	\$	706,000

Program Operations Projects & Plant Additions 2018

1	2018	General	18707	2018 FAC LOB Bldg & GP	\$	1,877,000	\$	2,784,940
4	2018	Distribution	A14W02	DANIEL SS (WEBSTER)-34.5KV SS UPRD	\$	6,959,535	\$	15,352,420
5	2018	Distribution	A16C09	Blaine St SS add 34.5-12KV 10MVA tr	\$	2,255,000	\$	3,151,000
6	2018	Distribution	A16C10	JACKMAN - REPLACE OBSOLETE EQUIPMEN	\$	4,228,000	\$	5,896,000
7	2018	Distribution	A16E06	West Rye S/S Re-build	\$	1,040,000	\$	2,332,000
8	2018	Distribution	A16S01	Chester Automation Upgrade	\$	729,000	\$	933,000
9	2018	Distribution	A17C17	CIRCUIT TIE 3115X12 TO 3615X1	\$	75,000	\$	2,175,000
10	2018	Distribution	A17E09	Rochester 4 KV Conversion	\$	100,000	\$	4,082,000
11	2018	Distribution	A17N24	Laconia SS 24 VDC Cntrl Sys & Relav	\$	185,000	\$	539,000
13	2018	Distribution	A18E16	West Rd Overloaded Steps	\$	536,000	\$	1,025,000
14	2018	Distribution	A18VRP	Viper Replacement Project-Bettermnt	\$	895,000	\$	5,997,114
1	2018	Distribution	A07X45	Reject Pole Replacement	\$	634,000	\$	1,287,000
3	2018	Distribution	C03CTV	Cable TV Projects Annual	\$	552,273	\$	1,714,000
10	2018	General	GX9R	Tools/Equipment Field Operations	\$	667,813	\$	1,005,000
11	2018	General	IT6DWANA	Telecom WAN Annuals - PSNH	\$	200,885	\$	624,000

Response:

The following attachments (Attachment Staff 12-045 A through Attachment Staff 12-045 BE) contain the Project Authorization Forms and approval documentation for the projects selected in this data request..

2015 Projects:

Project 15703: Please see Attachment Staff 12-045 A
Project A09N10: Please see Attachment Staff 12-045 B
Project A12W05: Please see Attachment Staff 12-045 C

Project A14W18: Please see Attachment Staff 12-045 D
Project A15CDA: Please see Attachment Staff 12-045 E
Project A15EDA: Please see Attachment Staff 12-045 F
Project A15NDA: Please see Attachment Staff 12-045 G
Project AMRP6DCA: Please see the response to Staff 10-004 for the project approval documentation for this project.
Project C14002: Please see Attachment Staff 12-045 H
Project C15ETT: Please see Attachment Staff 12-045 I
Project R15EDA: Please see Attachment Staff 12-045 J
Project R15HLDR: Please see Attachment Staff 12-045 K
Project R15NDA: Please see Attachment Staff 12-045 L
Project R15RPR: Please see Attachment Staff 12-045 M
Project GX9R for 2015: Please see Attachment Staff 12-045 N

2016 Projects:

Project R15WDA: Please see Attachment Staff 12-045 O
Project A13S01: Please see response to OCA 6-094 for the project approval documentation for this project
Project A13S02: Please see Attachment Staff 12-045 P
Project A15N01: Please see Attachment Staff 12-045 Q
Project A16X04: Please see Attachment Staff 12-045 R
Project R15CTC: Please see Attachment Staff 12-045 S
Project R15DBR: Please see Attachment Staff 12-045 T
Project R15RDA: Please see Attachment Staff 12-045 U
Project R15SDA: Please see Attachment Staff 12-045 V
Project R15SSAI: Please see Attachment Staff 12-045 W
Project R16ETT: Please see Attachment Staff 12-045 X
Project DL9R for 2016: Please see Attachment Staff 12-045 Y
Project DS9RE for 2016: Please see Attachment Staff 12-045 Z
Project GM9R for 2016: Please see Attachment Staff 12-045 AA
Project GX9R for 2016: Please see Attachment Staff 12-045 AB
Project VEHICLES for 2016: Please see Attachment Staff 12-045 AC

2017 Projects:

Project A14N21: Please see Attachment Staff 12-045 AD
Project A14S08: Please see response to OCA 6-097 for the project approval documentation for this project. Attachment Staff 12-045 AE contains an excerpt from the Project Approval Committee related to this project.
Project A16C01: Please see Attachment Staff 12-045 AF
Project A16C02: Please see Attachment Staff 12-045 AG
Project A16C05: Please see Attachment Staff 12-045 AH
Project A16N03: Please see Attachment Staff 12-045 AI
Project NHRMTR17: Please see Attachment Staff 12-045 AJ
Project R15TDA: Please see Attachment Staff 12-045 AK
Project R17CTC: Please see Attachment Staff 12-045 AL
Project DL9R for 2017: Please see Attachment Staff 12-045 AM
Project DS9RE for 2017: Please see Attachment Staff 12-045 AN
Project GX9R for 2017: Please see Attachment Staff 12-045 AO

Project IT6DWANA for 2017: Please see Attachment Staff 12-045 AP

2018 Projects:

Project 18707: Please see Attachment Staff 12-045 AQ

Project A14W02: Please see response to OCA 6-098 for the project approval documentation for this project. Attachment Staff 12-045 AR contains an excerpt from the Project Approval Committee related to this project.

Project A16C09: Please see response to OCA 6-099 for the project approval documentation for this project. Attachment Staff 12-045 AS contains an excerpt from the Project Approval Committee related to this project.

Project A16C10: Please see response to OCA 6-100 or the project approval documentation for this project. Attachment Staff 12-045 AT contains an excerpt from the Project Approval Committee related to this project.

Project A16E06: Please see Attachment Staff 12-045 AU

Project A16S01: Please see Attachment Staff 12-045 AV

Project A17C17: Please see Attachment Staff 12-045 AW

Project A17E09: Please see Attachment Staff 12-045 AX

Project A17N24: Please see Attachment Staff 12-045 AY

Project A16E16: Please see Attachment Staff 12-045 AZ

Project A18VRP: Please see Attachment Staff 12-045 BA

Project A07X45 for 2018: Please see Attachment Staff 12-045 BB

Project C03CTV for 2018: Please see Attachment Staff 12-045 BC

Project GX9R for 2018: Please see Attachment Staff 12-045 BD

Project IT6DWANA for 2018: Please see Attachment Staff 12-045 BE

Attachment Staff 12-045 BF contains the 2015 through 2018 year-end capital project reports which are used as project reviews performed by the Investment Planning and NH Operations groups. There were no projects that required review by the Eversource Enterprise Risk Management group or Subsidiary Board approval.

Attachment Staff 12-045 BG contains the NH Distribution Project Approval Committee monthly meeting minutes.

Projects 15703, AMRP6DCA, C14002, and 18707 are considered Shared Services projects.

Minutes
08-16-2018 Meeting

Project Approvals

21. A14W02 - Daniel/Webster Project – P. Pinault – APPROVED FOR \$19,690,419 WITH COMMENTS.
- Supplement Header section – “Plant Class”, change “Distribution” to “Distribution Substation”; “O&M Expenses”, change “N” to “N/A”.
 - Lessons Learned section – add in to follow the Constructability Checklist. Obtain the checklist from Ken Case.
 - ACTION ITEM – send final approved Lessons Learned to Transmission Project Solutions team for the EPAC file. (Note: EPAC Committee agreed that this action item will not prevent routing updated Supplement to Investment Planning.)

Attendance

EPAC Role	Required Members	In-Person	Phone	Voting Designee
Co-Chair	George Wegh	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Co-Chair	John Dipaola-Tromba	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
EPAC Administrator	Farah Omokaro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Projects	Tim Revellese	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Alexis Ané	<input type="checkbox"/>	<input type="checkbox"/>	Ken Roberts
Project Controls	Raymond Gagnon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Engineering	James Eilenberger	<input type="checkbox"/>	<input type="checkbox"/>	
	John Case	<input type="checkbox"/>	<input type="checkbox"/>	Chris Soderman
	John Zicko	<input type="checkbox"/>	<input type="checkbox"/>	Paul Melzen
	Robert Andrew	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Rod Kalbfleisch	<input type="checkbox"/>	<input type="checkbox"/>	
	Swapan Dey	<input type="checkbox"/>	<input type="checkbox"/>	
Siting & Compliance	Robert Clarke	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Investment Planning	Leanne Landry	<input type="checkbox"/>	<input type="checkbox"/>	Neil Helfand
Integrated Planning & Scheduling	Diana Mahoney	<input type="checkbox"/>	<input type="checkbox"/>	
Compliance	Vicki O'Leary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Transmission /System Ops	Barry R. Bruun	<input type="checkbox"/>	<input type="checkbox"/>	
	Brian Dickie	<input type="checkbox"/>	<input type="checkbox"/>	
Field Ops & Field Engineering	Anthony A. Anzalone	<input type="checkbox"/>	<input type="checkbox"/>	
	Rob Bouthiller	<input type="checkbox"/>	<input type="checkbox"/>	Marissa Flynn
	Wayne Gagnon	<input type="checkbox"/>	<input type="checkbox"/>	
	Marc Geaumont	<input type="checkbox"/>	<input type="checkbox"/>	Carol Burke
	Mark Blanchard	<input type="checkbox"/>	<input type="checkbox"/>	
	Saurabh Sahni	<input type="checkbox"/>	<input type="checkbox"/>	

EPAC Role	Required Attendees	In-Person	Phone
Siting	Kate Shanley	<input type="checkbox"/>	<input type="checkbox"/>
Siting & Construction Services	Michelle Gallicchio	<input type="checkbox"/>	<input type="checkbox"/>
Licensing & Permitting	Mark Gardella	<input type="checkbox"/>	<input type="checkbox"/>
Procurement	Craig Dikeman	<input type="checkbox"/>	<input type="checkbox"/>
	Fran O'Keefe	<input type="checkbox"/>	<input type="checkbox"/>
Substation Engineering	Daniel Foley	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Paul Melzen	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Thelma Brown	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Protection & Controls	Dennis Western	<input type="checkbox"/>	<input type="checkbox"/>
	John Babu	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Stuart Hollis	<input type="checkbox"/>	<input type="checkbox"/>
T Line & Civil Engineering	Chris Soderman	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Mohsen Sahirad	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Jim Bodkin	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Jamil Abdullah	<input type="checkbox"/>	<input type="checkbox"/>
	Donald Dibuono	<input type="checkbox"/>	<input type="checkbox"/>
Transmission Capital Program	Glenn Herman	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Budget & Investment	Peter Neidhardt	<input type="checkbox"/>	<input type="checkbox"/>
Outage & Ops Planning	Oswaldo Ortega	<input type="checkbox"/>	<input type="checkbox"/>
	David Cloutier	<input type="checkbox"/>	<input type="checkbox"/>
Standards	Jen Hebsch	<input type="checkbox"/>	<input type="checkbox"/>

Eversource Project Funding Authorization Process Summary

Eversource's Project Management process follows several processes and procedures based on the widely accepted Project Management Institute's ("PMI") best practice Project Management Body of Knowledge ("PMBok"). This process utilizes the five phases of Project Management which are:

1. Initiate
2. Plan
3. Executing
4. Controlling
5. Closing

During each of these phases, project funding authorizations may be requested as the scope is identified and refined. As such, there are several types of estimates used by Eversource depending upon the stage of a capital project.

- Order of Magnitude Cost Estimate – these are used as a placeholder for evaluating alternatives and identifying preferred solutions for capital projects. This type of estimate is used early within the initiation phase of the project in which high level cost comparisons of alternative projects are needed. These estimates have an accuracy range of -50% and +200%.
- Conceptual Cost Estimate – these are used for budget purposes for capital projects. This type of estimate is used in the initial engineering phase of the project (in preparation for Eversource Project Approval Committee "EPAC" authorization). This estimate will be completed to assist the Solution Design Committee in determining the preferred alternative. These estimates have an accuracy range of - 25% and +50%.
- Planning Cost Estimates – are used to detail the cost of a project used in the planning phase of the project. These estimates are usually +/-25%.
- Engineering Cost Estimate – these are used to detail the cost of a project used in the approval and construction phase of the project. This estimate is used when at least 70-90% of the engineering is complete. Often times the pricing of major materials is known at this stage of a project. These estimates have an accuracy range of -10% to +10%.
- Construction Cost Estimate – Used to detail the cost of a project used in construction phase of the project. Service contracts for construction, testing and commissioning are generally in place at this stage. These estimates have an accuracy range of -10% to +10%.
- Actual Final Cost – actual costs incurred at project completion (after closeout).

The need for revised project funding authorization is part of the process throughout the project lifecycle. Below are a few examples of funding requests during the project lifecycle.

Initiate

Initiating a new project within Eversource typically involves the communication of a need from System Planning (load driven, compliance with standards, etc.) or Asset Management (aging infrastructure, equipment obsolescence, etc.). Initially, there may be several potential solutions to

address a need and conceptual engineering may be required to develop these options to a point where the alternatives can be evaluated. As part of the process in this stage, a site visit is conducted with high level stakeholders to begin to prepare conceptual plans/drawings to obtain approval for the project. Initial cost estimates are also developed to include preliminary engineering and the initial project planning cost. Consider this “seed” money to get the correct resources in place to begin the Planning Phase of the project. This would include consideration for hiring external resources if Eversource resources cannot handle the work load.

Once a preferred solution is selected, further conceptual engineering and analysis may be required to identify certain project specific risks e.g. likelihood of encountering subsurface ledge or other obstructions during excavation, contaminated soils, etc. At each stage of project development, additional detail is defined, risks are uncovered and where appropriate, mitigated. In parallel with the solution definition, the project’s estimated cost is developed and refined to a greater level of accuracy. During conceptual engineering, additional funding approval may be required to assess alternatives and, in some cases, approve physical work, for example soil borings, test pits and soil analysis. This is required to develop the preferred solution to a point where full project funding approval can be requested. Once a preferred solution is identified, Eversource’s Solution Design Committee evaluates the proposed solution against the viable alternatives and where appropriate recommends moving forward with project funding approval through EPAC. In other cases, the SDC may request additional work to develop other alternatives or refine the preferred alternative prior to approval.

A Project Authorization Form (PAF) is generated at this stage to obtain project approval from upper Management. The PAF includes an Executive Summary, Project Description, Overall Justification along with Alternatives Considered and a Preliminary Cost Estimate. The Cost Estimate is generated using recent completed projects with a similar scope. It also assumes pricing for known materials and service cost.

Plan

Once project approval is obtained, the Planning Stage begins. The outcome of this stage is to prepare a guide through which the project travels. During this stage, several stake holders, including Eversource Engineering, conduct a site visit to begin developing the detailed scope document for the project. Among other things, the scope document is used to prepare bid documents for outsourcing engineering (or as a road map for internal engineering) as well as additional services as may be required. The contractors that are chosen for Request for Proposals (RFP) are selected by the project team and Eversource Procurement Department considering past experience and cost and schedule track records. When the proposals are received, they are reviewed by several members of the project team, including Eversource Engineering and the Procurement Department. Depending on the complexity of the project, the proposals can vary greatly from the Preliminary Cost Estimates provided in the PAF. Once the engineering resource is selected, 30% design packages are generated and used to obtain RFP’s for major materials, Lead Commissioning Engineer (LCE) and several other contractors as needed. During engineering, many unknowns begin to come to light and resource requirements are better understood which assist in the RFPs.

Historically, full project funding approval was provided based on the conceptual or planning cost estimate, but in recent years Eversource has transitioned to a staged project sanctioning approach with initial funding provided to develop the detailed engineering and risk mitigation. Once the scope is known in detail, full funding approval is requested which allows for the purchase of engineered equipment with long lead times and the placing of contracts for construction, testing and commissioning, etc. This stage-gate approval approach creates more certainty over actual final cost because the engineering is completed and firm pricing for major materials and when appropriate construction, test and commissioning is available.

Even with the staged approval process, during project execution it is not unusual for unforeseen issues to materialize. These issues include finding buried objects not identified on drawings, changes to approach based on feedback from local stakeholders, storms, equipment failures, emergent outage constraints, etc. To respond appropriately, the Project Manager may need to commit additional resources, identify alternative ways of working, etc. These deviations from the original scope can also affect the project cost estimate.

After receipt of all proposals, the known project costs are compared to the authorized full funding project estimate. If the pricing is in line with the full funding authorization, no requests are made for additional funding. However, if the cost exceeds the initial estimate, a Supplemental Request Form (SRF) may be required for supplementary funding. In circumstances where the project direct costs are forecast to exceed the authorized direct funding by 10% or more, Eversource's project controls require the Project Manager to request supplemental project approval by returning to EPAC and explaining the need for additional project resources be that additional internal labor, outside services, or materials.

When the planning is well underway, and the requested contracts are implemented, the Executing phase begins. During this phase, the work that was planned is carried out. In the early part of this stage, environmental testing is conducted to determine if there are any environmental hazards that need to be remediated. This is normally added as a risk in the PAF or SRF and a dollar value is applied. However, there are some instances where the amount of remediation is much more extensive than anticipated and the costs are much higher than identified as part of the risk. This may also be the case when civil and electrical construction is underway, and unknowns arise. Another submission of the SRF may be needed to capture these costs as well.

Execute/Control

During the Executing Phase, the cost & schedule controls are put in place as part of the Controlling Phase. Weekly Project Meetings are held to discuss the construction progress and the remaining work to be done. From time to time, the weather, as well as storm related outages, can cause schedule delays. The outcomes of these delays can result in change orders from the contractor to cover additional time/resources needed to complete the projects. These change orders are reviewed by the project team to negotiate pricing and confirm that the request is indeed out of scope. Monthly cost meetings are also conducted which include the Eversource Project Management and Upper Management teams. During these cost meetings, the cost controls are discussed, reviewed and recommended corrective actions are implemented as needed. If, at any

time during the Executing Phase, the cumulative effect of project change or contract change orders results in a variance of 10% or greater in direct project cost, then an additional Supplemental Funding Request would be required.

No supplemental request should be required during the Closing Phase.

Indirect Project Costs

All Eversource projects are assessed indirect costs from several overhead categories. These include, but are not limited to:

- Internal labor overheads (employee benefits, etc.)
- Stores (applied to materials ordered through our stock room)
- Engineering and Supervision (E&S)
- Misc. Distribution Expense (MDEC)
- Administrative (AS&E)
- AFUDC (cost of money)

Each of these overheads is assessed at a rate defined by the corporation and is applied to the appropriate category of direct costs charged to the project. These rates vary over time and are adjusted with some frequency.

Indirect costs are included in each type of project estimate and are based upon the rates at that time and the categories of direct costs anticipated at that time.

Variations in the value of indirect costs can come from four basic sources:

1. Variation in overhead rate – generally more of an influence on long duration projects
2. Increase (or decrease) in direct project costs – often seen as the project scope becomes more well defined and direct costs are known. This can be the result of increase in project scope or higher than expected contract service costs due to market conditions.
3. Change from internal resources to contracted (external) resources or vice versa – this would impact the internal labor overheads which are significant, but often comes with an increase or decrease to the direct cost for external labor, ie. true cost of internal labor shows up as a direct labor cost and a labor loader, whereas external labor does not get a labor loader (we are billed a “loaded” rate by vendors). Both will be assessed other applicable overheads such as E&S, MDEC and AS&E.
4. Change from owner furnished to contractor furnished materials – contractor furnished materials will not be assessed the Stores overhead, though usually include a contractor markup. Again, not a large overall difference in project cost, but potentially a noticeable variation in indirect costs.

Though variations (increases) in indirect project costs do not drive the need to secure additional project funding for distribution projects, they do contribute to overall project cost and are included in monthly project forecasting and reporting.

The E&S rate tends to be the most volatile and can result in large variations in overall indirect cost.



REAL ESTATE TRANSACTION AUTHORIZATION FORM (RETA)

ACQUISITION <input checked="" type="checkbox"/>	DISPOSITION <input type="checkbox"/>
Company: Public Service Company of New Hampshire Requestor: Pat Pinault/Thelma Brown Cost Area: 73T Charge Acctg: FWO: A14W0202, LND00	Date Prepared: 7/13/2015 Prepared by: Jennifer Ducharme Contact Info Phone: 603-634-2305 Email: jennifer.ducharme@eversource.com

SALIENT FACTS

Property Address: 20 Carr Street
City/Town: Franklin **State:** NH
Use: residential **Size (Acres):** 0.54 acres **Gross Building Area:** 28' x 64' Manufactured Home
Other Appurtenances / Improvements: N/A
Purpose of Transaction: Construction of the Daniel S/S abutting the Webster Street S/S
Rights Reserved (if any): None
Regulatory Approval (if required for CL&P & YGS): N/A
CTEEP MOU Property (if required CT): N/A

FINANCIAL

Sale Price: \$ 159,900.00

Est. Environmental Costs: \$ 6,000

Other Est. Transaction Costs: \$ 1,500.00

Net Book Value: \$ N/A

Est. Net Gain/Loss: \$ 167,400.00

Deposit: \$ 15,900.00

Appraised Value (if required): \$ N/A

Est. Annual RE Taxes: \$ 3,456.54 (2014)

TERMS & CONDITIONS



Counterparty Name: Meloney P. Goodsell
Estimated Closing Date: 90 days from P&S
Due Diligence / Approval Terms: Title, Survey and ESA Phase 1 only.
Environmental Contingencies: Phase 1 to be completed.

A copy of this authorization will be sent to:

☒ Budgeting and Forecasting
☒ Tax

☒ Fixed Asset Accounting
☒ Legal

☒ Environmental

APPROVALS			
Title / Limits	Name	Signature	Date
Supervisor, Real Estate or ROW (Up to \$500,000)	M. Charamella, T. Powers or T. Feuersanger		7/14/15
Manager, Real Estate or ROW (Up to \$1M)	S. Giuliano or C. Caridad		7/14/15
Director, Real Estate & Property Management (Up to \$4M)	S. Madhusudhan		
Vice President, Supply Chain, Environmental Affairs and Property Management (Up to \$8M)	E. Angley		
Executive V.P. & CAO (Transactions up to \$15M)	D. McHale		
President & Chief Executive Officer (Up to \$25M) or Subsidiary Board (Transactions over \$25M)	T. May or Subsidiary Board		

TRANSACTION SUMMARY / JUSTIFICATION

I. Project Description

Distribution engineering needs to Build a new Distribution Substation on the same property as the existing Webster Substation with (2) 44.8 MVA Transformers, (2) high side circuit switchers, (2) low side breakers, (1) bus tie breaker, (3) feeder circuits and (2) capacitor banks. This property is being purchased in order to facilitate the construction of this new substation.

This new substation will be known as the Daniel substation.

II. Justification

In order to complete the construction of the new Daniel substation, 2 properties in the vicinity must be acquired. This is one of the key properties needed in order to allow for the construction and permitting of the new substation.

This property was already on the market for sale and was under contract with another buyer. Once the prospective buyer heard of the substation expansion plans, they backed out of the deal and Eversource was able to purchase the property. Eversource offered the purchase price for the property, which is in line with area comparable values.

III. Environmental Comments

ESA Phase 1 to be completed, no known environmental issues.



IV. Plan of Property (See Attached)





REAL ESTATE TRANSACTION AUTHORIZATION FORM (RETA)

ACQUISITION <input checked="" type="checkbox"/>	DISPOSITION <input type="checkbox"/>
Company: <u>Public Service Company of New Hampshire</u> Requestor: <u>Pat Pinault/Thelma Brown</u> Cost Area: <u>73T</u> Charge Acctg: <u>FWO: A14W0202, LND00</u>	Date Prepared: <u>7/14/2015</u> Prepared by: <u>Jennifer Ducharme</u> Contact Info Phone: <u>603-634-2305</u> Email: <u>jennifer.ducharme@eversource.com</u>
<u>SALIENT FACTS</u> Property Address: <u>30 Carr Street</u> City/Town: <u>Franklin</u> State: <u>NH</u> Use: <u>residential</u> Size (Acres): <u>2.588 acres</u> Gross Building Area: <u>1,200 sq. ft.</u> Other Appurtenances / Improvements: <u>N/A</u> Purpose of Transaction: <u>Construction of the Daniel S/S abutting the Webster Street S/S</u> Rights Reserved (if any): <u>None</u> Regulatory Approval (if required for CL&P & YGS): <u>N/A</u> CTEEP MOU Property (if required CT): <u>N/A</u>	
<u>FINANCIAL</u> Sale Price: <u>\$ 145,000.00</u> Est. Environmental Costs: <u>\$ 6,000</u> Other Est. Transaction Costs: <u>\$ 1,500.00</u> Net Book Value: <u>\$ N/A</u> Est. Net Gain/Loss: <u>\$ 152,500.00</u> Deposit: <u>\$ 14,500.00</u> Appraised Value (if required): <u>\$ N/A</u> Est. Annual RE Taxes: <u>\$ 2,687.52 (2014 - but with veteran exemption)</u>	
<u>TERMS & CONDITIONS</u> Counterparty Name: <u>Linda F. Dumond</u> Estimated Closing Date: <u>20 days after all contingencies have been met, with 6 month allowance on contingencies.</u> Due Diligence / Approval Terms: <u>Title, Survey and ESA Phase 1 only.</u> Environmental Contingencies: <u>Phase 1 to be completed.</u>	
<u>A copy of this authorization will be sent to:</u> <div style="display: flex; justify-content: space-between;"><div><input checked="" type="checkbox"/> Budgeting and Forecasting <input checked="" type="checkbox"/> Tax</div><div><input checked="" type="checkbox"/> Fixed Asset Accounting <input checked="" type="checkbox"/> Legal</div><div><input checked="" type="checkbox"/> Environmental</div></div>	

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Vice President, Supply Chain, Environmental Affairs and Property Management (Up to \$8M)	E. Angley		
Executive V.P. & CAO (Transactions up to \$15M)	D. McHale		
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This new substation will be known as the Daniel substation.

II. Justification

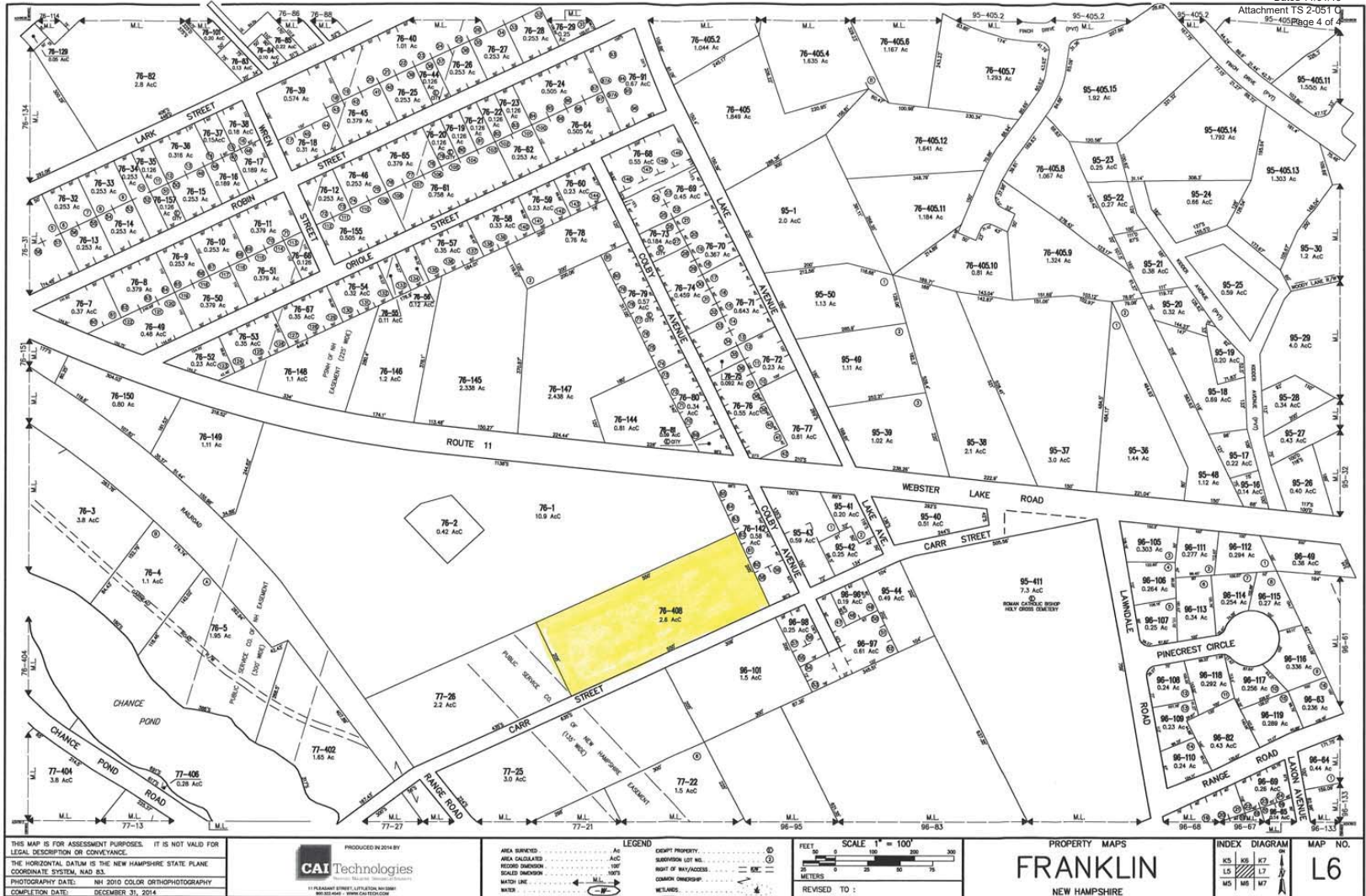
In order to complete the construction of the new Daniel substation, 2 properties in the vicinity must be acquired. This is one of the key properties needed in order to allow for the construction and permitting of the new substation.

While this property was not listed for sale, we approached the current owners with comparable sales figures for the area, as well as the assessed value. The comparable sales show the property value to be between \$140,000-\$155,000.

III. Environmental Comments

ESA Phase 1 to be completed, no known environmental issues.

IV. Plan of Property (See Attached)



PURCHASE AND SALE AGREEMENT

PURCHASE AND SALE AGREEMENT (this "Agreement") dated the 29th day of July, 2015, by and between **Linda F. Dumond**, single, of P.O Box 188, Canaan, New Hampshire 03741, ("Seller"), and **Public Service Company of New Hampshire d/b/a Eversource Energy**, a New Hampshire corporation, having its principal offices at 780 North Commercial Street, Manchester, New Hampshire 03101 ("Purchaser").

WHEREAS the Seller is the owner of certain real estate hereinafter described located in Franklin, New Hampshire; and,

WHEREAS the Seller desires to sell said real estate, and Purchaser desires to purchase said real estate, at the price and on the terms and conditions hereinafter set forth.

NOW THEREFORE, in consideration of the mutual covenants contained herein, the parties agree as follows:

1. SALE AND PURCHASE: Seller shall sell and the Purchaser shall purchase, upon the terms and conditions and subject to satisfaction of the contingencies hereinafter stated in this Agreement, a certain parcel of land, with the buildings thereon, containing 2.588 acres, more or less, located at 30 Carr Street, in the Town of Franklin, in the County of Merrimack and State of New Hampshire, being a portion of the Seller's land identified as Town of Franklin Tax Map 76, Lot 408 (the "Property"). The Property being the same premises conveyed to Roger B. Dumond and Linda F. Dumond by deed of Edward J. Buczynski, dated May 25, 1977, recorded at the Merrimack County Registry of Deeds in Book 1295 Page 679. See death certificate of Roger B. Dumond recorded at Book 1907, Page 465 of the Merrimack County Registry of Deeds.

2. PURCHASE PRICE. The Purchaser shall pay the Seller a purchase price for the Property of One Hundred Forty Five Thousand and no/100 Dollars (\$145,000.00) (the "Purchase Price"), subject to any adjustments and credits as provided in this Agreement. The Purchase Price shall be paid as follows:

(a) The sum of \$9,500.00, as an earnest deposit upon execution of this Agreement by the Purchaser and Seller, the receipt of which is hereby acknowledged by the undersigned escrow agent, said deposit to be held in escrow and disbursed out of escrow by Commonwealth Land Title Insurance Company, Two Bedford Farms Drive, Bedford, New Hampshire 03110, as escrow agent, pursuant to the terms of this Agreement and the attached Supplemental Escrow Agreement, with said deposit to be credited to the Purchase Price at closing.

(b) The sum of \$5,000.00, as a non-refundable earnest deposit upon execution of this Agreement by Purchaser and Seller, to be paid directly to Seller. Said deposit to be credited to the Purchase Price at closing.

(c) The balance of the Purchase Price by bank or certified check or other immediately available funds acceptable to Seller at time of closing.

3. TITLE. (a) The Purchaser shall be responsible for and bear all costs for title examinations, abstracts, title insurance, or other inspections of the title or matters affecting title to the Property that the Purchaser may desire or require.

(b) The Purchaser shall have a period of ninety (90) days from the date of this Agreement to examine the title to the Property (the "Initial Title Examination Period") and obtain a preliminary commitment from a title insurance company acceptable to Purchaser, evidencing satisfactory title to the Property vested in the Seller as of the effective date thereof, and pursuant to which such title insurance company agrees to issue to Purchaser the standard American Land Title Association (ALTA) Form B Owner's Policy of Title Insurance, in an amount not less than the Purchase Price, at the usual premium and subject only to the standard policy exceptions and to the exceptions listed under Section 4 below. In the event that the Purchaser's examination of title reveals any lien, encumbrance or defect in title which renders title to the Property unmarketable, unsatisfactory or is otherwise objectionable to Purchaser and Purchaser's title insurer, Purchaser shall, by not later than the end of the Initial Title Examination Period, notify the Seller in writing of all such objected to liens, encumbrances and defects. To the extent the preliminary commitment obtained by Purchaser during the Initial Title Examination Period does not include incorporation of the ALTA land title survey of the Property which Purchaser has the right to obtain under Section 9 hereof, Purchaser shall have one (1) additional ninety (90) day period after the Initial Title Examination Period (or such additional time as shall run concurrently with any extension of the time period to obtain the survey under Section 9) to obtain a revised title commitment including incorporation of such survey, and to notify the Seller in writing of any new or additional objected to liens, encumbrances or title defects based on such revised title commitment.

(c) Seller agrees to use reasonable and diligent efforts, at Seller's sole cost and expense, to clear or otherwise cure prior to closing, to the reasonable satisfaction of Purchaser and Purchaser's title insurer, any title defect, lien or encumbrance objected to by Purchaser and such title insurer. Any title matter or issue arising under this Agreement which is the subject of a title standard or practice under the then current New Hampshire Bar Association Title Examination Standards shall be governed by such title standard or practice to the extent applicable. Unless otherwise mutually agreed by the parties, Purchaser shall have no obligation to close unless and until Seller has performed Seller's obligations under this provision. Purchaser may, but shall have no obligation to, agree to a reasonable extension of the closing date to allow Seller additional time to perform Seller's obligations under this provision. Purchaser shall have the option to terminate this Agreement if Seller refuses to or, if despite Seller's reasonable and diligent efforts, Seller is unable to clear or otherwise satisfactorily cure any title objection prior to closing or any extension of the closing agreed to by Purchaser; in the event of such termination, the escrow agent shall return the Purchaser's deposit paid under Section 2(a) to Purchaser and all obligations of the parties to each other under this Agreement shall be terminated.

(d) Seller shall have the right to use all or any portion of the Purchase Price payable to Seller at closing to eliminate any mortgage, lien or other encumbrance affecting the title to the Property which may be removed or satisfied by the payment of a liquidated sum of money.

(e) Seller agrees after the date of this Agreement and prior to closing that Seller shall not sell, lease, encumber or otherwise transfer any part of the Property, or any interest therein, or consent to

any lien or encumbrance thereon, and shall not enter into any agreements with third parties regarding the Property which will be binding on the Purchaser without the Purchaser's prior written consent after full disclosure, and which consent may be withheld in Purchaser's sole reasonable discretion.

(f) Any title references in this Agreement are intended only to indicate the source of Seller's title, and shall not be deemed or construed to define, limit or change the Property, or the title intended or required to be conveyed under this Agreement.

4. DEED. Seller shall transfer marketable title to the Property to Purchaser by warranty deed, free and clear of all mortgages, liens, encumbrances, easements, leases, covenants and restrictions, subject only to the following:

(a) Any lien for real estate taxes for the then current year as are not yet due and payable as of the date of closing.

5. CLOSING ADJUSTMENTS. Seller and Purchaser shall each pay one half of the New Hampshire real estate transfer tax. Recording fees for recording the deed and ALTA survey plan, if required, shall be paid by Purchaser. Seller shall pay the fees for recording all documents necessary to permit Seller to convey title to the Property as required under Section 4.

6. CLOSING DATE. Subject to the other terms of this Agreement, the closing shall be held at the Merrimack County Registry of Deeds, in Concord, New Hampshire, or at such other location as the parties may mutually agree, on or before the date which is twenty (20) days after the date all contingencies to Purchaser's obligation to purchase have been satisfied or expressly waived in writing by Purchaser. Notwithstanding, the parties may for their mutual convenience agree to an escrow closing, whereby the transactional and other closing documents required from each of the parties may be delivered to the escrow agent for closing, recording and disbursement.

7. DUE DILIGENCE INSPECTIONS CONTINGENCY. (a) On and after the date of this Agreement, Purchaser and Purchaser's designees (including without limitation surveyors, engineers and consultants) are hereby granted and shall have full access to the Property from time to time, as and when Purchaser shall deem necessary but with prior notice to Seller of no less than one (1) day, for the purpose of making, at the sole cost and expense of Purchaser, such environmental, surveys, examinations, inspections, tests, site assessments and analyses of the condition of the Property (including without limitation soil borings, wetlands delineations, groundwater testing and other environmental sampling and testing, if any), to determine the existence of any environmentally hazardous activities, wastes, materials, substances or contaminants on the Property, and the suitability and engineering design parameters and constraints of the Property for Purchaser's intended use and development of the Property, as Purchaser shall deem necessary or desirable ("Inspections"). Seller shall fully cooperate with Purchaser in affording such access over the Property as may be reasonably requested by Purchaser or Purchaser's designees to access the Property to carry out the Inspections. Upon the completion of such Inspections and all related activities, Purchaser shall promptly restore the Property to a condition substantially similar to its condition prior to the start of such activities. Purchaser further agrees to indemnify Seller and hold Seller harmless from any liability, loss, cost or expense for personal injury or property claims or damage resulting directly from, or occurring during, the Inspections and all related activities on the Property by Purchaser or Purchaser's designees.

(b) Purchaser may terminate this Agreement upon written notice to Seller not later than ninety (90) days from the date of this Agreement (which period may be extended, at Purchaser's sole election if needed to complete its due diligence inspections, for one (1) additional consecutive period of ninety (90) days, upon written notice to Seller), if the results from any of Purchaser's Inspections indicate that an environmental condition or other site condition exists or may exist at, on or associated with the Property which may interfere with or adversely affect or restrict the development and use of the Property contemplated by Purchaser and this Agreement, or may result in the imposition on Purchaser of liabilities in connection with such conditions, or any result of any of such Inspections is otherwise not satisfactory to Purchaser in Purchaser's sole discretion. Upon termination pursuant to this provision, the escrow agent shall return the Purchaser's deposit paid under Section 2(a) to Purchaser and all obligations of the parties to each other under this Agreement shall be terminated.

8. CONDITION OF PROPERTY. (a) Seller represents to Purchaser that Seller has no knowledge of any adverse environmental or other site conditions on, at or associated with the Property, which has not been disclosed to Purchaser by Seller prior to the execution of this Agreement.

(b) To assist Purchaser's due diligence, Seller will make available to Purchaser for inspection and copying, within not more than ten (10) days after the date of execution of this Agreement by Seller, complete copies of all title examination reports, title opinions and title insurance policies in Seller's possession, all written reports, surveys, plans, assessments, data and information in Seller's possession, or available to Seller at minimal cost through any of Seller's engineers, surveyors, experts or consultants, pertaining to the environmental condition of the Property (including environmental site assessments, analyses and reports), wetlands surveys and delineations of the Property, soil tests, soil boring data, water quality monitoring data, surveys and topographical plans of the Property, and any engineering studies or reports ("Seller's Reports"), it being understood that it is the intent of this provision on the part of Seller to provide Purchaser with unrestricted access to any and all such information about the Property in Seller's possession or reasonably available to Seller for the sole purpose of effecting this Agreement, and no other. It is understood that Seller's Reports have been or are to be provided for Purchaser's information only, and Seller shall incur no liability and makes no warranties to Purchaser or others with respect to the scope of Seller's Reports, the accuracy or thoroughness thereof, or any of the information contained therein, and Purchaser hereby agrees to indemnify and hold Seller, and the preparer of any reports, harmless from and against any and all claims with regard to the accuracy or completeness of or otherwise related to Seller's Reports. Purchaser acknowledges that, except to the extent they are a matter of public record, Seller's Reports are deemed to be confidential and proprietary, and shall not disclose Seller's Reports to any third party; provided however, that Purchaser shall be permitted to provide copies of the Seller's Reports to its surveyors, engineers and consultants in connection with its Inspections of the Property, subject to the same restriction of confidentiality and purpose.

9. POSSESSION AT CLOSING. At time of closing, Seller shall be obligated to deliver possession of the Property to Purchaser vacant and free of any tenants or other occupants, and free and clear of all of Seller's personal belongings and property on or at the Property, except as otherwise may be specifically provided in this Agreement. All fixtures and appliances at the Property shall,

unless otherwise provided in this Agreement, remain with the Property and be included in the sale, and shall become the property of Purchaser at time of closing.

- (a) Not later than 15 days prior to closing, Seller shall be entitled, at Seller's sole expense, to remove the following fixtures and/or appliances from the Property: kitchen cabinets, dishwasher, washing machine, clothes dryer. If not so removed by Seller, these items shall be included in the sale of the Property to Purchaser, and shall become the property of Purchaser at time of closing.

10. SURVEY CONTINGENCY. Purchaser's obligation to purchase the Property is contingent upon Purchaser obtaining, at Purchaser's sole cost and expense, a boundary survey of the Property by a registered professional land surveyor, meeting applicable ALTA land title survey standards as specified by Purchaser and Purchaser's title insurer, with results confirming the configuration, acreage and dimensions of the Property as described in Section 1 above, and otherwise satisfactory to Purchaser and its title insurer in Purchaser's sole discretion. Purchaser shall have a period of ninety (90) days from the date of this Agreement (which period may be extended, at Purchaser's sole election if needed to complete its survey work, for one (1) additional consecutive period of ninety (90) days, upon written notice to Seller) to obtain said survey. Purchaser agrees to proceed in good faith and with due diligence to obtain said survey. Seller agrees that Purchaser and Purchaser's surveyors shall have full access to the Property from time to time to perform all work necessary to prepare and complete said survey for the purposes of this Agreement, and Seller hereby grants such access. Purchaser may terminate this Agreement upon written notice to Seller within 90 days from the date of this Agreement (or any extensions of such 90 day period as provided above) if the results of the survey are not satisfactory to Purchaser and its title insurer in Purchaser's sole discretion. Upon such termination, the escrow agent shall return the Purchaser's deposit paid under Section 2(a) to Purchaser and all obligations of the parties to each other under this Agreement shall be terminated.

11. CLOSING DOCUMENTS. Seller agrees that it will, at closing, deliver to Purchaser the following documents properly executed and in form and content satisfactory to Purchaser and Purchaser's title insurer:

- (a) The warranty deed conveying the Property to Purchaser, in accordance with Section 4 of this Agreement. Purchaser has agreed to provide a draft to Seller for review.
- (b) A Declaration of Consideration and Transfer Tax Form in accordance with New Hampshire Department of Revenue requirements.
- (c) An Affidavit of Non-Foreign Person Status in compliance with Internal Revenue Code Section 1445, if required.
- (d) Other affidavits and documents as may be reasonably required by Purchaser and Purchaser's title insurer, including but not limited to a mechanic's lien and parties in possession affidavit.

12. BROKERS. The parties represent to each other that they have involved no real estate agents, brokers or other commissioned agents in this transaction. Each party (the "indemnifying party")

hereby agrees to indemnify, defend and hold harmless the other party (the “indemnified party”) from any and all liability, loss, cost or expense, including reasonable attorneys' fees, damages, liens or judgments incurred by the indemnified party arising from any claim, action, lawsuit or proceeding for commission or other compensation by any real estate agent, broker or other person claiming to have acted for or on behalf of, or under contract or agreement with, the indemnifying party or to otherwise have brought about this transaction. The parties agree that the provisions of this Section 14 shall survive closing as a separate contractual obligation of the parties and shall not be merged in delivery of the deed to Purchaser.

13. NOTICES. Notices permitted or required under this Agreement shall be deemed received upon personal delivery, or upon one (1) business day following pick up by overnight courier or overnight mail delivery service (provided a receipt for delivery is obtained), or three (3) business days following mailing by certified mail, postage prepaid, return receipt requested to:

SELLER: Linda F. Dumond
P.O. Box 188
Canaan, NH 03741

PURCHASER: Public Service Company of New Hampshire
d/b/a Eversource Energy
780 North Commercial Street
P.O. Box 330
Manchester, NH 03105-0330
Attention: Jennifer Ducharme

Either party may by written notice to the other designate a different address for purposes of this provision.

14. DEFAULT. (a) In the event Purchaser shall fail to purchase the Property in default of the terms of this Agreement, and provided Purchaser has not cured such default within ten (10) days after written notice of default from Seller, Seller shall have the right to either (i) retain the deposit paid by Purchaser under Section 2(a) as reasonable liquidated damages as Seller's sole and exclusive remedy for the breach hereof; or (ii) to seek specific performance of this Agreement against the Purchaser together with recovery of Seller's reasonable attorney fees and costs for enforcing specific performance.

(b) In the event Seller shall fail to convey the Property in default of the terms of this Agreement, and provided Seller has not cured such default within ten (10) days after written notice of default from Purchaser, Purchaser shall have the right to either (i) terminate this Agreement by giving written notice to Seller of such termination, in which event the escrow agent shall return to Purchaser the full earnest deposit paid under Section 2(a), and upon such payment all rights and obligations of the parties hereunder shall be terminated, or (ii) to seek to enforce specific performance of this Agreement against the Seller together with recovery of Purchaser's reasonable attorney fees and costs for enforcing specific performance.

15. RISK OF LOSS. Risk of loss or damage to the Property by fire or other casualty until the time of the delivery of the deed by Seller to Purchaser as provided in this Agreement is assumed by and shall remain with Seller.

16. CONDEMNATION. (a) Seller shall promptly notify Purchaser in the event that all or any portion of the Property is or is threatened to be taken by any public or private authority under the power of eminent domain or condemnation.

(b) In the event of a taking as referred to in paragraph (a), Purchaser may either (i) elect to rescind this Agreement, whereupon all obligations of the parties to each other shall terminate and the escrow agent shall return to Purchaser the earnest deposit paid under Section 2(a), or (ii) accept a conveyance of the Property pursuant to the provisions of this Agreement, subject, however, to the condemnation claim, in which event the Purchaser shall pay the full Purchase Price and Seller shall assign Seller's rights in such condemnation claim to Purchaser. Seller shall not enter into any agreement with the condemning authority fixing the final award for such condemnation without the prior written consent of Purchaser.

17. COUNTERPARTS. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute but one in the same agreement.

18. APPLICABLE LAW. This Agreement shall be construed and enforced in accordance with the laws of the State of New Hampshire.

19. BINDING EFFECT AND ASSIGNMENT. Subject to the restrictions on any transfer or assignment as set forth below, the terms and provisions of this Agreement shall be binding on and shall inure to the benefit of the parties' respective heirs, administrators, executors and successors and assigns. Neither party may sell, assign, option or otherwise transfer, in whole or in part, conditionally or unconditionally, any of its rights under this Agreement without the prior written consent of the other, which consent will not be unreasonably withheld or delayed; provided, however, that the consent of the Seller shall not be required for any assignment by Purchaser to a wholly owned subsidiary of Purchaser, or to an affiliate company of Purchaser which is a member company of the Eversource Energy holding company system.

20. ENTIRE AGREEMENT. This Agreement constitutes the entire understanding between the parties with respect to the Property. All representations, statements and agreements heretofore made by the parties are merged into this Agreement, which is the full expression of the parties' rights and obligations concerning the Property. No statements, representations, promises or understanding not set forth in this Agreement shall bind the parties unless reduced to writing and signed by both parties. This Agreement may not be changed, modified or amended except by a writing signed by both parties.

21. CONFIDENTIALITY. Until the closing and recording of the deed of the Property to Purchaser, this Agreement and all of the terms and conditions hereof shall be treated by the parties as confidential, and shall not be disclosed to any third person or entity, except their respective attorneys, engineers, surveyors, title insurance companies, consultants and mortgagees as may be necessary to

carry out their respective rights and obligations under this Agreement, or as needed or requested in connection with any permitting approvals as may be required by Purchaser, or as the parties may otherwise mutually agree; provided, however, that redaction of the financial terms of this Agreement may be required in connection with any such disclosure.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

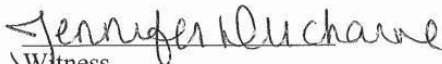
SELLER:

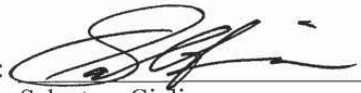

Witness


Linda F. Dumond

PURCHASER:

Public Service Company of New
Hampshire d/b/a Eversource Energy

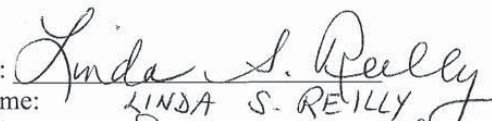

Witness

By: 
Salvatore Giuliano
Manager, Real Estate Management

ESCROW RECEIPT

The undersigned acknowledges receipt of \$9,500.00 as the earnest deposit under this Agreement, which is to be held by the undersigned in escrow pursuant to the terms of this Agreement and the attached Supplemental Escrow Agreement.

Commonwealth Land Title Insurance Company

By: 
Name: LINDA S. REILLY
Title: Senior Title Officer

SUPPLEMENTAL ESCROW AGREEMENT

Property: Franklin, New Hampshire Tax Map 76, Lot 408, 30 Carr Street

We, the undersigned, do hereby jointly and severally agree that the Escrow Agent, Commonwealth Land Title Insurance Company ("Escrow Agent") shall incur no liability whatsoever in connection with its good faith performance under this Supplemental Escrow Agreement, and do hereby jointly and severally release and waive any claims we may have against Escrow Agent, which may result from its performance in good faith of its function under this agreement, including but not limited to, a delay in the electronic wire transfer of funds. Escrow Agent shall be liable only for loss or damage caused directly by its acts of negligence while performing as Escrow Agent under this Supplemental Escrow Agreement.

The Escrow Agent undertakes to perform only those duties which are expressly set forth in that certain Agreement dated July 29, 2015, by and between Linda F. Dumond and Public Service Company of New Hampshire d/b/a Eversource Energy (the "Agreement") and acknowledge that these duties are purely ministerial in nature.

The Escrow Agent shall be entitled to rely upon the authenticity of any signature and the genuineness and validity of any writing received by Escrow Agent relating to this Supplemental Escrow Agreement. Escrow Agent may rely upon any oral identification of a party notifying Escrow Agent orally as to matters relating to this Supplemental Escrow Agreement if such oral notification is permitted thereunder. Escrow Agent is not responsible for the nature, content, validity or enforceability of any of the escrow documents except for those documents prepared by Escrow Agent.

In the event of any disagreement between the parties hereto resulting in conflicting instructions to, or adverse claims or demands upon the Escrow Agent with respect to the release of the Funds or the escrow documents, the Escrow Agent may refuse to comply with any such instruction, claim or demand so long as such disagreement shall continue and in so refusing the Escrow Agent shall not release the escrowed funds (the "Funds") or the escrowed documents (the "Documents"). The Escrow Agent shall not be, or become liable in any way for its failure or refusal to comply with any such conflicting instructions or adverse claims or demands and it shall be entitled to continue to refrain from acting until such conflicting instructions or adverse claims or demands (a) shall have been adjusted by agreement and it shall have been notified in writing thereof by the parties hereto; or (b) shall have finally been determined in a court of competent jurisdiction. In the alternative, Escrow Agent may, but shall not be obligated to, file a suit in interpleader for a declaratory judgment for the purpose of having the respective rights of the claimants adjudicated and may deliver to the court the Funds and Documents.

The Escrow Agent shall be entitled to receive reimbursement as Escrow Agent of documented reasonable attorneys' fees and other documented out-of-pocket expenses incurred by it in the performance of its duties under this Supplemental Escrow Agreement, which shall be paid in equal amounts by Buyer and Seller. If the Escrow Agent's duties and responsibilities are increased beyond the contemplated within this Supplemental Escrow

Agreement, additional compensation will be allowed as agreed upon in writing by all of the parties hereto. Such additional compensation shall be shared equally by Buyer and Seller. The Escrow Agent may at its sole discretion resign by giving (30) days written notice thereof to the parties hereto. The parties shall furnish to the Escrow Agent written instructions for the release of the Funds and Documents. If the Escrow Agent shall not have received such written instructions within the thirty (30) days, the Escrow Agent may petition any court of competent jurisdiction for the appointment of a successor Escrow Agent and upon such appointment deliver the Funds and Documents to such successor. Costs and fees incurred by the Escrow Agent may, at the option of the Escrow Agent, be deducted from any funds held pursuant hereto. The Escrow Agent neither approves nor disapproves of this transaction, nor does it recommend for or against, nor does it have an opinion as to the legality or validity of the transaction.

If the Funds is at any time attached, garnished, or levied upon under any court order or if the payment or delivery of the Funds is stayed or enjoined by any court order, or if any order, judgment or decree shall be made or entered by any court affecting the Funds, Escrow Agent is authorized, in its sole discretion, to rely upon and comply with the order, writ, judgment or decree. Escrow Agent shall not be liable to any of the parties or to any other person firm or corporation by reason of such compliance even though the order, writ, judgment or decree may be subsequently reversed modified, annulled, set aside or vacated.

Upon making disposition of the Funds in accordance with this Supplemental Escrow Agreement, Escrow Agent shall be deemed fully released and discharged from any and all duties and obligations under this Supplemental Escrow Agreement, without the need that any other documentation be executed by Seller or Buyer.

Escrow Agent shall not be responsible for (i) any fluctuations in the interest rate applicable to any cash held by it pursuant to or by virtue of this Agreement: (ii) the validity, sufficiency, collectability, or legal effect of any instrument deposited with Escrow Agent.

The parties acknowledge that the funds will be deposited in an interest bearing Money Market account at RBS Citizens Bank ("Citizens"). Furthermore, it is understood and agreed by the parties that should Escrow Agent cease to maintain its escrow accounts with Citizens, and establishes its escrow banking relationship with another national banking institution, that said Funds will transferred to a similar interest bearing account at said institution.

Notwithstanding anything contained in this Agreement to the contrary, Escrow Agent has the right (but not the obligation) to require from Seller and Buyer a written release of liability of Escrow Agent, a written authorization to disburse the Funds, or both.

The parties hereto do hereby certify that they are aware that the Federal Deposit Insurance Corporation ("FDIC") coverages apply only to a cumulative maximum amount of \$250,000 for each individual depositor for all of depositor's accounts at the same or related institution. The parties hereto further understand that certain banking instruments such as, but not limited to, repurchase agreements and letters of credit are not covered at all by FDIC insurance.

Further the parties hereto understand that Escrow Agent assumes no responsibility for, nor will the parties hereto hold Escrow Agent liable for, any loss occurring which arises from the fact that the amount of the above account may cause the aggregate amount of any individual depositor's accounts to exceed \$250,000 and that the excess amount is not insured by the Federal Deposit Insurance Corporation or that FDIC insurance is not available on certain types of bank instruments.

The parties to this escrow acknowledge that the maintenance of such escrow accounts with some depository institutions may result in Escrow Agent being provided with an array of bank services, accommodations or other benefits by the depository institution. Escrow Holder or its affiliates also may elect to enter into other business transactions with or obtain loans for investment or other purposes from the depository institution. All such services, accommodations and other benefits shall accrue to Escrow Agent, and Escrow Agent shall have no obligation to account to the parties to the escrow for the value of such services, accommodations or other benefits.

In the event of any inconsistency between the terms and provisions of the Agreement and this Supplemental Escrow Agreement, the terms and provisions of this Supplemental Escrow Agreement shall control.

Federal I.D. or Social Security Number: _____

[SIGNATURES FOLLOW ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed this Supplemental Escrow Agreement as of _____, 2015.

ESCROW AGENT:

COMMONWEALTH LAND TITLE INSURANCE COMPANY

By: Linda S. Reilly
Name: LINDA S REILLY
Title: Senior Title Officer
File: 15 CLT 0049. NH

SELLER:

By: Linda F. Dumond
Linda F. Dumond

BUYER:

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A
EVERSOURCE ENERGY

By: [Signature]
Name: Salvatore Giuliano
Title: Manager, Real Estate Management

PURCHASE AND SALE AGREEMENT

PURCHASE AND SALE AGREEMENT (this "Agreement") dated the 1st day of July, 2015, by and between **Meloney P. Goodsell**, unmarried, of 20 Carr Street, Franklin, New Hampshire 03235, ("Seller"), and **Public Service Company of New Hampshire d/b/a Eversource Energy**, a New Hampshire corporation, having its principal offices at 780 North Commercial Street, Manchester, New Hampshire 03101 ("Purchaser").

WHEREAS the Seller is the owner of certain real estate hereinafter described located in Franklin, New Hampshire; and,

WHEREAS the Seller desires to sell said real estate, and Purchaser desires to purchase said real estate, at the price and on the terms and conditions hereinafter set forth.

NOW THEREFORE, in consideration of the mutual covenants contained herein, the parties agree as follows:

1. SALE AND PURCHASE: Seller shall sell and the Purchaser shall purchase, upon the terms and conditions and subject to satisfaction of the contingencies hereinafter stated in this Agreement, a certain parcel of land, together with the manufactured home thereon (a 2002 Astro Home Manufactured Home, Keystone Model, 28' x 64', Serial Number AS02PAO102259 A/B), containing 0.54 acres, more or less, located at 20 Carr Street, in the Town of Franklin, in the County of Merrimack and State of New Hampshire, being the Seller's land identified as Town of Franklin Tax Map 76, Lot 142 (the "Property"). The Property being the same premises conveyed to Meloney P. Goodsell by deed of Robert J. Rego and Marie A. Rego, dated June 22, 2010, recorded at the Merrimack County Registry of Deeds in Book 3199 Page 1851.

2. PURCHASE PRICE. The Purchaser shall pay the Seller a purchase price for the Property of One Hundred Fifty Nine Thousand Nine Hundred and no/100 Dollars (\$159,900.00) (the "Purchase Price"), subject to any adjustments and credits as provided in this Agreement. The Purchase Price shall be paid as follows:

(a) The sum of \$15,900.00, as an earnest deposit upon execution of this Agreement by the Purchaser, the receipt of which is hereby acknowledged by the undersigned escrow agent, said deposit to be held in escrow and disbursed out of escrow by Commonwealth Land Title Insurance Company, Two Bedford Farms Drive, Bedford, New Hampshire 03110, as escrow agent, pursuant to the terms of this Agreement and the attached Supplemental Escrow Agreement, with said deposit to be credited to the Purchase Price at closing.

(b) The balance of the Purchase Price by bank or certified check or other immediately available funds acceptable to Seller at time of closing.

3. TITLE. (a) The Purchaser shall be responsible for and bear all costs for title examinations, abstracts, title insurance, or other inspections of the title or matters affecting title to the Property that the Purchaser may desire or require.

(b) The Purchaser shall have a period of ninety (90) days from the date of this Agreement to examine the title to the Property (the "Title Examination Period") and obtain a preliminary commitment from a title insurance company acceptable to Purchaser, evidencing satisfactory title to the Property vested in the Seller as of the effective date thereof, and pursuant to which such title insurance company agrees to issue to Purchaser the standard American Land Title Association (ALTA) Form B Owner's Policy of Title Insurance, in an amount not less than the Purchase Price, at the usual premium and subject only to the standard policy exceptions and to the exceptions listed under Section 4 below. In the event that the Purchaser's examination of title reveals any lien, encumbrance or defect in title which renders title to the Property unmarketable, unsatisfactory or is otherwise objectionable to Purchaser and Purchaser's title insurer, Purchaser shall, by not later than the end of the Title Examination Period, notify the Seller in writing of all such objected to liens, encumbrances and defects. To the extent Purchaser's notification does not include any matters raised by Purchaser's survey which Purchaser has the right to obtain under Section 9 below, Purchaser shall have the right to obtain a revised title commitment including incorporation of such survey, and to notify the Seller in writing of any new or additional objected to liens, encumbrances or title defects based on such revised title commitment, within the Title Examination Period.

(c) Seller agrees to use reasonable and diligent efforts, at Seller's sole cost and expense, to clear or otherwise cure prior to closing, to the reasonable satisfaction of Purchaser and Purchaser's title insurer, any title defect, lien or encumbrance objected to by Purchaser and such title insurer. Any title matter or issue arising under this Agreement which is the subject of a title standard or practice under the then current New Hampshire Bar Association Title Examination Standards shall be governed by such title standard or practice to the extent applicable. Unless otherwise mutually agreed by the parties, Purchaser shall have no obligation to close unless and until Seller has performed Seller's obligations under this provision. Purchaser may, but shall have no obligation to, agree to a reasonable extension of the closing date to allow Seller additional time to perform Seller's obligations under this provision. Purchaser shall have the option to terminate this Agreement if Seller refuses to or, if despite Seller's reasonable and diligent efforts, Seller is unable to clear or otherwise satisfactorily cure any title objection prior to closing or any extension of the closing agreed to by Purchaser; in the event of such termination, the escrow agent shall return the Purchaser's deposit paid under Section 2(a) to Purchaser and all obligations of the parties to each other under this Agreement shall be terminated.

(d) Seller shall have the right to use all or any portion of the Purchase Price payable to Seller at closing to eliminate any mortgage, lien or other encumbrance affecting the title to the Property which may be removed or satisfied by the payment of a liquidated sum of money.

(e) Seller agrees after the date of this Agreement and prior to closing that Seller shall not sell, lease, encumber or otherwise transfer any part of the Property, or any interest therein, or consent to any lien or encumbrance thereon, and shall not enter into any agreements with third parties regarding the Property which will be binding on the Purchaser without the Purchaser's prior written consent after full disclosure, and which consent may be withheld in Purchaser's sole reasonable discretion.

(f) Any title references in this Agreement are intended only to indicate the source of Seller's title, and shall not be deemed or construed to define, limit or change the Property, or the title intended or required to be conveyed under this Agreement.

4. DEED. Seller shall transfer marketable title to the Property to Purchaser by warranty deed, free and clear of all mortgages, liens, encumbrances, easements, leases, covenants and restrictions, subject only to the following:

(a) Any lien for real estate taxes for the then current year as are not yet due and payable as of the date of closing.

5. CLOSING ADJUSTMENTS. Seller and Purchaser shall each pay one half of the New Hampshire real estate transfer tax. Recording fees for recording the deed, and ALTA survey plan if required, shall be paid by Purchaser. Seller shall pay the fees for recording all documents necessary to permit Seller to convey title to the Property as required under Section 4.

6. CLOSING DATE. Subject to the other terms of this Agreement, the closing shall be held at the Merrimack County Registry of Deeds, in Concord, New Hampshire, or at such other location as the parties may mutually agree, on or before the date which is fifteen (15) days after the date all contingencies to Purchaser's obligation to purchase have been satisfied or expressly waived in writing by Purchaser. Notwithstanding, the parties may for their mutual convenience agree to an escrow closing, whereby the transactional and other closing documents required from each of the parties may be delivered to the escrow agent for closing, recording and disbursement.

7. DUE DILIGENCE INSPECTIONS CONTINGENCY. (a) On and after the date of this Agreement, Purchaser and Purchaser's designees (including without limitation surveyors, engineers and consultants) are hereby granted and shall have full access to the Property from time to time, as and when Purchaser shall deem necessary but with prior notice to Seller of no less than one (1) day, for the purpose of making, at the sole cost and expense of Purchaser, such environmental, surveys, examinations, inspections, tests, site assessments and analyses of the condition of the Property (including without limitation soil borings, wetlands delineations, groundwater testing and other environmental sampling and testing, if any), to determine the existence of any environmentally hazardous activities, wastes, materials, substances or contaminants on the Property, and the suitability and engineering design parameters and constraints of the Property for Purchaser's intended use and development of the Property, as Purchaser shall deem necessary or desirable ("Inspections"). Seller shall fully cooperate with Purchaser in affording such access over the Property as may be reasonably requested by Purchaser or Purchaser's designees to access the Property to carry out the Inspections. Upon the completion of such Inspections and all related activities, Purchaser shall promptly restore the Property to a condition substantially similar to its condition prior to the start of such activities. Purchaser further agrees to indemnify Seller and hold Seller harmless from any liability, loss, cost or expense for personal injury or property claims or damage resulting directly from, or occurring during, the Inspections and all related activities on the Property by Purchaser or Purchaser's designees.

(b) Purchaser may terminate this Agreement upon written notice to Seller not later than ninety (90) days from the date of this Agreement, upon written notice to Seller, if the results from any of Purchaser's Inspections indicate that an environmental condition or other site condition exists or may exist at, on or associated with the Property which may interfere with or adversely affect or restrict the development and use of the Property contemplated by Purchaser and this Agreement, or may result in the imposition on Purchaser of liabilities in connection with such conditions, or any

result of any of such Inspections is otherwise not satisfactory to Purchaser in Purchaser's sole discretion. Upon termination pursuant to this provision, the escrow agent shall return the Purchaser's deposit paid under Section 2(a) to Purchaser and all obligations of the parties to each other under this Agreement shall be terminated.

8. CONDITION OF PROPERTY. (a) Seller represents to Purchaser that Seller has no knowledge of any adverse environmental or other site conditions on, at or associated with the Property, which has not been disclosed to Purchaser by Seller prior to the execution of this Agreement.

(b) To assist Purchaser's due diligence, Seller will make available to Purchaser for inspection and copying, within not more than ten (10) days after the date of execution of this Agreement by Seller, complete copies of all title examination reports, title opinions and title insurance policies in Seller's possession, all written reports, surveys, plans, assessments, data and information in Seller's possession, or available to Seller at minimal cost through any of Seller's engineers, surveyors, experts or consultants, pertaining to the environmental condition of the Property (including environmental site assessments, analyses and reports), wetlands surveys and delineations of the Property, soil tests, soil boring data, water quality monitoring data, surveys and topographical plans of the Property, and any engineering studies or reports ("Seller's Reports"), it being understood that it is the intent of this provision on the part of Seller to provide Purchaser with unrestricted access to any and all such information about the Property in Seller's possession or reasonably available to Seller for the sole purpose of effecting this Agreement, and no other. It is understood that Seller's Reports have been or are to be provided for Purchaser's information only, and Seller shall incur no liability and makes no warranties to Purchaser or others with respect to the scope of Seller's Reports, the accuracy or thoroughness thereof, or any of the information contained therein, and Purchaser hereby agrees to indemnify and hold Seller, and the preparer of any reports, harmless from and against any and all claims with regard to the accuracy or completeness of or otherwise related to Seller's Reports. Purchaser acknowledges that, except to the extent they are a matter of public record, Seller's Reports are deemed to be confidential and proprietary, and shall not disclose Seller's Reports to any third party; provided however, that Purchaser shall be permitted to provide copies of the Seller's Reports to its surveyors, engineers and consultants in connection with its Inspections of the Property, subject to the same restriction of confidentiality and purpose.

9. POSSESSION AT CLOSING. At time of closing, Seller shall be obligated to deliver possession of the Property to Purchaser vacant and free of any tenants or other occupants, and free and clear of all of Seller's personal belongings and property on or at the Property, except as otherwise may be specifically provided in this Agreement. All fixtures and appliances at the Property shall, unless otherwise provided in this Agreement, remain with the Property and be included in the sale, and shall become the property of Purchaser at time of closing.

10. SURVEY CONTINGENCY. Purchaser's obligation to purchase the Property is contingent upon Purchaser obtaining, at Purchaser's sole cost and expense, a boundary survey of the Property by a registered professional land surveyor, meeting applicable ALTA land title survey standards as

specified by Purchaser and Purchaser's title insurer, with results confirming the configuration, acreage and dimensions of the Property as described in Section 1 above, and otherwise satisfactory to Purchaser and its title insurer in Purchaser's sole discretion. Purchaser shall have a period of ninety (90) days from the date of this Agreement to obtain said survey. Purchaser agrees to proceed in good faith and with due diligence to obtain said survey. Seller agrees that Purchaser and Purchaser's surveyors shall have full access to the Property from time to time to perform all work necessary to prepare and complete said survey for the purposes of this Agreement, and Seller hereby grants such access. Purchaser may terminate this Agreement upon written notice to Seller within 90 days from the date of this Agreement if the results of the survey are not satisfactory to Purchaser and its title insurer in Purchaser's sole discretion. Upon such termination, the escrow agent shall return the Purchaser's deposit paid under Section 2(a) to Purchaser and all obligations of the parties to each other under this Agreement shall be terminated.

11. CLOSING DOCUMENTS. Seller agrees that it will, at closing, deliver to Purchaser the following documents properly executed and in form and content satisfactory to Purchaser and Purchaser's title insurer:

(a) The warranty deed conveying the Property to Purchaser, in accordance with Section 4 of this Agreement.

(b) A Declaration of Consideration and Transfer Tax Form in accordance with New Hampshire Department of Revenue requirements.

(c) An Affidavit of Non-Foreign Person Status in compliance with Internal Revenue Code Section 1445, if required.

(d) Other affidavits and documents as may be reasonably required by Purchaser and Purchaser's title insurer, including but not limited to a mechanic's lien and parties in possession affidavit.

12. BROKERS. The parties represent to each other that they have involved no real estate agents, brokers or other commissioned agents in this transaction other than Christy Goodhue Real Estate, as Seller's agent, who shall be paid entirely by the Seller as a closing cost to Seller at time of closing. Seller agrees to indemnify, defend and hold harmless Purchaser from any demand, claim, action, lawsuit or proceeding for commission or other compensation by said Seller's agent. Each party (the "indemnifying party") hereby agrees to indemnify, defend and hold harmless the other party (the "indemnified party") from any and all liability, loss, cost or expense, including reasonable attorneys' fees, damages, liens or judgments incurred by the indemnified party arising from any claim, action, lawsuit or proceeding for commission or other compensation by any other real estate agent, broker or other person claiming to have acted for or on behalf of, or under contract or agreement with, the indemnifying party or to otherwise have brought about this transaction. The parties agree that the provisions of this Section 11 shall survive closing as a separate contractual obligation of the parties and shall not be merged in delivery of the deed to Purchaser.

13. NOTICES. Notices permitted or required under this Agreement shall be deemed received upon personal delivery, electronic delivery, or upon one (1) business day following pick up by

overnight courier or overnight mail delivery service (provided a receipt for delivery is obtained), or three (3) business days following mailing by certified mail, postage prepaid, return receipt requested to:

SELLER: Meloney P. Goodsell
20 Carr Street
Franklin, NH 03235
Email Address: meloney41464@gmail.com

PURCHASER: Public Service Company of New Hampshire
d/b/a Eversource Energy
780 North Commercial Street
P.O. Box 330
Manchester, NH 03105-0330
Attention: Jennifer Ducharme
Email Address: jennifer.ducharme@eversource.com

Either party may by written notice to the other designate a different address for purposes of this provision.

14. DEFAULT. (a) In the event Purchaser shall fail to purchase the Property in default of the terms of this Agreement, and provided Purchaser has not cured such default within ten (10) days after written notice of default from Seller, Seller shall have the right to either (i) retain the deposit paid by Purchaser under Section 2(a) as reasonable liquidated damages as Seller's sole and exclusive remedy for the breach hereof; or (ii) to seek specific performance of this Agreement against the Purchaser together with recovery of Seller's reasonable attorney fees and costs for enforcing specific performance.

(b) In the event Seller shall fail to convey the Property in default of the terms of this Agreement, and provided Seller has not cured such default within ten (10) days after written notice of default from Purchaser, Purchaser shall have the right to either (i) terminate this Agreement by giving written notice to Seller of such termination, in which event the escrow agent shall return to Purchaser the full earnest deposit paid under Section 2(a), and upon such payment all rights and obligations of the parties hereunder shall be terminated, or (ii) to seek to enforce specific performance of this Agreement against the Seller together with recovery of Purchaser's reasonable attorney fees and costs for enforcing specific performance.

15. RISK OF LOSS. Risk of loss or damage to the Property by fire or other casualty until the time of the delivery of the deed by Seller to Purchaser as provided in this Agreement is assumed by and shall remain with Seller.

16. CONDEMNATION. (a) Seller shall promptly notify Purchaser in the event that all or any portion of the Property is or is threatened to be taken by any public or private authority under the power of eminent domain or condemnation.

(b) In the event of a taking as referred to in paragraph (a), Purchaser may either (i) elect to rescind this Agreement, whereupon all obligations of the parties to each other shall terminate and the escrow agent shall return to Purchaser the earnest deposit paid under Section 2(a), or (ii) accept a conveyance of the Property pursuant to the provisions of this Agreement, subject, however, to the condemnation claim, in which event the Purchaser shall pay the full Purchase Price and Seller shall assign Seller's rights in such condemnation claim to Purchaser. Seller shall not enter into any agreement with the condemning authority fixing the final award for such condemnation without the prior written consent of Purchaser.

17. COUNTERPARTS. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute but one in the same agreement.

18. APPLICABLE LAW. This Agreement shall be construed and enforced in accordance with the laws of the State of New Hampshire.

19. BINDING EFFECT AND ASSIGNMENT. Subject to the restrictions on any transfer or assignment as set forth below, the terms and provisions of this Agreement shall be binding on and shall inure to the benefit of the parties' respective heirs, administrators, executors and successors and assigns. Neither party may sell, assign, option or otherwise transfer, in whole or in part, conditionally or unconditionally, any of its rights under this Agreement without the prior written consent of the other, which consent will not be unreasonably withheld or delayed; provided, however, that the consent of the Seller shall not be required for any assignment by Purchaser to a wholly owned subsidiary of Purchaser, or to an affiliate company of Purchaser which is a member company of the Eversource Energy holding company system.

20. ENTIRE AGREEMENT. This Agreement constitutes the entire understanding between the parties with respect to the Property. All representations, statements and agreements heretofore made by the parties are merged into this Agreement, which is the full expression of the parties' rights and obligations concerning the Property. No statements, representations, promises or understanding not set forth in this Agreement shall bind the parties unless reduced to writing and signed by both parties. This Agreement may not be changed, modified or amended except by a writing signed by both parties.

21. CONFIDENTIALITY. Until the closing and recording of the deed of the Property to Purchaser, this Agreement and all of the terms and conditions hereof shall be treated by the parties as confidential, and shall not be disclosed to any third person or entity, except their respective attorneys, engineers, surveyors, title insurance companies, consultants and mortgagees as may be necessary to carry out their respective rights and obligations under this Agreement, or as needed or requested in connection with any permitting approvals as may be required by Purchaser, or as the parties may otherwise mutually agree; provided, however, that redaction of the financial terms of this Agreement may be required in connection with any such disclosure.

[SIGNATURES TO FOLLOW ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

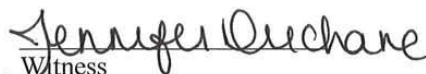
SELLER:



Witness


Meloney P. Goodsell

PURCHASER:

Public Service Company of New
Hampshire d/b/a Eversource Energy

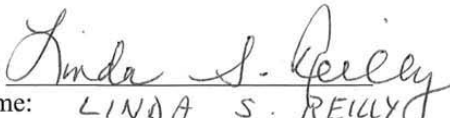

Witness

By: 
Salvatore Giuliano
Manager, Real Estate Management

ESCROW RECEIPT

The undersigned acknowledges receipt of \$15,900.00 as the earnest deposit under this Agreement, which is to be held by the undersigned in escrow pursuant to the terms of this Agreement and the attached Supplemental Escrow Agreement.

Commonwealth Land Title Insurance Company

By: 
Name: LINDA S. REILLY
Title: Senior Title Officer

SUPPLEMENTAL ESCROW AGREEMENT

Property: Franklin, New Hampshire Tax Map 76, Lot 142, 20 Carr Street

We, the undersigned, do hereby jointly and severally agree that the Escrow Agent, Commonwealth Land Title Insurance Company ("Escrow Agent") shall incur no liability whatsoever in connection with its good faith performance under this Supplemental Escrow Agreement, and do hereby jointly and severally release and waive any claims we may have against Escrow Agent, which may result from its performance in good faith of its function under this agreement, including but not limited to, a delay in the electronic wire transfer of funds. Escrow Agent shall be liable only for loss or damage caused directly by its acts of negligence while performing as Escrow Agent under this Supplemental Escrow Agreement.

The Escrow Agent undertakes to perform only those duties which are expressly set forth in that certain Agreement dated July 1, 2015, by and between Meloney P. Goodsell and Public Service Company of New Hampshire d/b/a Eversource Energy (the "Agreement") and acknowledge that these duties are purely ministerial in nature.

The Escrow Agent shall be entitled to rely upon the authenticity of any signature and the genuineness and validity of any writing received by Escrow Agent relating to this Supplemental Escrow Agreement. Escrow Agent may rely upon any oral identification of a party notifying Escrow Agent orally as to matters relating to this Supplemental Escrow Agreement if such oral notification is permitted thereunder. Escrow Agent is not responsible for the nature, content, validity or enforceability of any of the escrow documents except for those documents prepared by Escrow Agent.

In the event of any disagreement between the parties hereto resulting in conflicting instructions to, or adverse claims or demands upon the Escrow Agent with respect to the release of the Funds or the escrow documents, the Escrow Agent may refuse to comply with any such instruction, claim or demand so long as such disagreement shall continue and in so refusing the Escrow Agent shall not release the escrowed funds (the "Funds") or the escrowed documents (the "Documents"). The Escrow Agent shall not be, or become liable in any way for its failure or refusal to comply with any such conflicting instructions or adverse claims or demands and it shall be entitled to continue to refrain from acting until such conflicting instructions or adverse claims or demands (a) shall have been adjusted by agreement and it shall have been notified in writing thereof by the parties hereto; or (b) shall have finally been determined in a court of competent jurisdiction. In the alternative, Escrow Agent may, but shall not be obligated to, file a suit in interpleader for a declaratory judgment for the purpose of having the respective rights of the claimants adjudicated and may deliver to the court the Funds and Documents.

The Escrow Agent shall be entitled to receive reimbursement as Escrow Agent of documented reasonable attorneys' fees and other documented out-of-pocket expenses incurred by it in the performance of its duties under this Supplemental Escrow Agreement, which shall be paid in equal amounts by Buyer and Seller. If the Escrow Agent's duties and responsibilities are increased beyond the contemplated within this Supplemental Escrow

Agreement, additional compensation will be allowed as agreed upon in writing by all of the parties hereto. Such additional compensation shall be shared equally by Buyer and Seller. The Escrow Agent may at its sole discretion resign by giving (30) days written notice thereof to the parties hereto. The parties shall furnish to the Escrow Agent written instructions for the release of the Funds and Documents. If the Escrow Agent shall not have received such written instructions within the thirty (30) days, the Escrow Agent may petition any court of competent jurisdiction for the appointment of a successor Escrow Agent and upon such appointment deliver the Funds and Documents to such successor. Costs and fees incurred by the Escrow Agent may, at the option of the Escrow Agent, be deducted from any funds held pursuant hereto. The Escrow Agent neither approves nor disapproves of this transaction, nor does it recommend for or against, nor does it have an opinion as to the legality or validity of the transaction.

If the Funds is at any time attached, garnished, or levied upon under any court order or if the payment or delivery of the Funds is stayed or enjoined by any court order, or if any order, judgment or decree shall be made or entered by any court affecting the Funds, Escrow Agent is authorized, in its sole discretion, to rely upon and comply with the order, writ, judgment or decree. Escrow Agent shall not be liable to any of the parties or to any other person firm or corporation by reason of such compliance even though the order, writ, judgment or decree may be subsequently reversed modified, annulled, set aside or vacated.

Upon making disposition of the Funds in accordance with this Supplemental Escrow Agreement, Escrow Agent shall be deemed fully released and discharged from any and all duties and obligations under this Supplemental Escrow Agreement, without the need that any other documentation be executed by Seller or Buyer.

Escrow Agent shall not be responsible for (i) any fluctuations in the interest rate applicable to any cash held by it pursuant to or by virtue of this Agreement: (ii) the validity, sufficiency, collectability, or legal effect of any instrument deposited with Escrow Agent.

The parties acknowledge that the funds will be deposited in an interest bearing Money Market account at RBS Citizens Bank ("Citizens"). Furthermore, it is understood and agreed by the parties that should Escrow Agent cease to maintain its escrow accounts with Citizens, and establishes its escrow banking relationship with another national banking institution, that said Funds will transferred to a similar interest bearing account at said institution.

Notwithstanding anything contained in this Agreement to the contrary, Escrow Agent has the right (but not the obligation) to require from Seller and Buyer a written release of liability of Escrow Agent, a written authorization to disburse the Funds, or both.

The parties hereto do hereby certify that they are aware that the Federal Deposit Insurance Corporation ("FDIC") coverages apply only to a cumulative maximum amount of \$250,000 for each individual depositor for all of depositor's accounts at the same or related institution. The parties hereto further understand that certain banking instruments such as, but not limited to, repurchase agreements and letters of credit are not covered at all by FDIC insurance.

Further the parties hereto understand that Escrow Agent assumes no responsibility for, nor will the parties hereto hold Escrow Agent liable for, any loss occurring which arises from the fact that the amount of the above account may cause the aggregate amount of any individual depositor's accounts to exceed \$250,000 and that the excess amount is not insured by the Federal Deposit Insurance Corporation or that FDIC insurance is not available on certain types of bank instruments.

The parties to this escrow acknowledge that the maintenance of such escrow accounts with some depository institutions may result in Escrow Agent being provided with an array of bank services, accommodations or other benefits by the depository institution. Escrow Holder or its affiliates also may elect to enter into other business transactions with or obtain loans for investment or other purposes from the depository institution. All such services, accommodations and other benefits shall accrue to Escrow Agent, and Escrow Agent shall have no obligation to account to the parties to the escrow for the value of such services, accommodations or other benefits.

In the event of any inconsistency between the terms and provisions of the Agreement and this Supplemental Escrow Agreement, the terms and provisions of this Supplemental Escrow Agreement shall control.

Federal I.D. or Social Security Number: 003-58-6939

IN WITNESS WHEREOF, the parties have executed this Supplemental Escrow Agreement as of _____, 2015.

ESCROW AGENT:

COMMONWEALTH LAND TITLE INSURANCE COMPANY

By: Linda S. Reilly
Name: LINDA S. REILLY
Title: Senior Title Officer
File: 15 CLT0038-NH

SELLER:

Meloney P. Goodsell
Name: Meloney P. Goodsell

BUYER:

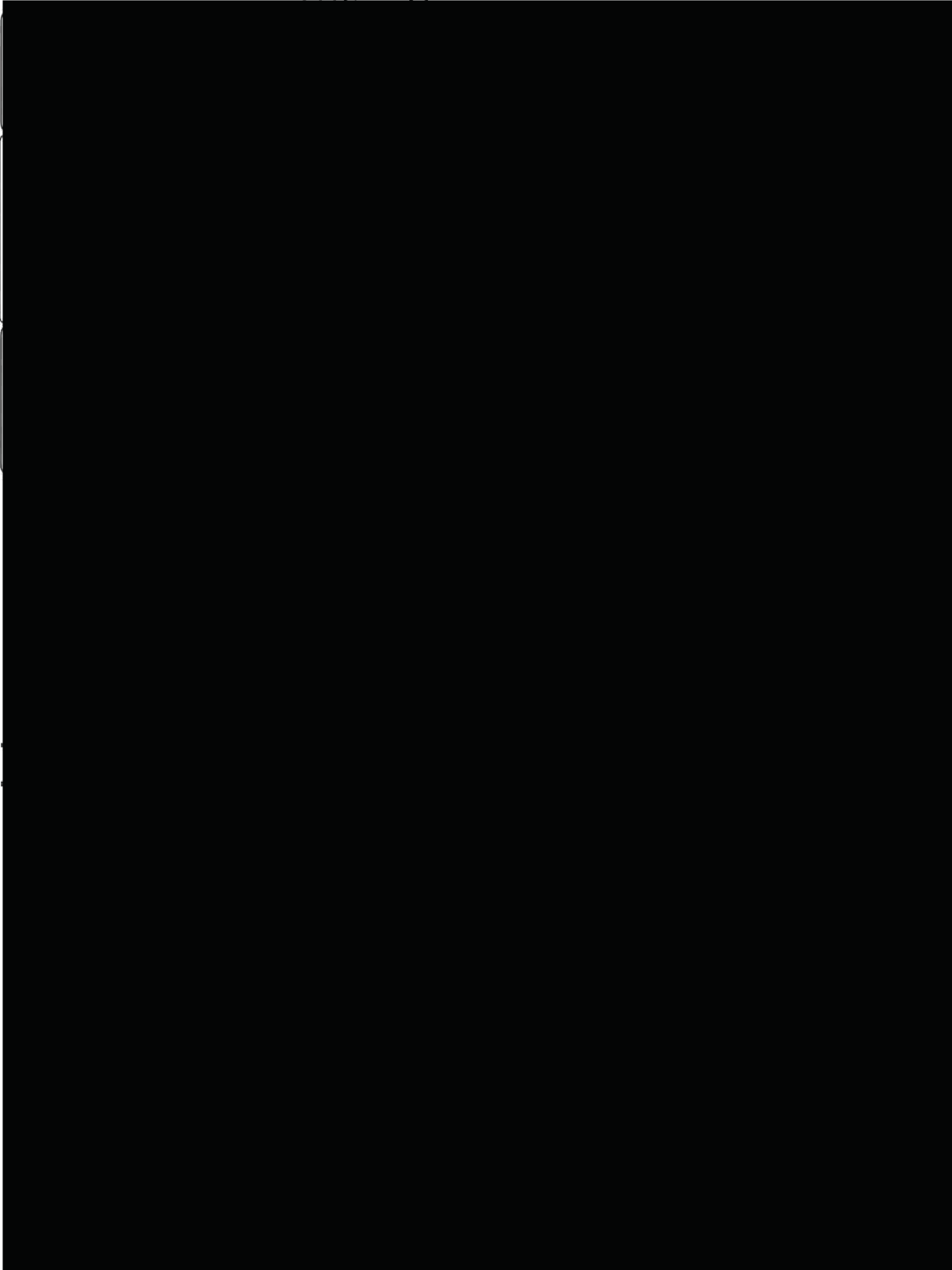
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A
EVERSOURCE ENERGY

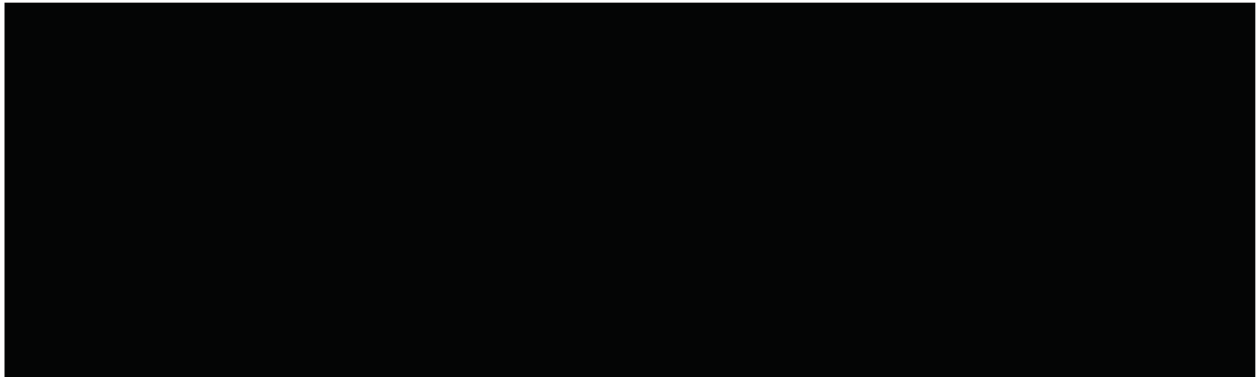
By: Salvatore Giuliano
Name: Salvatore Giuliano
Title: Manager, Real Estate Management



**Public Service Co of New Hampshire
Project Approval Information**

Docket No. DE 19-057
Data Request OCA 6-098
Dated 8/13/2019
Attachment OCA 6-098A

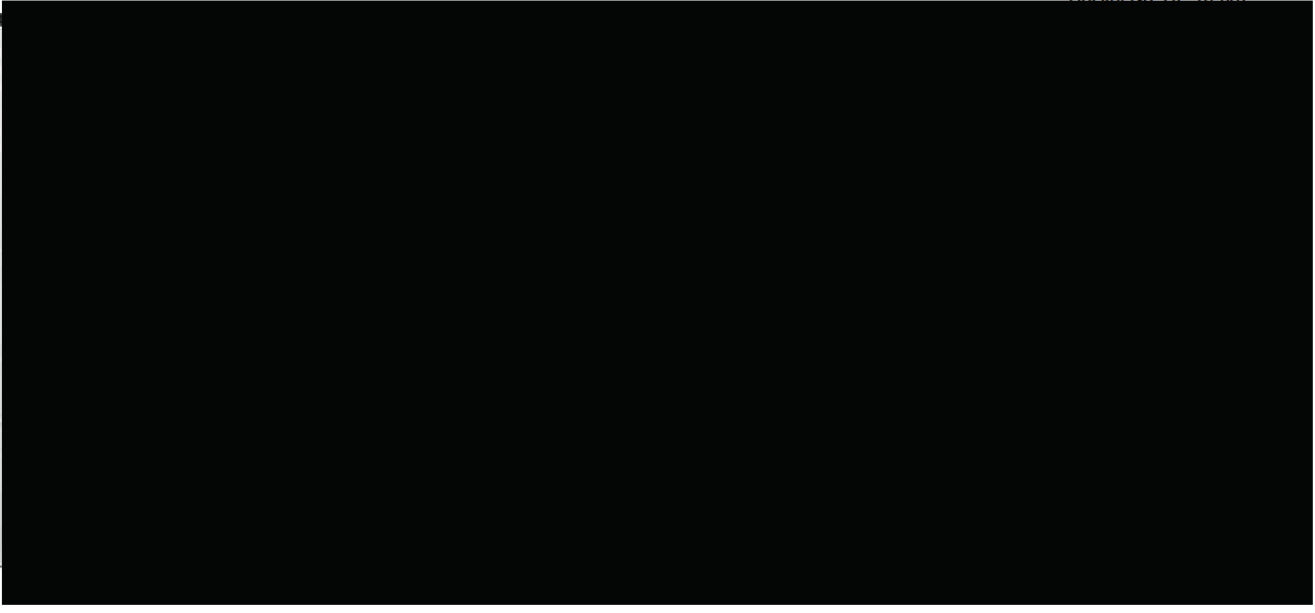




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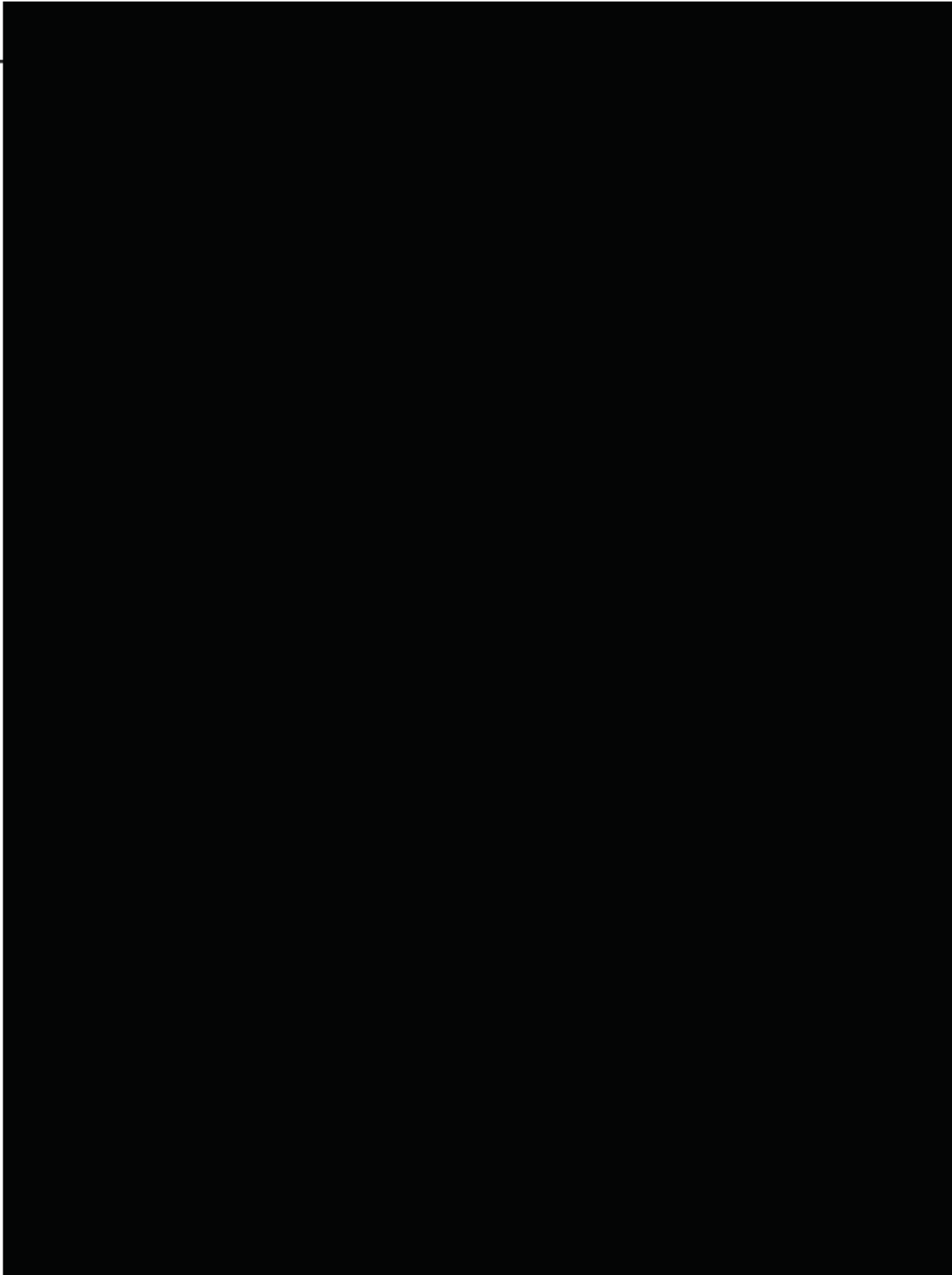
Docket No. DE 19-057



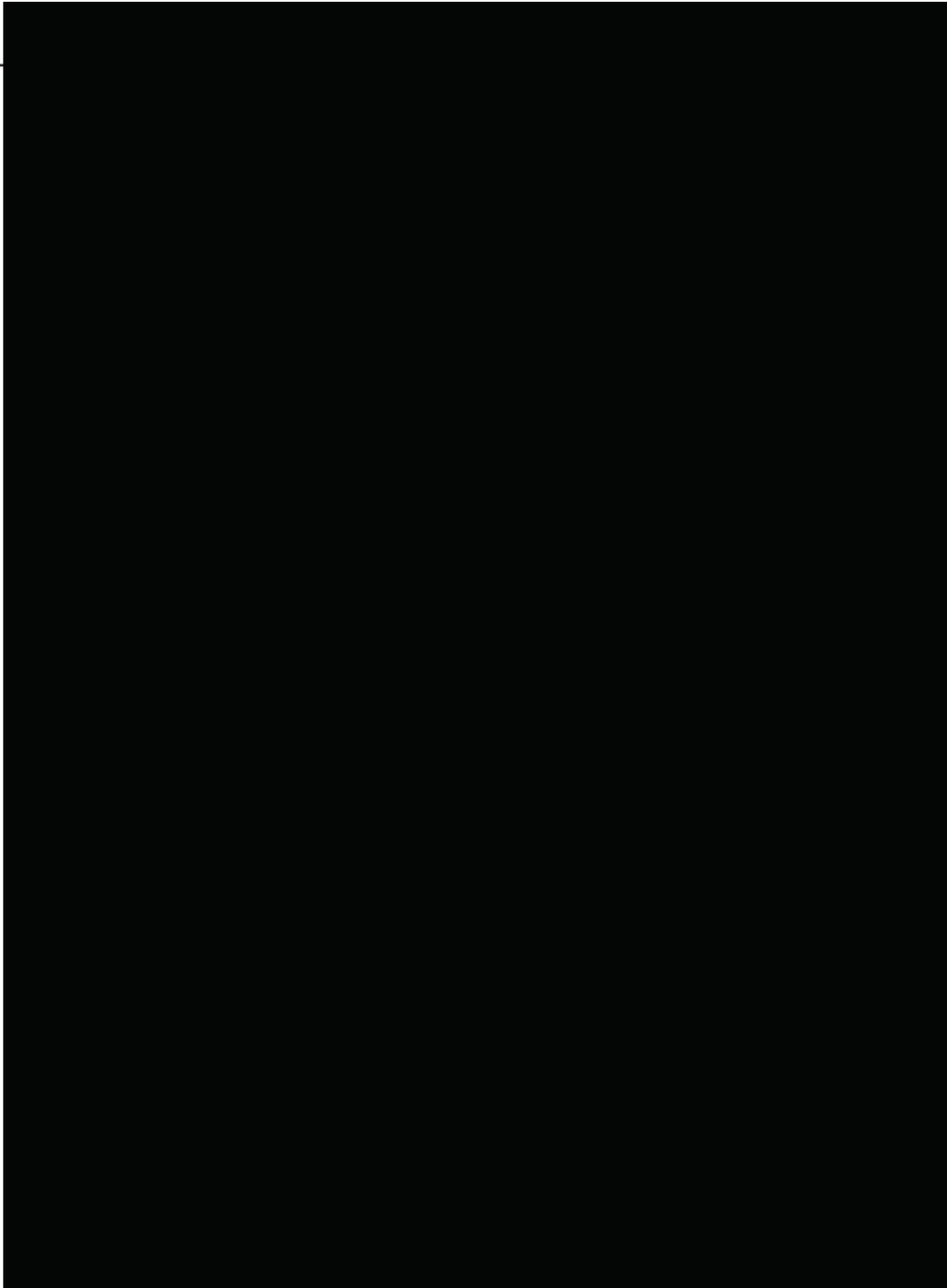
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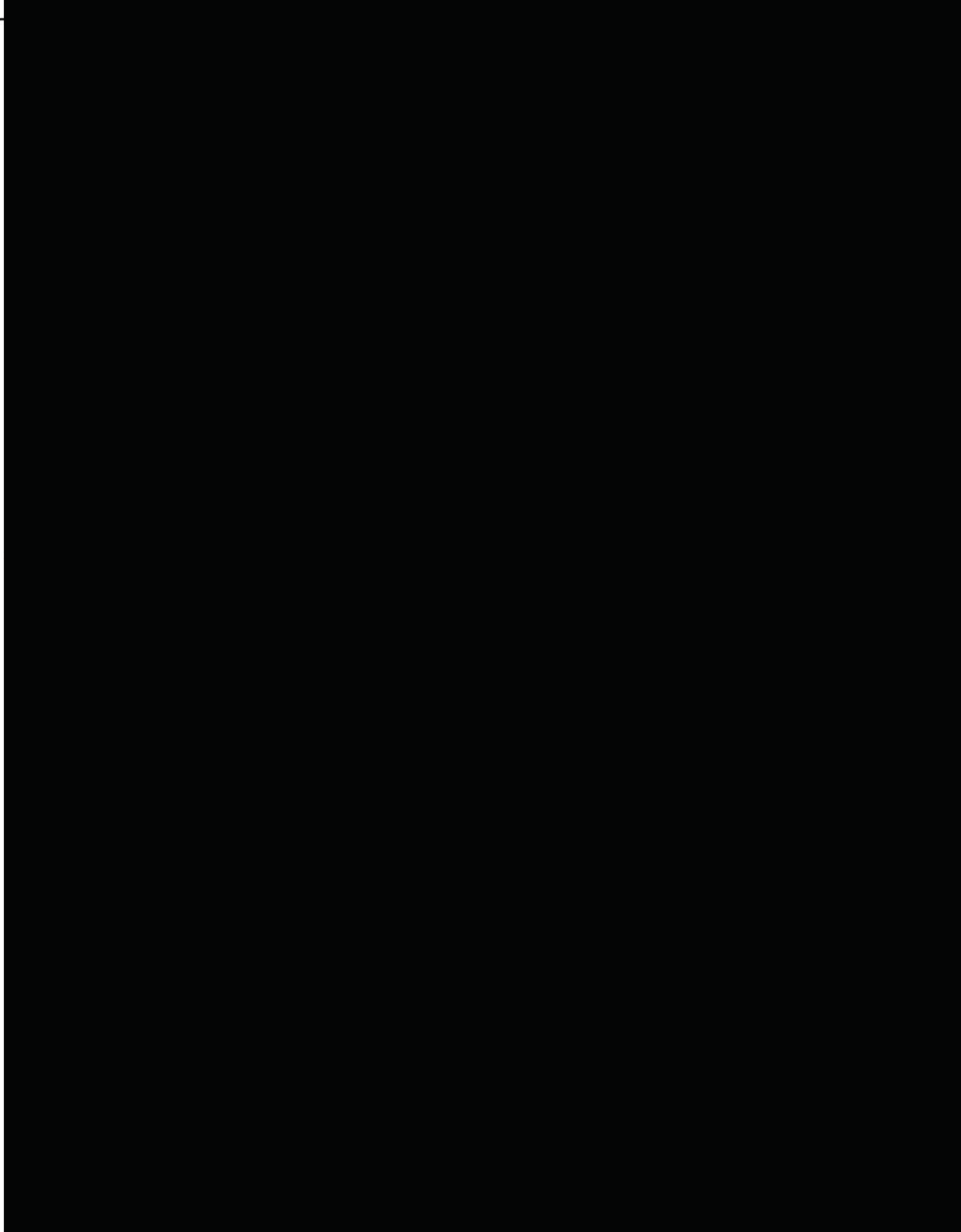
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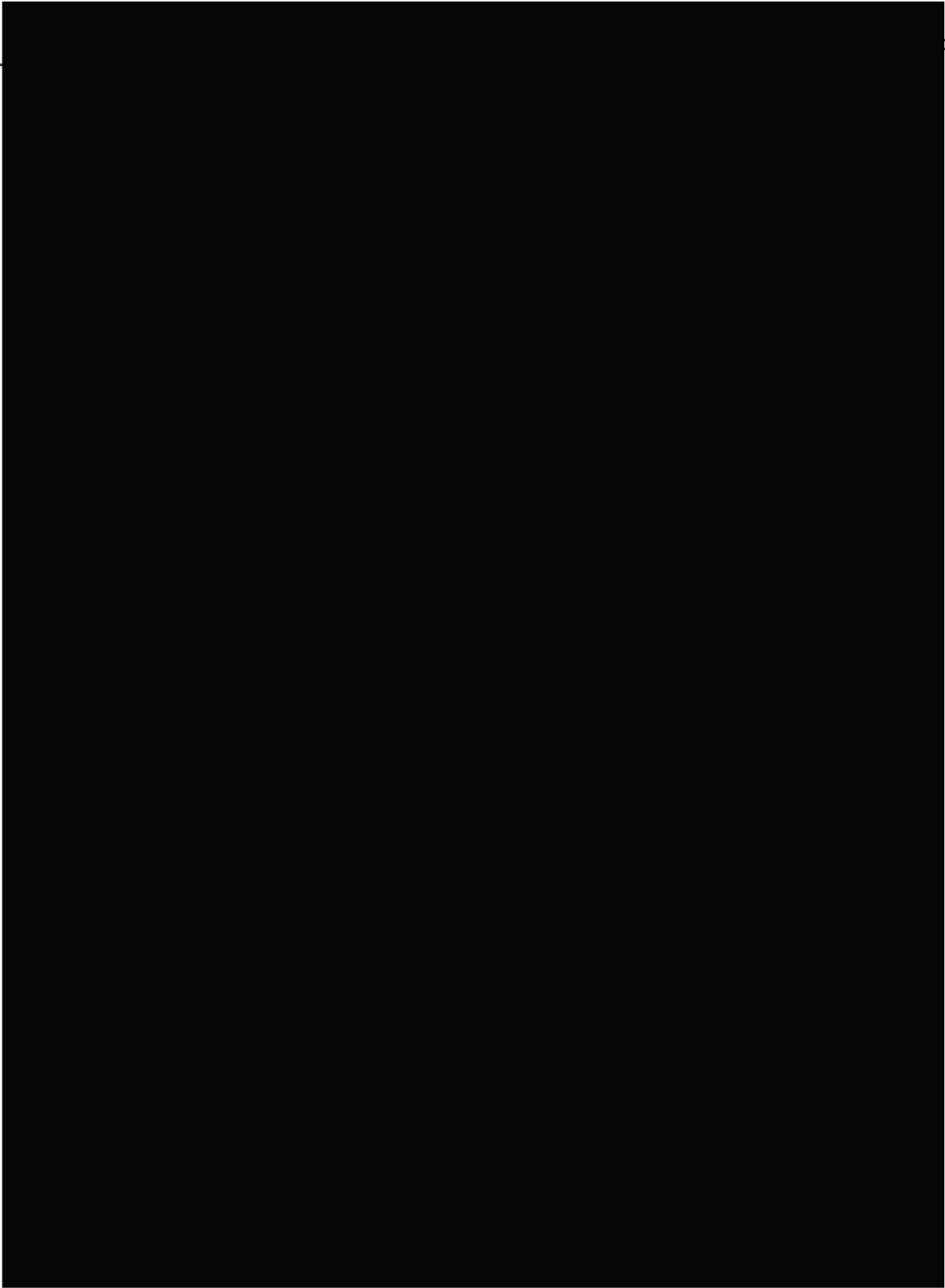


APS 1 - Project Authorization Policy

Supplement Request Form



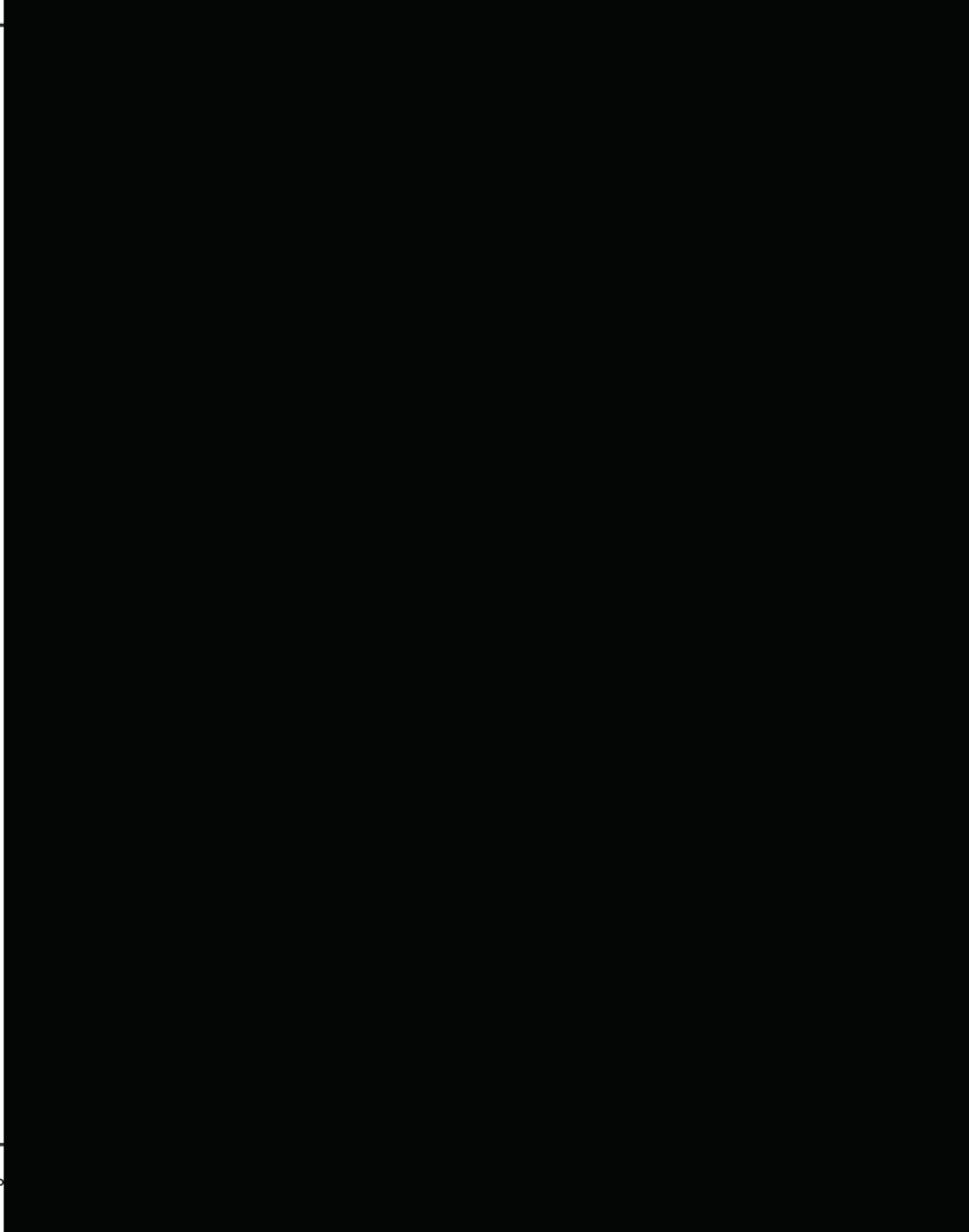
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Accounting Policy Statement No. 2
Operations Project Authorization



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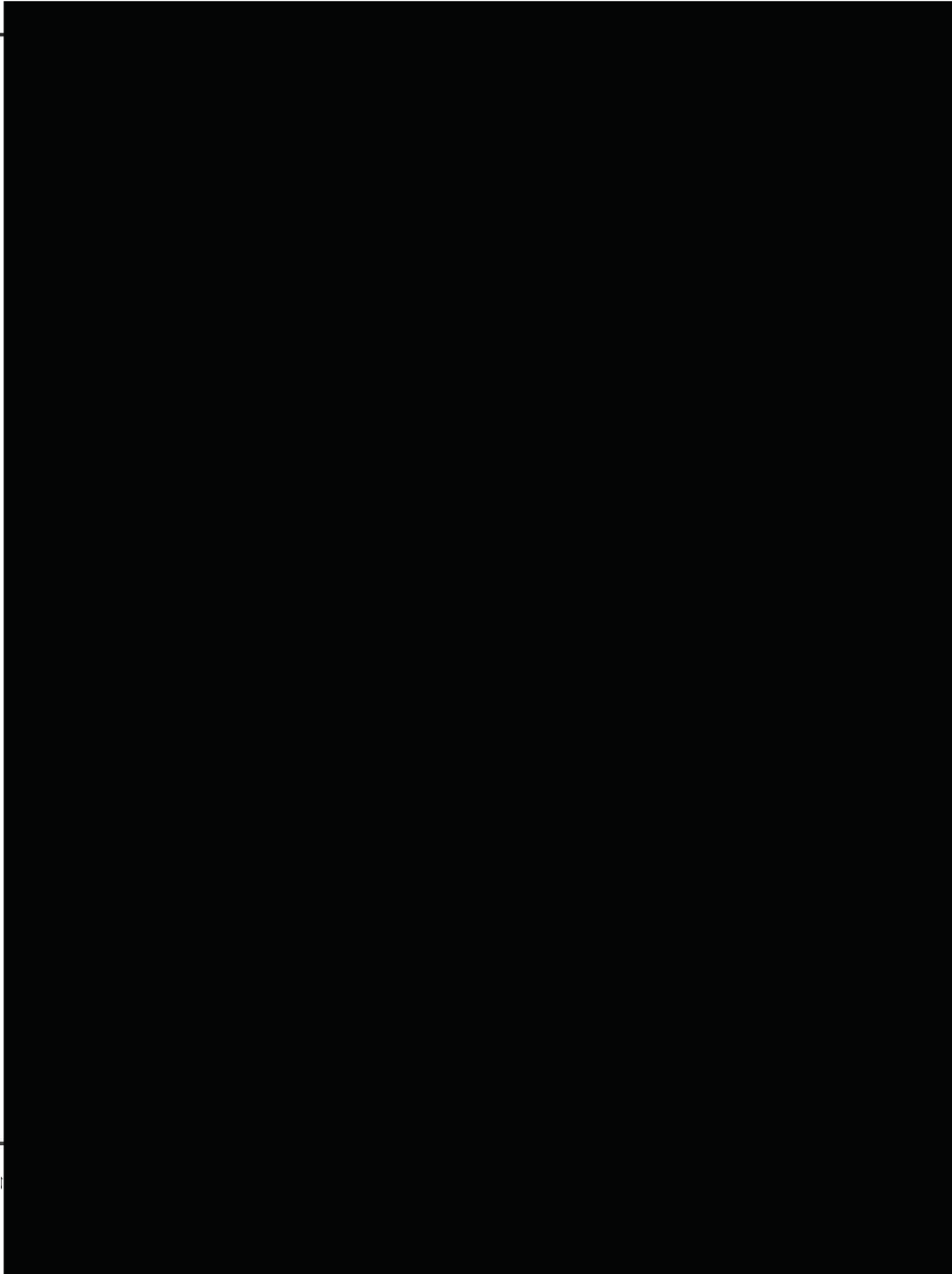
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Operations Project Authorization



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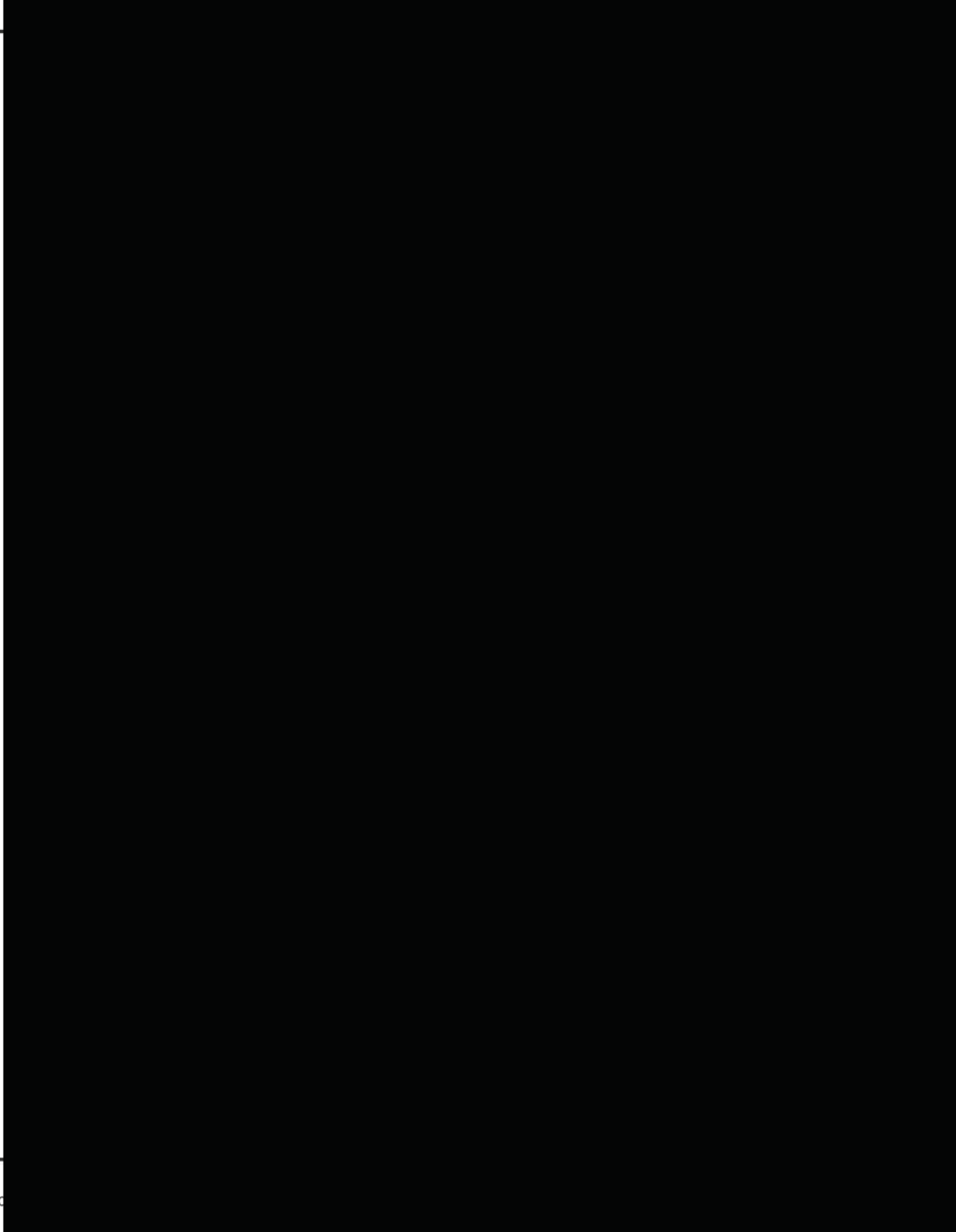
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Accounting Policy Statement No. 2
Operations Project Authorization



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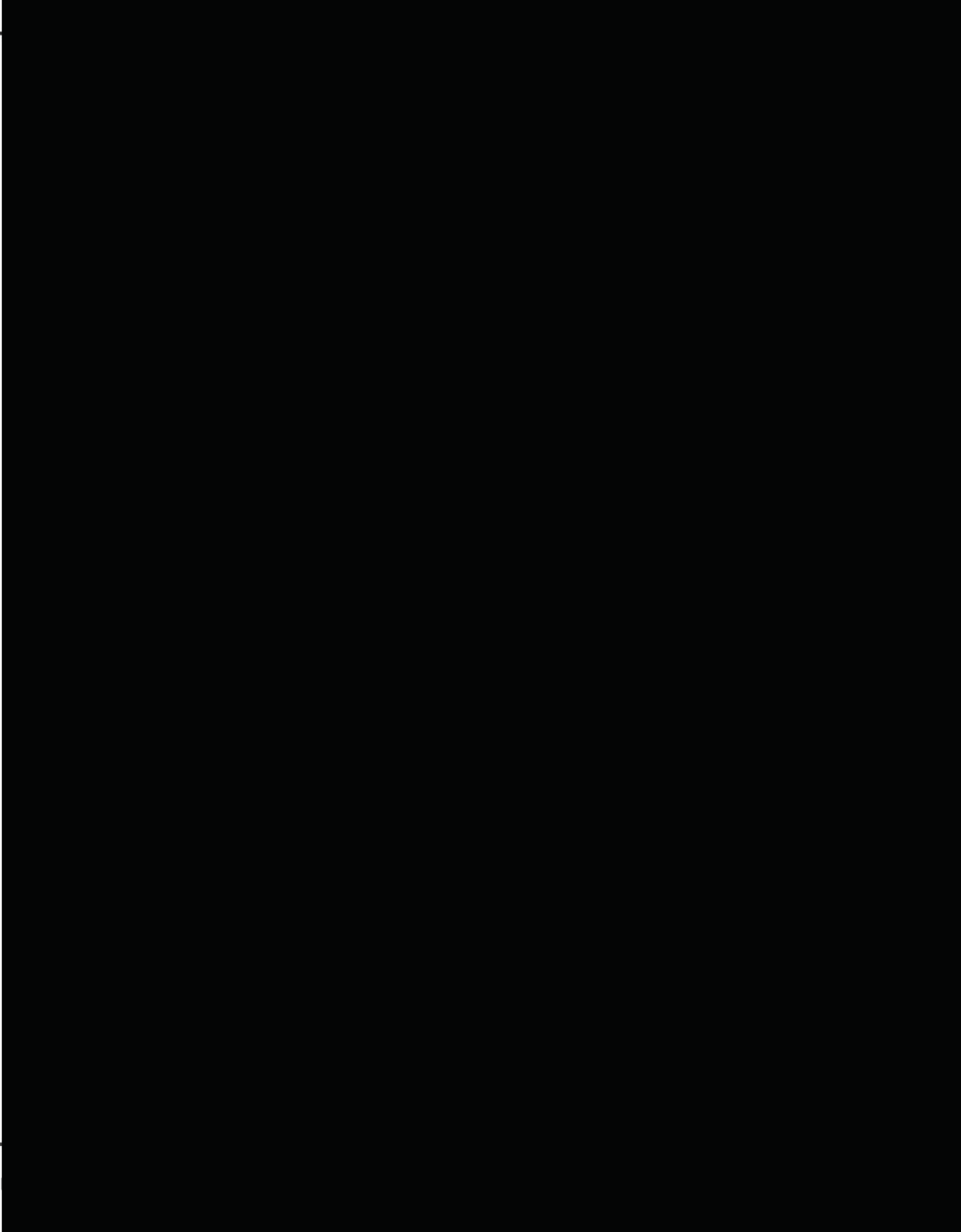
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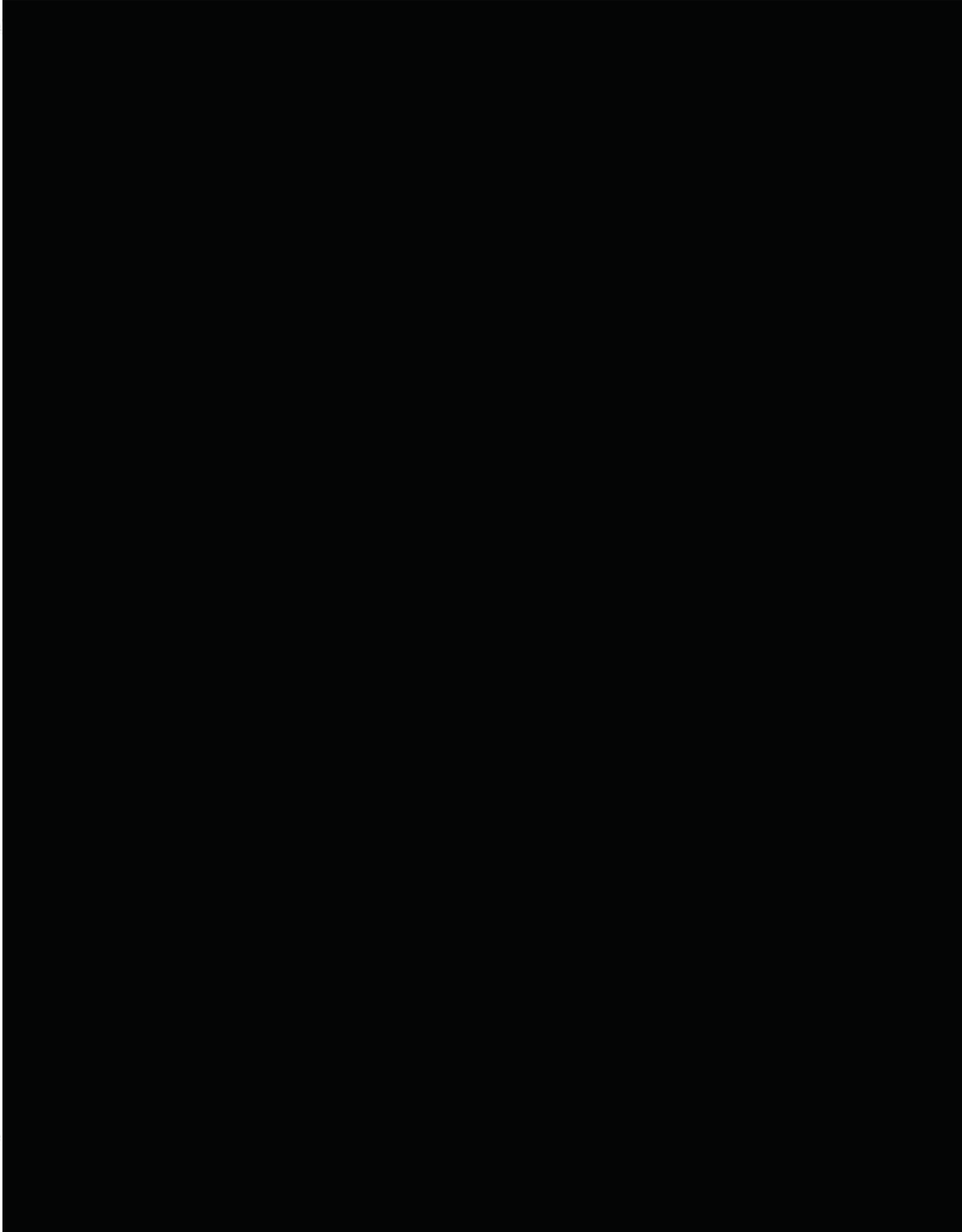
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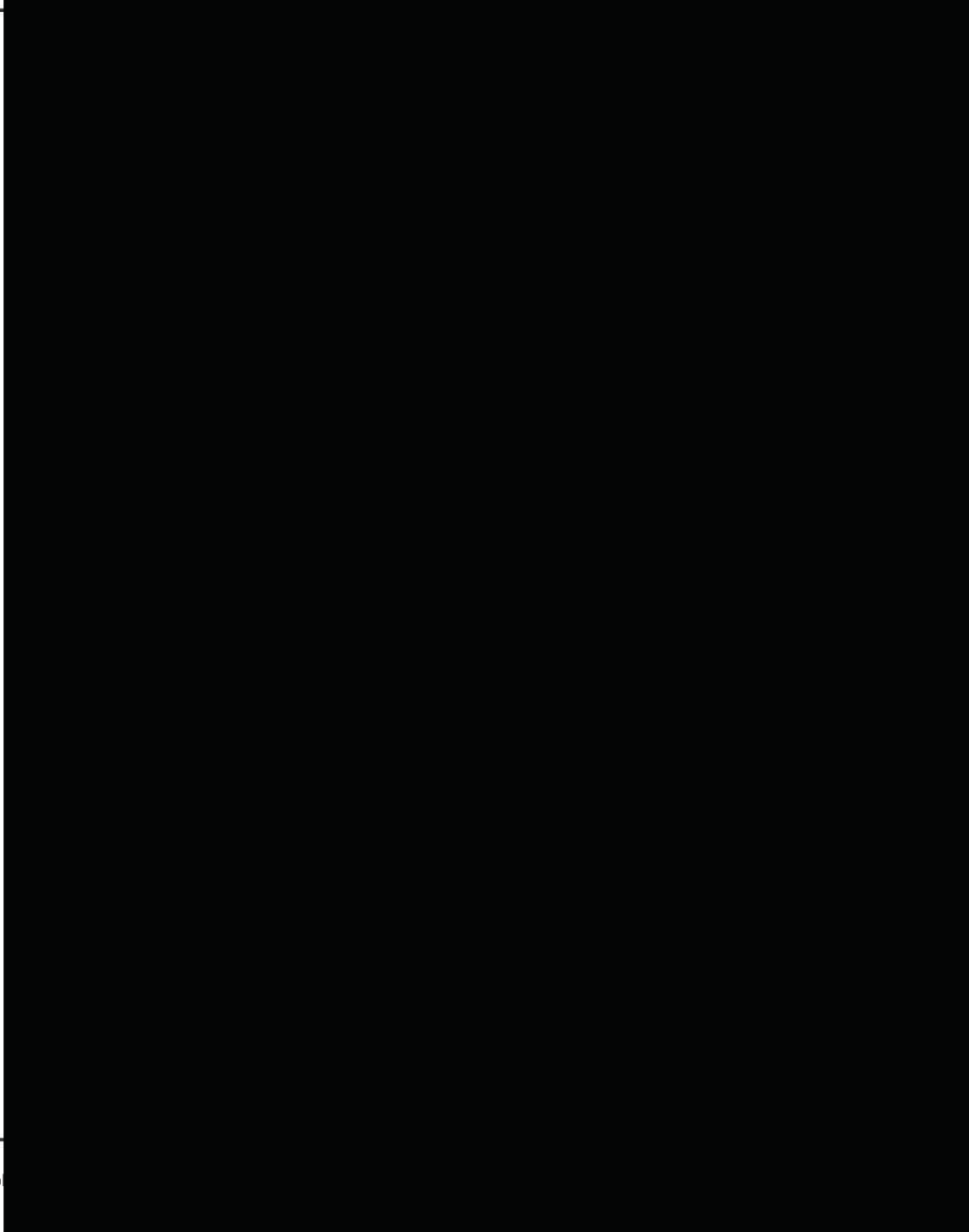
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Operations Project Authorization





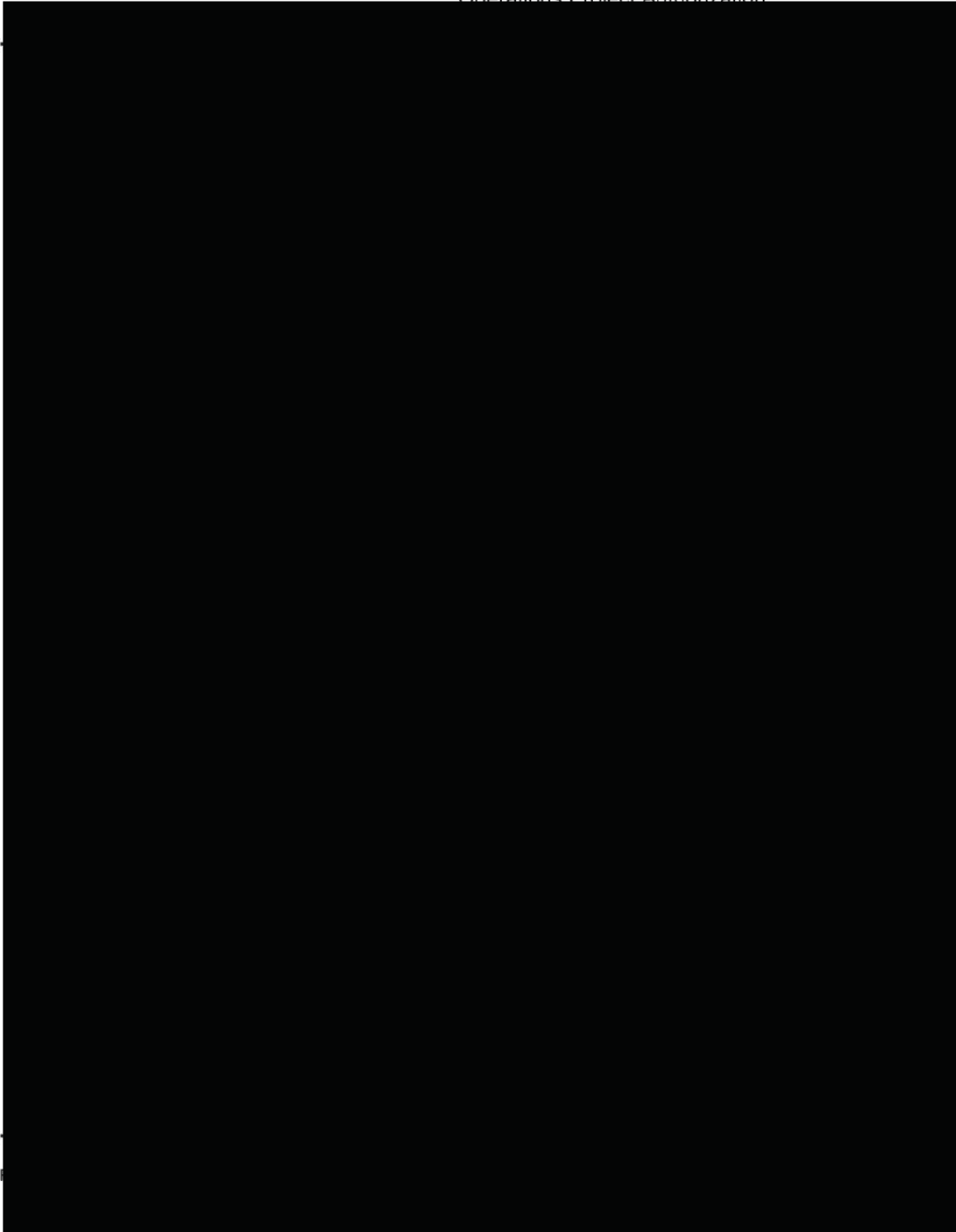
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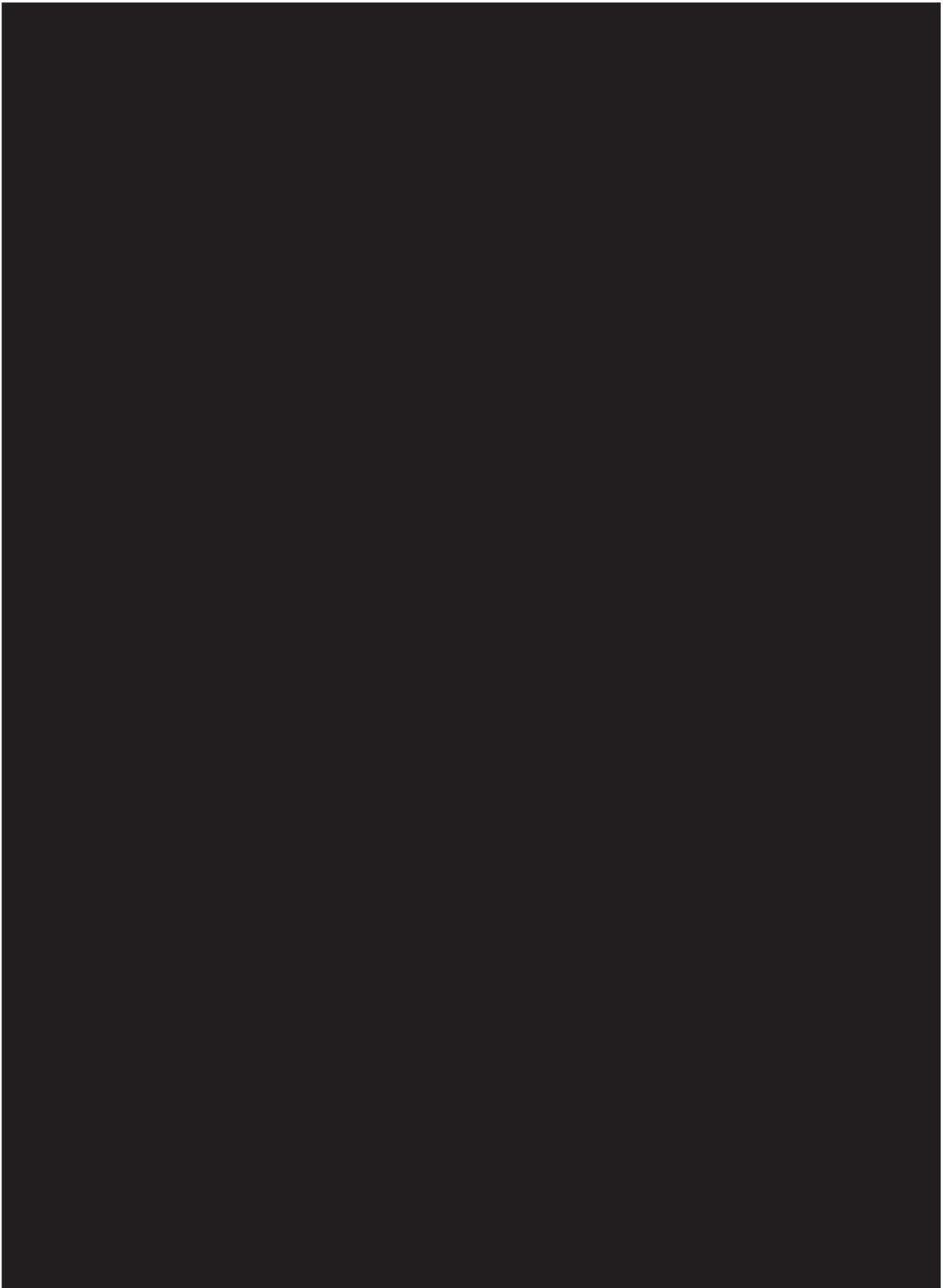


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Operations Project Authorization









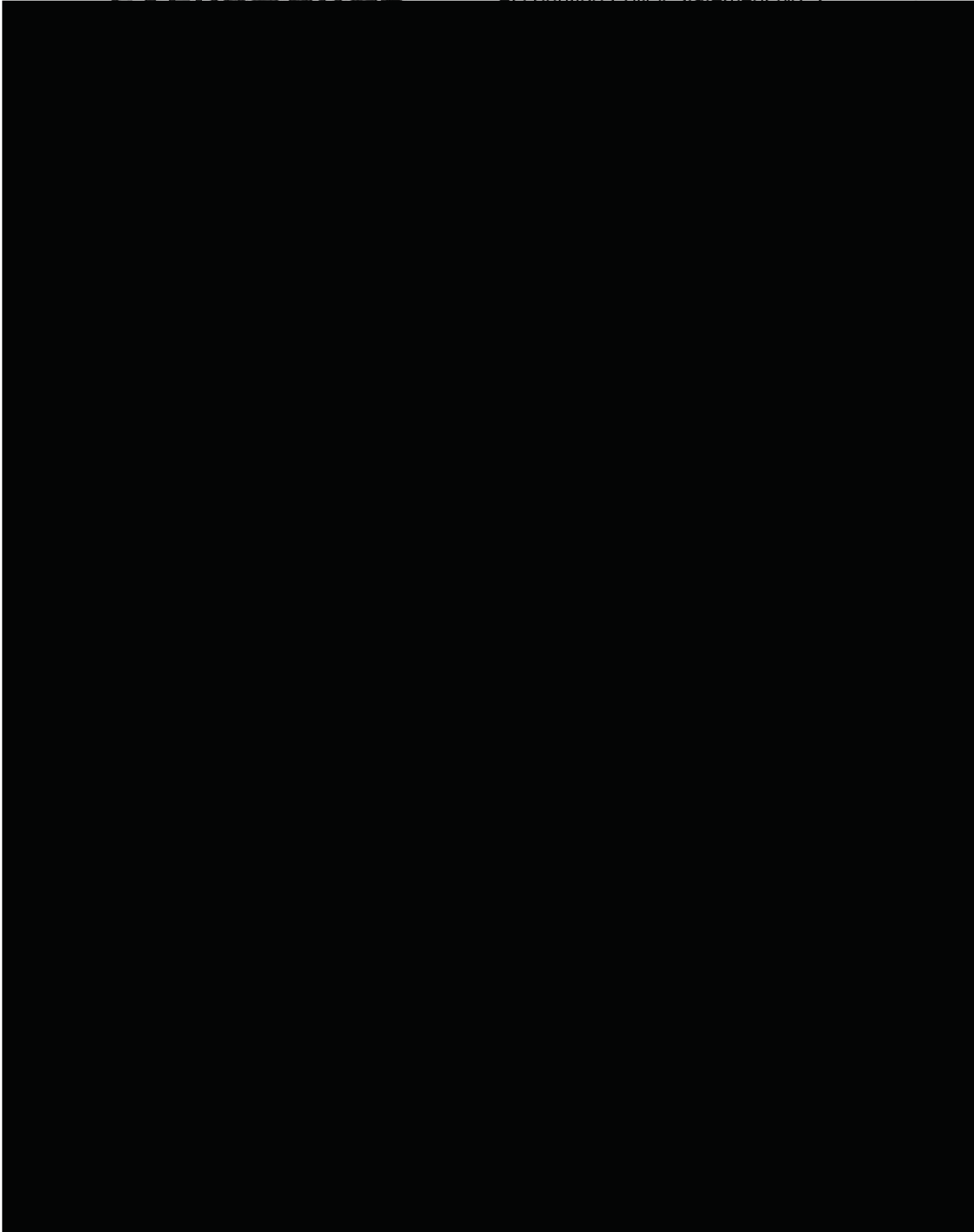




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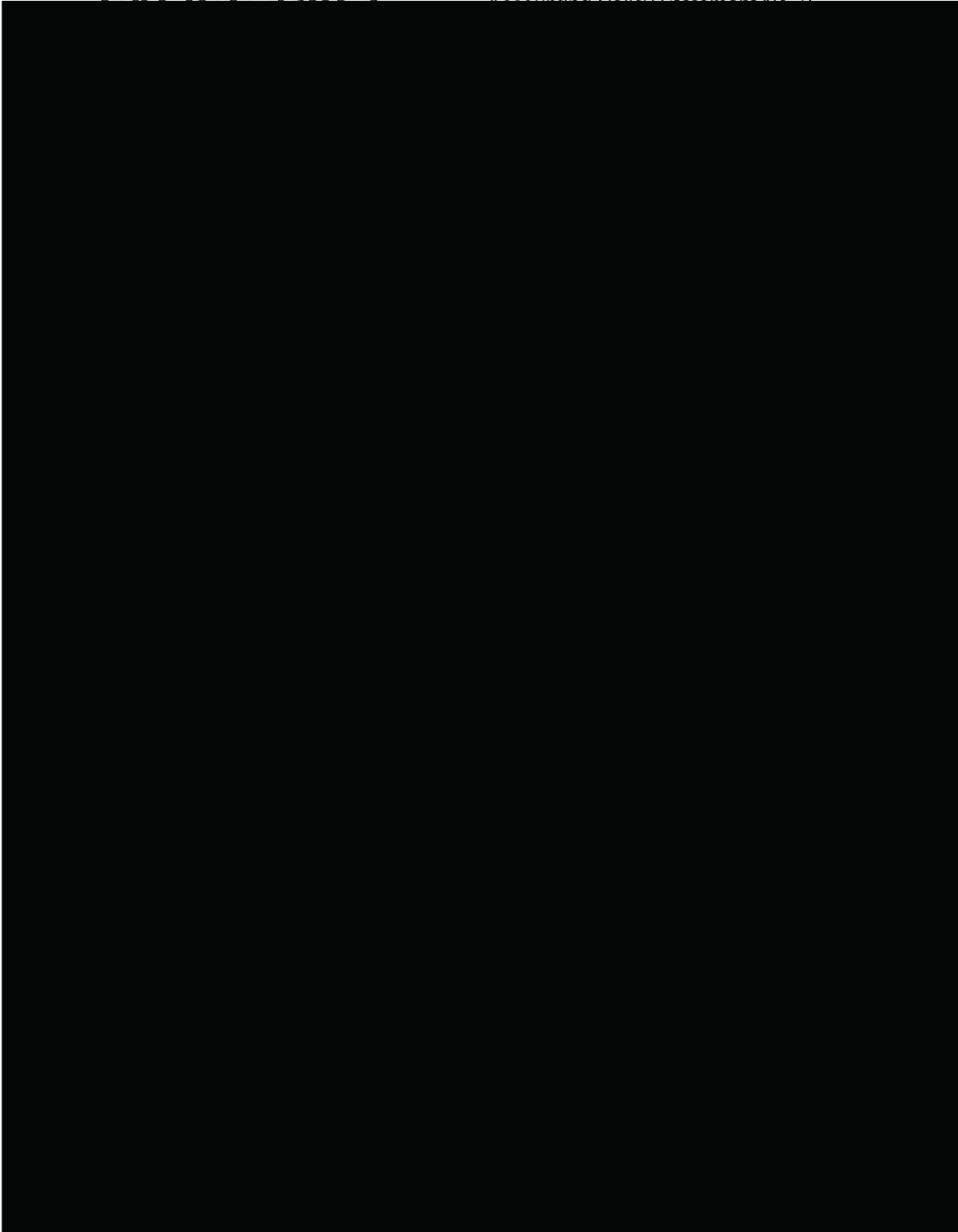
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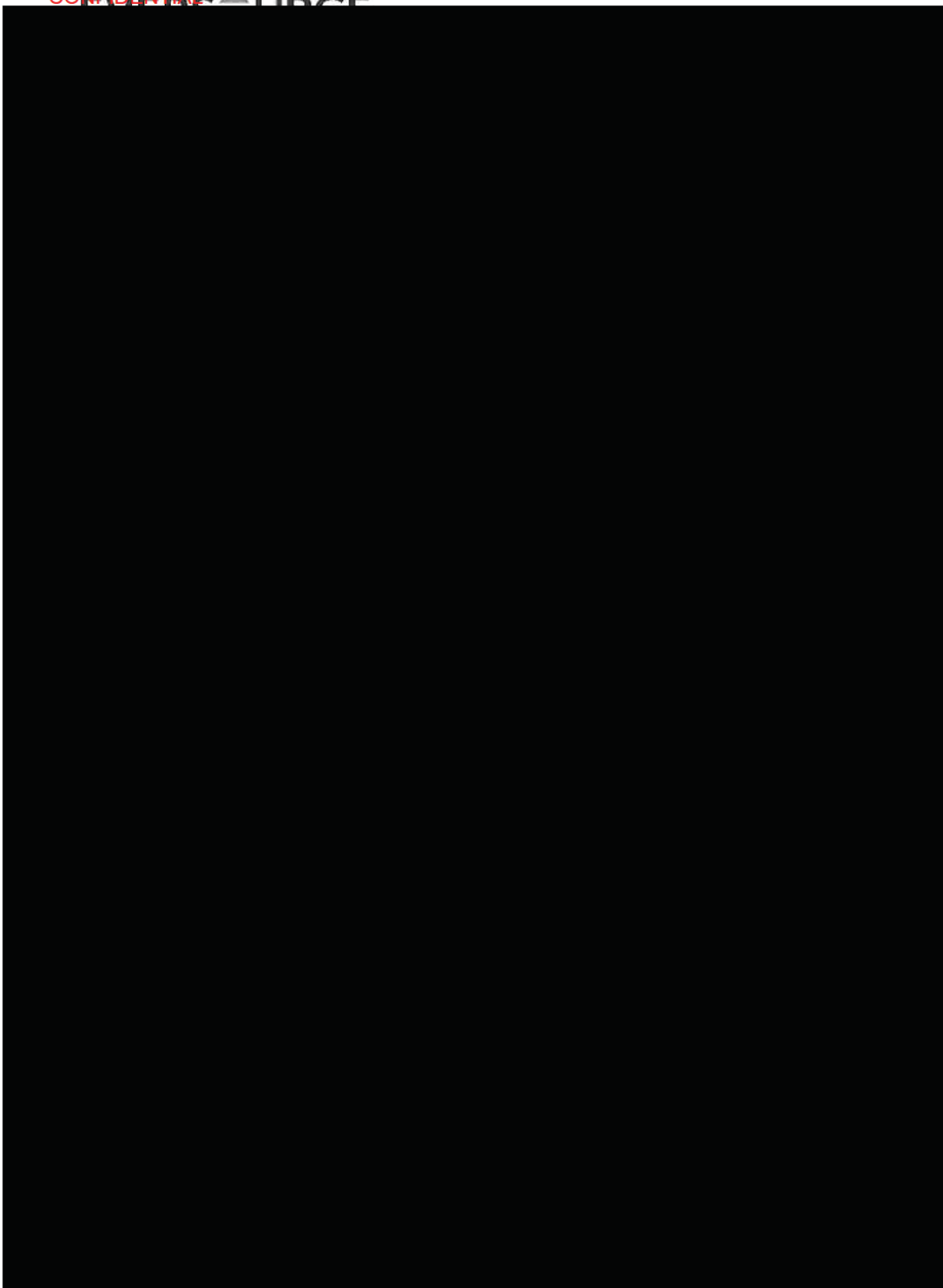
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Accounting Policy Statement No. 1



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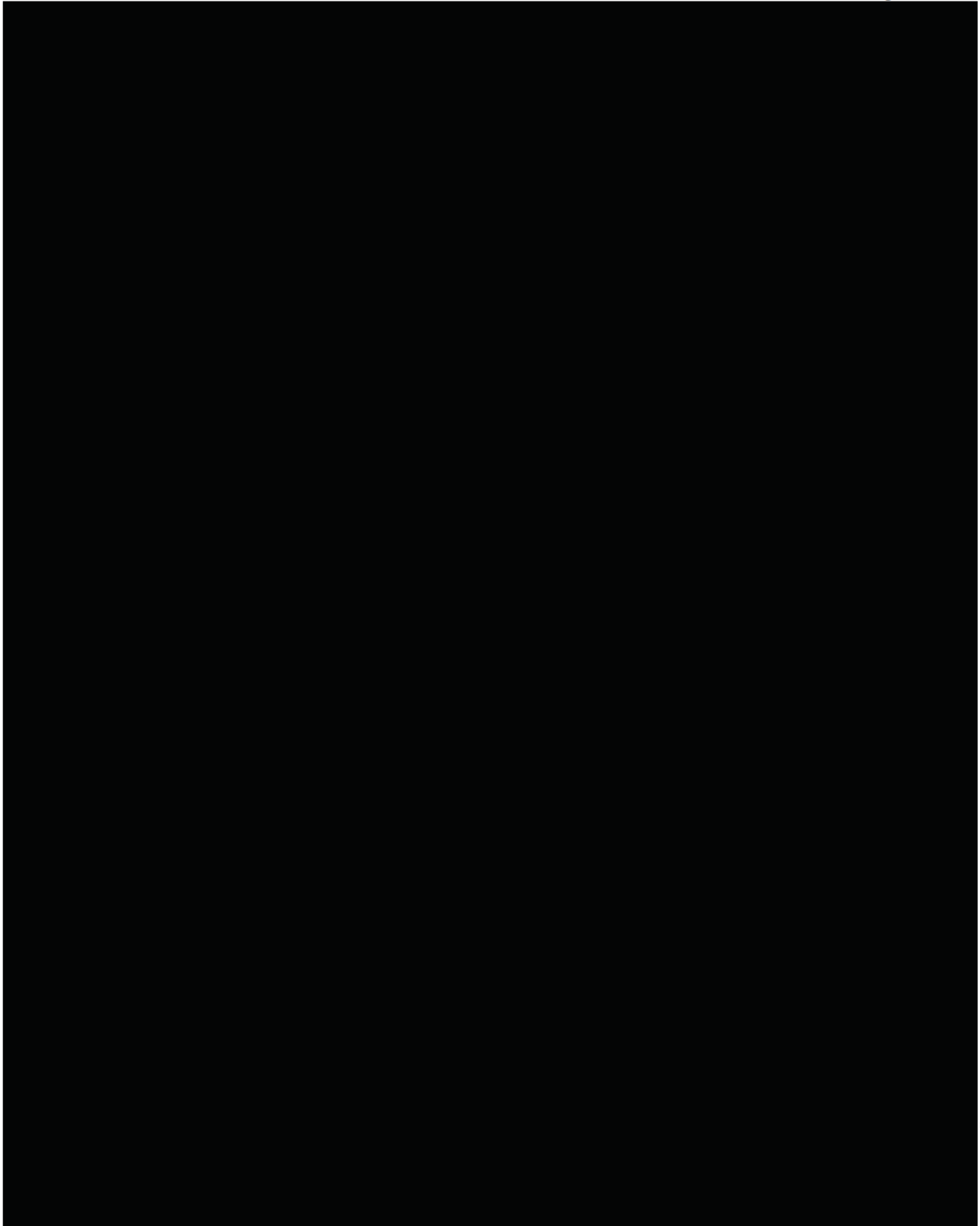


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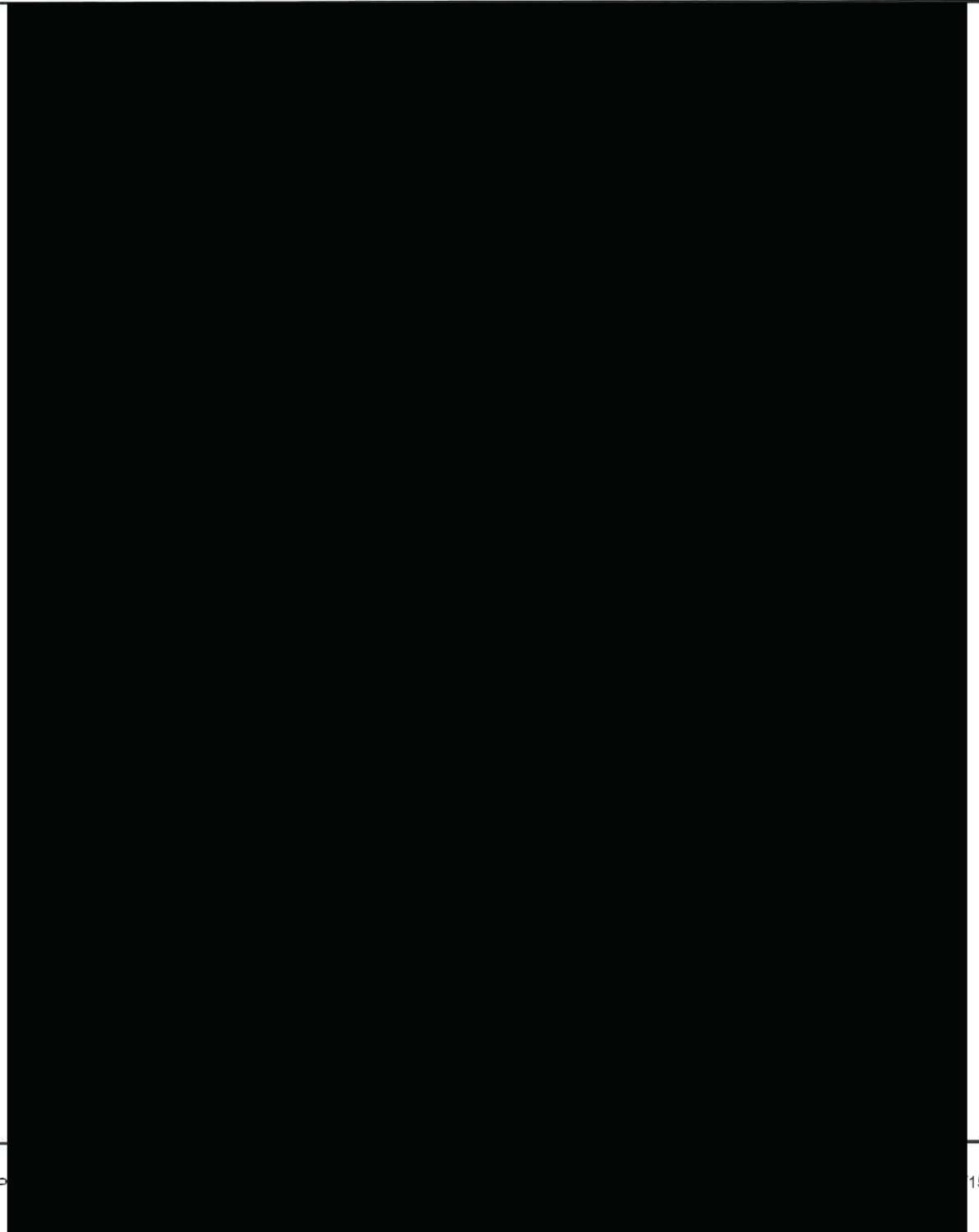
Docket No. DE 19-057
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Operations Project Authorization

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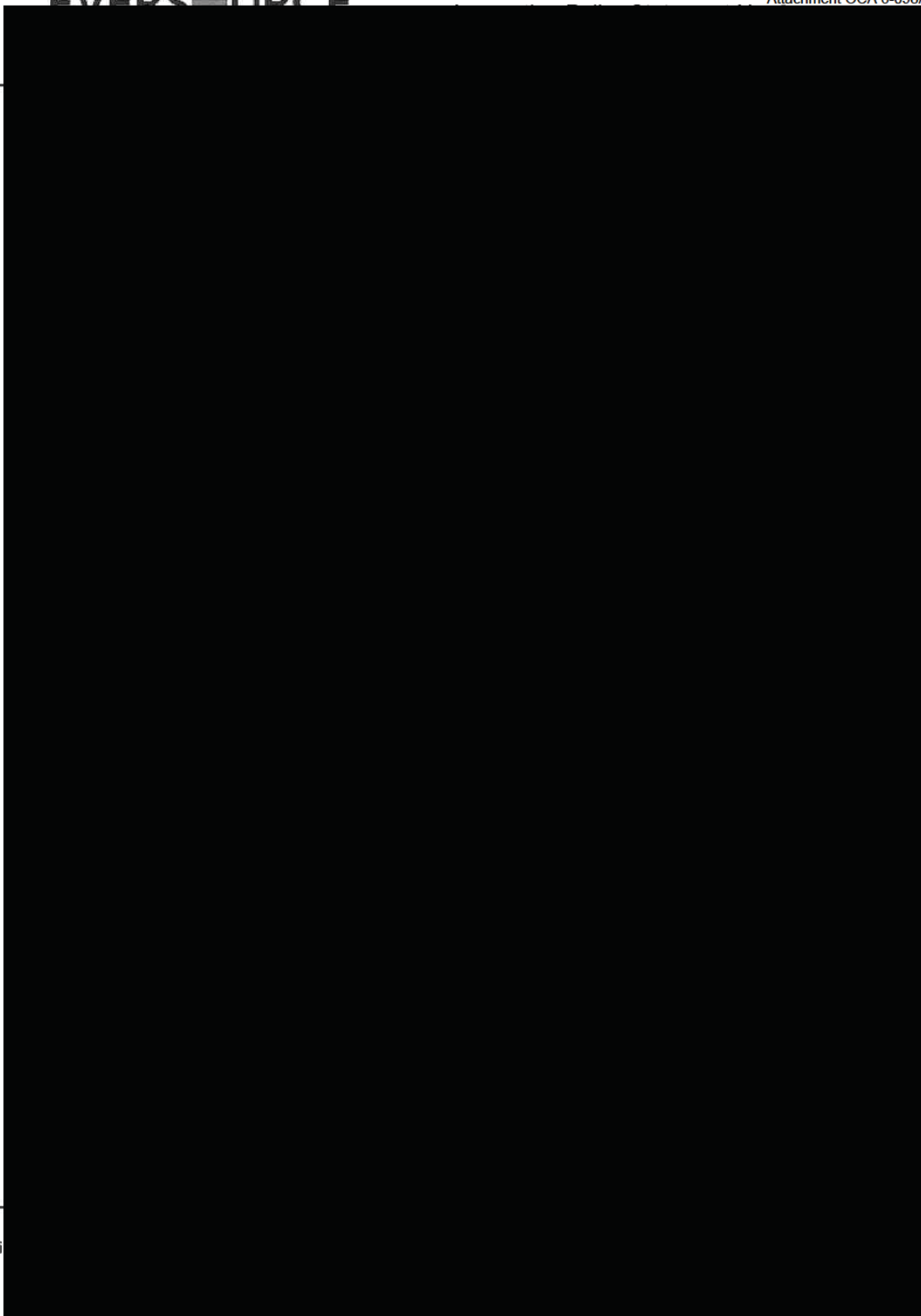
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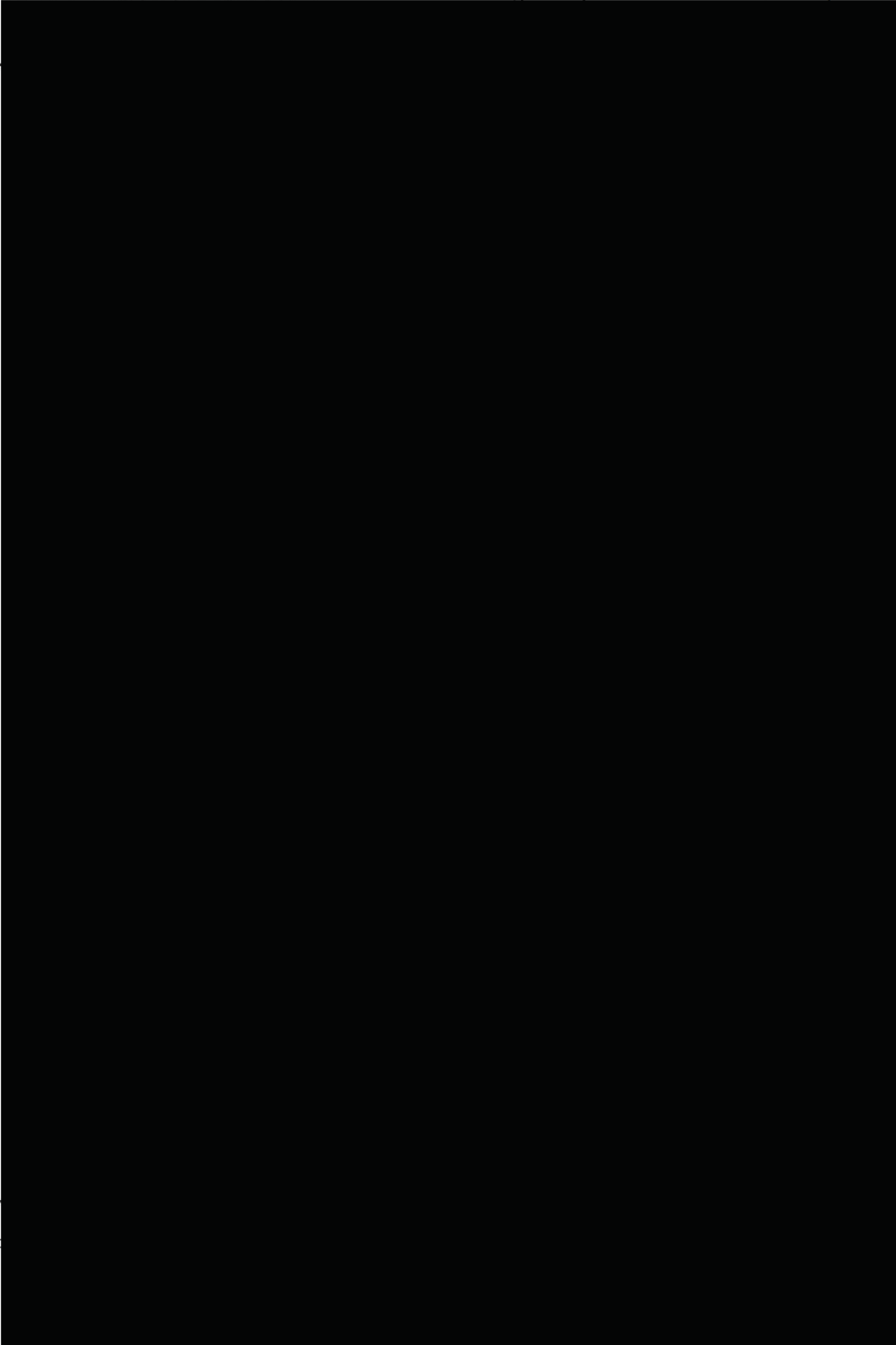
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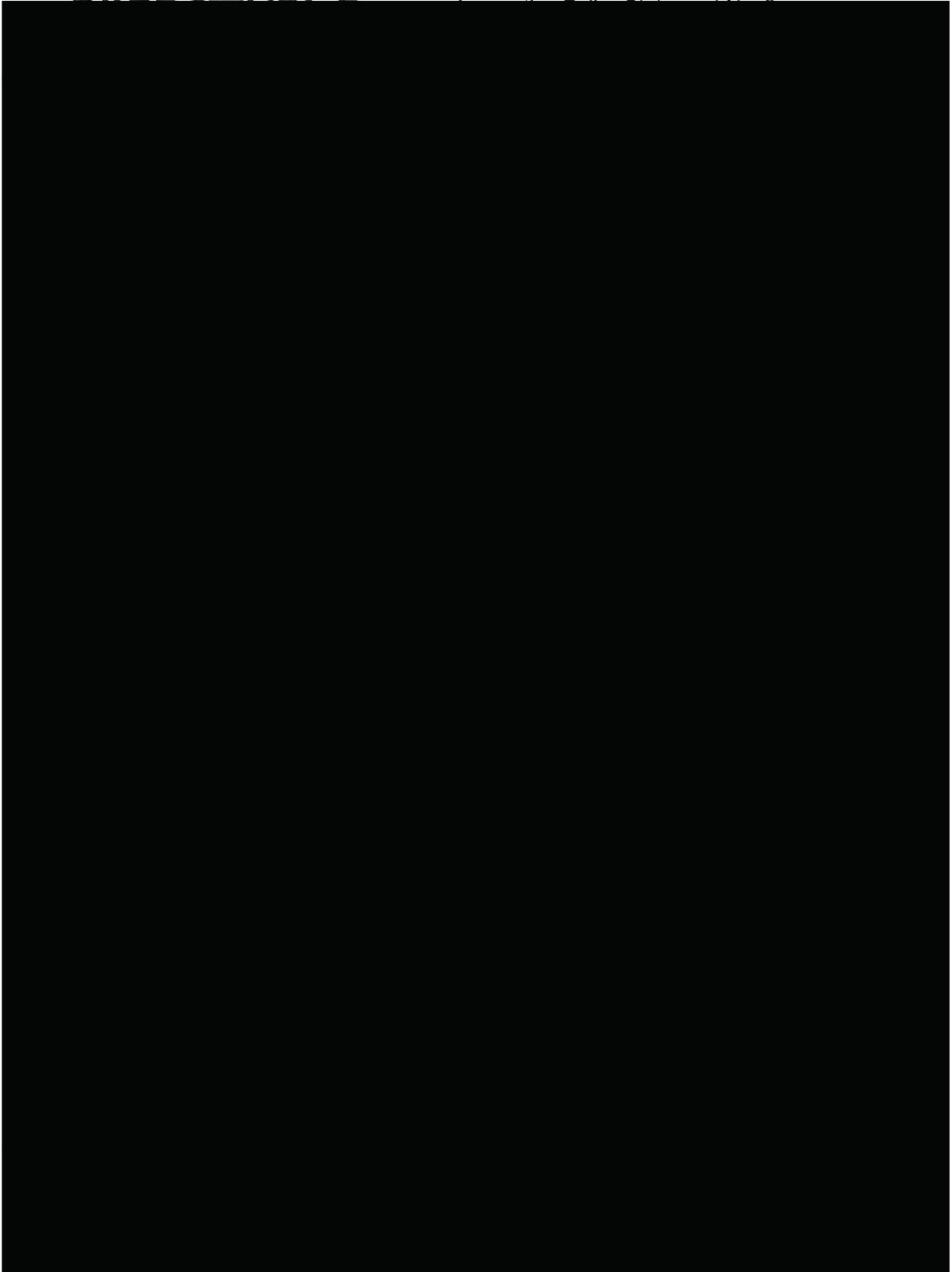
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Accounting Policy Statement No. 2



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Response:

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Response	Percentage Range
U.S. should take action	15% - 95%
U.S. should not take action	5% - 85%

Category	Value (approximate)
1	85
2	90
3	88
4	100
5	75
6	95
7	98
8	100
9	85
10	100
11	95
12	90
13	95
14	95
15	40

Public Service Co of New Hampshire Project Approval Information

Docket No. DE 19-057
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Attachment STAFF 12-045 BA
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Fund Project Number A18VRP	Status open	Revision 2
Project Title Viper Replacement Project-Bettermnt	Operating Unit	
Initiated By Lynne Godbout	Initiated Date 1/19/2018 09:55:58	

Description of Work	Replace 223 G&W Viper reclosers under warranty repair. This is a betterment. Cost of the project is the labor cost required to remove the old unit and install the new unit. Requested by Ryan West.
Location	6999 : NH : SPECIFIC TOWN N/A : 6999

Project Schedule / Expenditures			Est Start Date :	1/22/2018	Est Complete Date :	6/1/2018
2018	2019	2020	2021	2022	Future Years	Total
\$9,879,090.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$9,879,090</u>
	Capital	Expense	Removal	Retirements	Credits	
Cost Breakdown	\$9,468,238	\$0	\$410,852	\$0	\$0	\$9,879,090.00

Reason For Work

Background Information

Approvals

Level	Approver	Approval Limit	Date Approved
Project Manager	Menard, Erica	\$0	3/15/2018
Plant Accounting	Davis, Sean	\$0	3/16/2018
Manager - PSNH Dist	Lajoie, Lee	\$100,000	3/16/2018
Director - PSNH Dist	Geaumont, Marc	\$250,000	3/20/2018
Vice President - PSNH	Purington, Joseph	\$1,000,000	4/2/2018
Sr. VP/President - Ops	Quinlan, William	\$5,000,000	6/20/2018
Executive VP - COO	Schweiger, Werner	\$12,500,000	7/2/2018

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APS 1 - Project Authorization Policy

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Dated 9/20/2019
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Supplement Request Form

Supplement Request Form

Date Prepared: 2/27/18	Project Title: Viper Replacement Project
Company/Companies: Eversource NH	Project ID Number: A18VRP
Organization: NH Operations	Plant Class/(F.P.Type): Distribution Line
Project Initiator: Ryan West	Project Type: Specific
Project Manager: Ryan West	Capital Investment Part of Original Operating Plan? No
Project Sponsor: Joseph Purington	O&M Expenses Part of the Original Operating Plan? No
Current Authorized Amount: \$950,000	Estimated in service date(s): 6/1/18
Supplement Request: \$8,929,000	Other:
Total Request: \$ 9,879,000	

Supplement Justification

Justification for Additional Resources

This project was initially with the plan to replace all Vipers with rebuilt units at zero material cost and requiring only minimal P&C Engineering and commissioning by Communication and Control groups. Due to the amount of time required to ship the removed Vipers back to G&W for rebuild and the desire to complete the replacement of these Vipers in a timely manner, the decision was made by NH senior management to supplement the inventory by utilizing Scadamate switches and Nova reclosers. Each of these installations incur material charges for the new device and require different settings and additional commissioning work. This supplemental request is intended to cover those additional costs.

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APS 1 - Project Authorization Policy

Supplement Request Form

Supplement Cost Summary

Note: Dollar values are in thousands:

	Prior Authorized	Supplement Request	Total
Capital Additions - Direct	\$ 895	\$ 5,102	\$ 5,997
Less Customer Contribution	-	-	-
Removals net of Salvage ____%	-	-	-
Total Direct Spending	\$ 895	\$ 5,102	\$ 5,997
Capital Additions - Indirect	55	3,784	3,839
AFUDC	-	43	43
Total Capital Request	\$ 950	\$ 8,929	\$ 9,879
O&M	-	-	-
Total Request	\$ 950	\$ 8,929	\$ 9,879

Note: Dollar values are in thousands:

Total Supplement Request by year view:

	Year 2018	Year 20__	Year 20__+	Total
Capital Additions - Direct	\$ 5,997	\$ -	\$ -	\$ 5,997
Less Customer Contribution	-	-	-	-
Removals net of Salvage ____%	-	-	-	-
Total Direct Spending	\$ 5,997	\$ -	\$ -	\$ 5,997
Capital Additions - Indirect	3,839	-	-	3,839
AFUDC	43	-	-	43
Total Capital Request	\$ 9,879	\$ -	\$ -	\$ 9,879
O&M	-	-	-	-
Total Request	\$ 9,879	\$ -	\$ -	\$ 9,879

Original Project Authorization Form attached:



APS 1 - Project Authorization Policy

Supplement Request Form

Operations Project Authorization Form

Date Prepared: 01/10/18	Project Title: Viper Replacement Project
Company/ies: Eversource NH	Project ID Number: A18VRP
Organization: NH Operations	Class(es) of Plant: Distribution
Project Initiator: Ryan West	Project Category: Reliability – Distribution Lines
Project Manager: Ryan West	Project Type: Specific
Project Sponsor: Joe Purington	Project Purpose: Replace Viper Reclosers
Estimated in service date: 5/30/18	If Transmission Project: PTF? n/a
Eng. /Constr. Resources Budgeted? No	Capital Investment Part of Original Operating Plan? No
Authorization Type: Full funding	O&M Expenses Part of the Original Operating Plan? No
Total Request: \$950,000	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

Replace 223 G&W Viper reclosers under warranty repair. Cost of the project is the labor cost required to remove the old unit and install the new unit.

Project Costs Summary

	Prior Authorized	2018	20__	20__+	Totals
Capital Additions - Direct	\$ -	\$ 895	\$ -	\$ -	\$ 895
Less Customer Contribution	-	-	-	-	-
Removals net of Salvage ____%	-	-	-	-	-
Total - Direct Spending	\$ -	\$ 895	\$ -	\$ -	\$ 895
Capital Additions - Indirect	-	55	-	-	55
Subtotal Request	\$ -	\$ 950	\$ -	\$ -	\$ 950
AFUDC	-	-	-	-	-
Total Capital Request	\$ -	\$ 950	\$ -	\$ -	\$ 950
O&M	-	-	-	-	-
Total Request	\$ -	\$ 950	\$ -	\$ -	\$ 950

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APS 1 - Project Authorization Policy

Supplement Request Form

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	Year 1	Year 2	Year 3+	Total
Straight Time Labor	\$115			
Overtime Labor	0			
Outside Services	\$780			
Materials	0			
Other, including contingency amounts (describe)				
Total	\$895			

Indirect Capital Costs	Year 1	Year 2	Year 3+	Total
Indirects/Overheads (including benefits)	\$55			
Capitalized interest or AFUDC, if any				
Total				

Total Capital Costs	\$950			
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Less Total Customer Contribution				
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Total Capital Project Costs	\$950			
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Total O&M Project Costs				
------------------------------------	--	--	--	--

Note: Explain unique payment provisions, if applicable

Future Financial Impacts:

Provide below the estimated future costs that will result from the project:

Note: Dollar values are in thousands:

Future Costs	Year 20__	Year 20__	Year20__	Year 20__ +	Total Future Project Costs
Capital	\$ -	\$ -	\$ -	\$ -	\$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	\$ -	\$ -	\$ -	\$ -	\$ -

Describe the estimated future Capital, O&M and/or Other costs noted above:

What functional area(s) will these future costs be funded in?

A representative from the respective functional area is required to be included as a project approver.

EVERSOURCE

APS 1 - Project Authorization Policy

Supplement Request Form

If this is other than a Reliability Project, please complete the section below:

Provide below the estimated financial benefits that will result from the project:

Note: Dollar values are in thousands:

Future Benefits	Year 20__	Year 20__	Year20__	Year 20__ +	Total Future Project Benefits
Capital	\$ -	\$ -	\$ -	\$ -	\$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	\$ -	\$ -	\$ -	\$ -	\$ -

Describe the estimated future Capital, O&M and/or Other benefits noted above:

What functional area(s) will these benefits be reflected in? _____

A representative from the respective functional area is required to be included as a project approver.

Asset Retirement Obligation (ARO) and/ or Environmental Cleanup Costs (Environmental Liabilities):

Is there an ARO associated with this project? If yes, please provide details: No

Are there other environmental cleanup costs associated with this project? If yes, please provide details:
No



APS 1 - Project Authorization Policy

Supplement Request Form

Technical Justification:

Project Need Statement

Eversource NH has experienced multiple failures of the G&W Viper recloser due to a manufacturing issue for units produced in 2015 - 2015. These failures have impacted over 50,000 customers. They are severely impacting our reliability.

Project Objectives

Replace 223 Viper reclosers that fall within the recall manufacturing period (2014-2015) with remanufactured units to eliminate the design flaw.

Project Scope

Remove existing 223 Viper reclosers and install refurbished Vipers. Removed Vipers will be returned to G&W electric to be refurbished with new vacuum bottles. As needed to expedited the project schedule, Eaton Nova reclosers and S&C scadamates will be used to replace some existing Vipers.

Background / Justification

Eversource NH has experienced 15 failures of model year 2014 or 2015 G&W vipers to date. These outages have impacted over 50,000 customers. There are 216 remaining units on the system. These remaining units pose a significant reliability risk as they serve the majority of customers statewide.

Business Process and / or Technical Improvements:

Improved reliability due to decreased equipment failures

Alternatives Considered with Cost Estimates

N/A

EVERSOURCE
APS 1 - Project Authorization Policy

Docket No. DE 19-057
Data Request STAFF 12-045
Dated 9/20/2019
Attachment STAFF 12-045 BA
Page 8 of 9

Supplement Request Form

Project Schedule

Milestone/Phase Name	Estimated Completion Date
All 2014-2015 Vipers Removed from System	05/31/18

Regulatory Approvals

None

Risks and Risk Mitigation Plans

None

References

Attachments (One-Line Diagrams, Images, etc.)

Funding Project Information

New Approval Type:

Budget Version: 2017 Working (inactive)

Funding Project: A18VRP Revision: 1

Approval Type: FP PSNH - Distribution Amount: \$350,000.00

Status: Approved Sent By: Godbout, Lynne Date Sent: 1/19/2018 Date Appr: 1/22/2018

Send for Approval Refresh

	Approver	Required	Date Approved	Authority Limit
+ Project Manager - - -	Menard, Erica	<input checked="" type="checkbox"/>	1/19/2018	\$0
+ Plant Accounting - - -	Davis, Sean	<input checked="" type="checkbox"/>	1/19/2018	\$0
+ Manager - PSNH Dist	Lajoie, Lee	<input checked="" type="checkbox"/>	1/19/2018	\$100,000
+ Director - PSNH Dist -	Geaumont, Marc	<input checked="" type="checkbox"/>	1/21/2018	\$250,000
+ Vice President - PSNH	Purington, Joseph	<input checked="" type="checkbox"/>	1/22/2018	\$1,000,000

Details
Accounts
Departments
Contacts
Tasks
Class Codes
Justification
Tax Status
Authorizations
User Comment
Review
Related FPs

Audits
Delete FP
Cancel FP
Suspend FP

Estimates
Update
Print
Cancel

Record 1 of 1

Defective Vipers replaced with refurbished Vipers: 161 units

LOCATION
8/396X::CONCORD:RD::LEE:NH
48/41::JONES:RD::MILFORD:NH
48/27Y::OLD WILTON:RD::MILFORD:NH
48/20Y::OLD WILTON:RD::MILFORD:NH
314X12/20::SAVAGE:RD::MILFORD:NH
8/172Y::MAMMOTH:RD::HOOKSETT:NH
5/23::SPRINGFIELD:RD::SUNAPEE:NH
5/44Y::AMHERST:ST::AMHERST:NH
5/64::AMHERST:ST::AMHERST:NH
5/88::AMHERST:ST::AMHERST:NH
5/93::AMHERST:ST::AMHERST:NH
5/115::LIMBO:L:N::AMHERST:NH
5/178::ROUTE 101::AMHERST:NH
5/182Y::ROUTE 101::AMHERST:NH
6/13Z::SUNSET:CIR::MILFORD:NH
6/9Y::MONT VERNON:RD::MILFORD:NH
4/29X::ELM:ST::MILFORD:NH
497/9::SUNSET:CIR::MILFORD:NH
3010/2Y::STAR:DR::MERRIMACK:NH
146/45::LAFAYETTE:RD::PORTSMOUTH:NH
39/2X::TWIN BRIDGE:RD::WEARE:NH
39/3::TWIN BRIDGE:RD::WEARE:NH
2/7::WEARE:RD::NEW BOSTON:NH
2/5::WEARE:RD::NEW BOSTON:NH
23/80A::SMITH RIVER:RD::ALEXANDRIA:NH
3116/56::CHOCORUA MOUNTAIN:HWY::OSSISPEE:NH
3116/132::CHOCORUA MOUNTAIN:HWY::OSSISPEE:NH
3116C/1::OSSISPEE MOUNTAIN:HWY::OSSISPEE:NH
311/207::DL 311::HENNIKER:NH
311/206Z::DL 311::HENNIKER:NH
311/117Z::DL 311::HENNIKER:NH
311/152Y::WEARE:RD::HENNIKER:NH
311/154X::DL 311::HENNIKER:NH
311/206::DL 311::HENNIKER:NH
80A/1::WEARE:RD::HENNIKER:NH
3173/302X::DODGE HILL:RD::HENNIKER:NH
3120/140X::ROUTE 119::FITZWILLIAM:NH
3/1::MILL:ST::TROY:NH
18/12:W:MAIN:ST::RINDGE:NH
4/47::PILLSBURY:RD::LONDONDERRY:NH
842/5::MCGREGOR:ST::MANCHESTER:NH
100/4::CALEF:HWY::LEE:NH
100/1::DL 313::HANCOCK:NH
85/1X::DL 313::JAFFREY:NH
27/1Y::PIERCE CROSSING:RD::JAFFREY:NH
39/1Y::CLINTON:RD::ANTRIM:NH
1/29::MAIN:ST::HAMPSTEAD:NH
314/60X::DL 314::MILFORD:NH
314/96Y-1::MCGETTIGAN:RD::WILTON:NH
314/99::MCGETTIGAN:RD::WILTON:NH
2/4::FOREST:RD::WILTON:NH
:S:MAST:ST::GOFFSTOWN:NH
:S:MAST:ST::GOFFSTOWN:NH
4/6::DOVER:RD::DURHAM:NH
3173/96Y::OLD HENNIKER:ST::HILLSBOROUGH:NH
3174/97::HENRY WILSON:HWY::FARMINGTON:NH
317/976::DL 317::WARNER:NH
311/295Z::PARK:AVE::HOPKINTON:NH
317/1134::PARK:AVE::HOPKINTON:NH
6H/X::PARK:AVE::HOPKINTON:NH
6/1::PARK:AVE::HOPKINTON:NH
311/238-33A::CLEMENT HILL:RD::HOPKINTON:NH
514/5Y::NEWMARKET:RD::DURHAM:NH
3229/77Y::ROUTE 108::NEWFIELDS:NH
3/123Y::NEWMARKET:RD::DURHAM:NH
19/2Y::NEW:RD::NEWMARKET:NH
322/65Y::BOYNTON:ST::BEDFORD:NH
92/4Y::DEPOT:ST::MERRIMACK:NH
8/51::BEDFORD:RD::MERRIMACK:NH
1/63Y::TECHNOLOGY PARK:DR::MERRIMACK:NH

Refurbished Vipers in new locations: 101 units

Pole #	Street Address	Town
23/80A	Smith River Rd	Alexandria
2/1	Main St	Amherst
338/287	Collins St.	Ashland
6/33	Back River Road	Bedford
9/17	Meetinghouse Rd	Bedford
25/123Y	New Boston Rd	Bedford
199/122	Greenfield Road	Bennington
342B/65X	Campton Village Rd	Campton
342B/67-1	Campton Village Rd	Campton
5/1	Deerfield Rd	Candia
15/7	High St	Candia
3344/1	Off Route 3	Carroll
101/104	Franklin Pierce Hwy	Chesterfield
395/6	Eastman Rd	Conway
399/20Y	Back Road	Dover
1/137	Central Ave	Dover
5/81	County Farm Rd	Dover
399/49A	Dover Point Rd	Dover
399/49	Dover Point Rd	Dover
1/307	Dover Point Rd	Dover
399/20	McKone Lane	Dover
709/146	Oak St	Dover
45/24	Charles Street	Farmington
7/10	Richmond Rd	Fitzwilliam
11/26	Route 119	Fitzwilliam
6/14	Tibbets Hill Rd	Goffstown
57F/1	Draper Rd	Graham
5X/180	Fairway Drive	Graham
5XA/1	Greensward Drive	Graham
5X/182	Greensward Drive	Graham
57/Y	Route 10	Graham
3105/3	ROW	Greenland
231/5	Temple Street	Greenville
1/15	Willard Hill Rd	Harrisville
200/6	Willard Hill Rd	Harrisville
3/13X	Dartmouth Coll Hwy	Haverhill
9/21	Off Central St (Rt 302)	Haverhill
3/8	Off Dartmouth Coll Hwy	Haverhill
15/37Y	Flanders Road	Henniker
199/97Y	Chesterfield Rd	Hinsdale
199/5	Chestnut Hill SS to Rte 63	Hinsdale
3178X3/1	Old Chesterfield Road	Hinsdale
155/11	Main St	Hooksett
40N/34	W. River Rd	Hooksett
1/86	Hopkinton Rd	Hopkinton
61A/14Y	Central St	Hudson
190/1	Kimball Hill Rd	Hudson
236/1	Kimball Hill Rd	Hudson
192/4Y	Court Street	Keene
183/1Y	Court Street	Keene
3/142	Old Concord Road	Keene
111/5	Page Street	Keene
548/1X	Summit Road	Keene
114/26	Washington St	Keene
497/2	West Street	Keene
486/3	West Street	Keene
164/1	West Surry Rd (12A)	Keene
292/1Y	Wilson St	Keene
201/Y	Bergin Ter	Lisbon
250/Z	School St	Lisbon
2/31	near Wood Hawk	Litchfield
2/46	Nesenkeag	Litchfield
73/01Y	Industrial Dr	Londonderry
77/1	Rocky Pond Rd	Loudon
324/44	Brown Ave	Manchester
1288/Y	Countryside Blvd	Manchester
1354/9	Dunbarton Rd	Manchester
1354/Y	Dunbarton Rd	Manchester
46/108	Hanover St	Manchester
324/42	Hazelton Ave	Manchester

333/417Y:E:MAIN:ST::CONWAY:NH	9C820073	324/43A	Hazelton Ave	Manchester	9Y820781
333/473X::HEATH:RD::CONWAY:NH	9C820074	92/38	Kelley St	Manchester	9Z920357
333/477Y::HEATH:RD::CONWAY:NH	9C820075	34/42	Massabesic St	Manchester	9Y820929
50/1X::EASTMAN:RD::CONWAY:NH	9C820076	31/30	Taylor St	Manchester	9Y820927
344/101::DANIEL WEBSTER:HWY::MEREDITH:NH	9L820205	3/11X	Baboosic Lake Rd	Merrimack	9Z920163
338/208::STRAITS:RD::NEW HAMPTON:NH	9L820207	48/27	Kings Highway	Middleton	9S721178
344/103::DANIEL WEBSTER:HWY::MEREDITH:NH	9L820206	585B/9	Hills Ferry Rd	Nashua	9N820691
347/216-2::QUINT:ST::CONWAY:NH	9C820077	659/34	Kinsley St	Nashua	9N920463
348/184Y::CHERRY VALLEY:RD::BETHLEHEM:NH	9A820087	1264/110	Walnut St	Nashua	9N821079
348/184A::CHERRY VALLEY:RD::BETHLEHEM:NH	9A820088	463/106	Route 11	New Durham	9S920523
3310/1::WHITEFIELD:RD::BETHLEHEM:NH	9A820089	17/5	Main Street	New Ipswich	9K822054
3521/17::COMMUNITY:ST::BERLIN:NH	9B820032	19/19	Exeter Rd	North Hampton	9P820654
434/87:E:MILAN:RD::BERLIN:NH	9B820033	42/21	Granite St	Peterborough	9K822036
3525X/48A-2::JERICHO:RD::BERLIN:NH	9B820034	46/1	Sand Hill Road	Peterborough	9K822056
1/4::RIVERSIDE:DR::BERLIN:NH	9B820007	3171/Y-1	Ocean Road	Portsmouth	9P820444
4/2A::BRIDGE:ST::MILAN:NH	9B820035	3112/77	Ocean Road	Portsmouth	9P820444
1/157::MILAN:RD::MILAN:NH	9B820036	145/125	Rte 1	Portsmouth	9P820580
353/94Y::DIESEL:RD::NASHUA:NH	9N820141	144/3	Wentworth Road	Portsmouth	9P920188
355/682-2::FORT HILL:RD::STEWARTSTOWN:NH	9A820090	15/34	WhiteHall Road	Rochester	9S721052
355/554::TRPR LESLIE LORD:HWY::COLEBROOK:NH	9A820092	3105/28Y	West Rye Station	Rye	9P820656
355/246::DL 355X::STRATFORD:NH	9A820076	81/2Y	West Rye Station	Rye	9P820657
355/278Y::DL 355X::STRATFORD:NH	9A820078	3105/30Y	West Rye Station	Rye	9P820658
355/352::DL 355X::COLUMBIA:NH	9A820083	7/99	Blackwater Rd	Somersworth	9S720996
355/408Y::DL 355X::COLUMBIA:NH	9A820077	1/33	Main St	Somersworth	9S920385
355/121::DL 355X::STRATFORD:NH	9A820075	376/1	Carlton Road	Swanzy	9K822053
355/683Y::US ROUTE 3::STEWARTSTOWN:NH	9A820084	383/35	Monadnock Hwy	Swanzy	9K820547
3/14::US ROUTE 3::STEWARTSTOWN:NH	9A820085	25/13	South Winchester Street	Swanzy	9K822070
3/15::US ROUTE 3::STEWARTSTOWN:NH	9A820086	3235/1Y	Monadnock Street	Troy	R15WDA01
29/144::LONDONDERRY:TPKE::HOOKSETT:NH	9Y820036	80/97Y	Stark Hwy	Weare	9Z920139
15/9::WHITEHALL:RD::HOOKSETT:NH	9Y820037	62/44Y	Richmond Road	Winchester	9K822052
8/224::MAMMOTH:RD::HOOKSETT:NH	9Y820038	4/136	Lowell Rd.	Windham	9D920440
15/13Y::WHITEHALL:RD::HOOKSETT:NH	9Y820057				
15/145::HIGH:ST::CANDIA:NH	9Y820058				
29/142::LONDONDERRY:TPKE::HOOKSETT:NH	9Y820060				
8/171::MAMMOTH:RD::HOOKSETT:NH	9Y820085				
362/186::FARMINGTON:RD::ROCHESTER:NH	9S820086				
::MESSER:ST::LACONIA:NH	A18VRP02				
3750/2Y::STAR:DR::MERRIMACK:NH	9N820140				
870/17AX::CONCORD:RD::LEE:NH	9E820070				
382/YX::DL 382::TROY:NH	9K820125				
11/3Y::WEBSTER:ST::JAFFREY:NH	9K820182				
392/8Y::WALNUT:ST::ROCHESTER:NH	9S820087				
392/6Y::SPAULDING:TPKE::ROCHESTER:NH	9S820097				
392/53Z::OAK:ST::ROCHESTER:NH	9S820096				
392/56::OAK:ST::ROCHESTER:NH	9S820095				
614/31Z::FLAGG:RD::ROCHESTER:NH	9S820098				
50/27::WALNUT:ST::ROCHESTER:NH	9S820094				
5/43X::WASHINGTON:ST::ROCHESTER:NH	9S820099				
613/1::CALEF:HWY::ROCHESTER:NH	9S820100				
393/58::WILLIAM LOEB:DR::MANCHESTER:NH	9Y820063				
130/5::LAFAYETTE:DR::FRANCONIA:NH	9A820081				
300/58::DEPOT POND:RD::MILTON:NH	9S820104				
300/175::WHITE MOUNTAIN:HWY::MILTON:NH	9S820106				
3174/96X::HENRY WILSON:HWY::FARMINGTON:NH	9S820107				
3174/108X::SPRING:ST::FARMINGTON:NH	9S820108				
18/16Y::DERRY:RD::LITCHFIELD:NH	9N820055				
3223/35:W:HOLLIS:ST::NASHUA:NH	9N820120				
386/11::FIELDSTONE:LN::ROCHESTER:NH	9S820109				
327/28::PIERCE:RD::BARRINGTON:NH	9S820113				
INSIDED S/S::ROUTE 104::BRISTOL	A18VRP01				
352/90-2::DL 352::BERLIN:NH	9B820031				
VCR 115, Somersworth, Somersworth SS	A18VRP03				
Keene, Rte 10, P# 29/2Y, 76W7R5	9K820351				
VCR TB9, Somersworth, Somersworth SS	A18VRP03				
20W2 S/S	A18VRP01				
Loudon, Rte 106, P# 63/13, 31W1	9L820281				
20W1 S/S	A18VRP01				
VCR 44H1 S/S need mobile	A18VRP04				
68W6 S/S	A18VRP02				
Keene, Rte 9, P# 3/54Y, 76W7R7	9K820352				
VCR 122, Somersworth, Somersworth SS	A18VRP03				
Jaffrey, Lehtinen Rd, P# 313/401Y, 313J15	9K820357				

Peterborough, Pheasant Rd, P# 100/68-6, 313X1A-(N3023 PV)	9K820360
Greenland, Winnicutt Rd, P# 14/29Y, 3191X3	9P820123
Greenland, Portsmouth Ave, (Rte 33), P# 1/123Y, 3191X3A	9P820122
Newfields, Great Bay Cmp Grnd, P# 3229/78, 3229J9	9E820241
Bedford, Moores Crossing, P# 323/15, 323J01	9Z820533
Derry, Crystal Ave, 34/30Y, 32W2R1	9D820178
Derry, Crystal Ave, 34/3X, 32W3R1	9D820179
Derry, South Main St, P# 22/3, 32W5R1	9D820180
Jaffrey, Main St, P# 382/169, 382J4	9K820361
Jaffrey, Highland Ave, P# 115/4, 382X2	9K820347
Jaffrey, Main St, P# 102A/2, 382X3	9K820348
Groveton, Brooklyn St, P# 384/15-2, 384X1	9A820130
Rochester, Walnut St, (Rte 202A), P# 50/91, 392X1A	9S820376
59W2 S/S	A18VRP06
Keene, Court St, P# 192/92, 76W1	9K820354
Keene, Court St, P# W13/58Y, 76W7	9K820632
Keene, Court St, P# 192/93, 76W7	9K820633
Windham, Mammoth Rd, Pole # 3/9, 3133X	9D820442
Londonderry, High Range Rd, P# 11/112, 3128X	9D820443

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 19-057

Date Request Received: 10/28/2019

Date of Response: 11/15/2019

Request No. TS 2-056

Page 1 of 2

Request from: New Hampshire Public Utilities Commission Staff

Witness: Erica L. Menard, Joseph A. Purington, Lee G. Lajoie

Request:

Re: Viper Replacement Project, #A18VRP, 12-045BA. Please provide the following information for this project:

- a. Please reiterate in writing the reasons discussed at the tech session of 10/29 for the purchase of the replacement Nova reclosers as opposed to utilizing manufacturer refurbishing of the Vipers under warranty/recall. Did the warranty include the costs of labor to both remove and reinstall?
- b. Please confirm the unit price of the Nova and Viper reclosers (\$40,000 and 35,000?).
- c. Please confirm the turnaround time for manufacturer refurbishment of the defective Vipers and the maximum amount of reclosers per shipment if applicable.
- d. Was bypassing or removal from service (taps lifted and equipment jumped out) considered as an option while waiting for individual Vipers to be refurbished and returned by the manufacturer if worker safety was an issue? If no, why not? If not, why not?
- e. At the technical session of 10/29, Eversource stated that the costs of the replacement Nova reclosers were offset by the return, and eventual re-deployment, of the refurbished Vipers.
 - i. How many Vipers were sent in for refurbishment and how many of those have been re-deployed in the field?
 - ii. Provide the locations and applicable work orders for those refurbished Viper recloser units reinstalled in the field.
 - iii. Provide the locations and applicable work orders for those Nova reclosers that were placed in the field as replacements for the Viper reclosers.
 - iv. Provide a detailed accounting showing the amounts of labor offset provided by the manufacturer, capital install, capital removal, and maintenance costs for both the Nova reclosers and the Viper reclosers; and a narrative explanation of the offset.

Response:

- a) It was imperative to the Company and its customers to remove the known defective Vipers from the distribution system in an expeditious manner. The failing Viper reclosers were causing a significant negative impact to reliability and the violent nature of the failures made the units a safety hazard to the Company's employees and members of the public. As stated previously, pole top distribution automation devices are installed to break large blocks of customers into smaller blocks so a Viper failure resulted in an outage to customers on both sides of the unit. Viper reclosers were shipped back to the manufacturer, refurbished, and then shipped back to the Company. Round trip this took approximately five weeks. Since the Company planned to continue with pole top distribution automation and Vipers had proven unreliable (this was the second manufacturing defect although the first was limited to less than two dozen units) the decision was made to transition to Cooper Nova reclosers and S&C Scadamate switches going

forward. The defective Viper reclosers were replaced with refurbished Vipers, Nova reclosers, and Scadamate switches, depending on the availability of devices and the application (switch versus recloser). 165 defective Viper reclosers were replaced with refurbished Viper reclosers. 97 defective Viper reclosers were replaced with either a Nova recloser or a Scadamate switch.

- b) Material cost of a Viper recloser was approximately \$23,500 when last purchased. Material cost for a Nova recloser is approximately \$31,600.
- c) Turnaround time for refurbishing Viper reclosers was approximately five weeks.
- d) Units were bypassed and taps removed, however doing so left the Company's distribution system in a more vulnerable state as sectionalization/protection points and SCADA control were eliminated by leaving the devices in this state until replaced. For this reason the defective Viper reclosers were replaced as expeditiously as possible.
- e)
 - i: 262 Vipers were sent in for refurbishment and all have been re-deployed in the field.
 - ii & iii. See Attachment TS 2-056.
 - iv Negotiations with G&W resulted in an agreement for G&W to pay Eversource \$3,300 for labor to install and remove 291 units which were manufactured in 2014-2015 and which therefore had the manufacturing defect for a total of \$960,300. This was partially offset by materials (reclosers) supplied by G&W at no cost totalling \$779,179. The difference, \$181,121 is to be paid by G&W to Eversource and is expected by the end of November 2019.

Minutes
09-12-2018 Meeting

Project Approvals

22. A14S08 – Garvin’s Rebuild Project – T. Brown / P. Pinault – APPROVED FOR \$5,484,485 WITH COMMENTS
- Justification for Additional Resources section – first bullet, battery addition is identified as “Out of Scope” yet original PAF scope identifies moving the 125VDC batteries to a prefabricated building due to space limitations. Clarification in Supplement need as to whether this was truly out of scope or under scoped; first bullet, Battery addition section, sixth line, change “management” to “it was”; third bullet, Engineering section, second line states “At that time, the scope included extending the Distribution yard and constructing a new control house in the same yard.” Correct/resolve this statement in supplement since the original PAF does not include or state this; third bullet, Engineering section, fifth line, change “management” to “it was”, remove “grossly”; sixth bullet “Contingency & Escalation”, remove table.
 - Actions to Prevent Recurrence section – third paragraph, remove last sentence.

Attendance

EPAC Role	Required Members	In-Person	Phone	Voting Designee
Co-Chair	George Wegh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ray Gagnon
Co-Chair	John Dipaola-Tromba	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
EPAC Administrator	Farah Omokaro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Projects	Tim Revellese	<input type="checkbox"/>	<input type="checkbox"/>	Joe Mayall
	Alexis Ané	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Project Controls	Raymond Gagnon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Engineering	James Eilenberger	<input type="checkbox"/>	<input type="checkbox"/>	
	John Case	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	John Zicko	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Robert Andrew	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Rod Kalbfleisch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Swapan Dey	<input type="checkbox"/>	<input type="checkbox"/>	
Siting & Compliance	Robert Clarke	<input type="checkbox"/>	<input type="checkbox"/>	Kate Shanley
Investment Planning	Leanne Landry	<input type="checkbox"/>	<input type="checkbox"/>	Peter Neidhardt
Integrated Planning & Scheduling	Diana Mahoney	<input type="checkbox"/>	<input type="checkbox"/>	
Compliance	Vicki O'Leary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Transmission /System Ops	Barry R. Bruun	<input type="checkbox"/>	<input type="checkbox"/>	
	Brian Dickie	<input type="checkbox"/>	<input type="checkbox"/>	
Field Ops & Field Engineering	Anthony A. Anzalone	<input type="checkbox"/>	<input type="checkbox"/>	
	Rob Bouthiller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Wayne Gagnon	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Marc Geaumont	<input type="checkbox"/>	<input type="checkbox"/>	
	Mark Blanchard	<input type="checkbox"/>	<input type="checkbox"/>	
	Saurabh Sahni	<input type="checkbox"/>	<input type="checkbox"/>	

EPAC Role	Required Attendees	In-Person	Phone
Siting	Kate Shanley	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Siting & Construction Services	Michelle Gallicchio	<input type="checkbox"/>	<input type="checkbox"/>
Licensing & Permitting	Mark Gardella	<input type="checkbox"/>	<input type="checkbox"/>
Procurement	Craig Dikeman	<input type="checkbox"/>	<input type="checkbox"/>
	Fran O'Keefe	<input type="checkbox"/>	<input type="checkbox"/>
Substation Engineering	Daniel Foley	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Paul Melzen	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Thelma Brown	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Protection & Controls	Dennis Western	<input type="checkbox"/>	<input type="checkbox"/>
	John Babu	<input type="checkbox"/>	<input type="checkbox"/>
	Stuart Hollis	<input type="checkbox"/>	<input type="checkbox"/>
T Line & Civil Engineering	Chris Soderman	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Mohsen Sahirad	<input type="checkbox"/>	<input type="checkbox"/>
	Jim Bodkin	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Jamil Abdullah	<input type="checkbox"/>	<input type="checkbox"/>
	Donald Dibuono	<input type="checkbox"/>	<input type="checkbox"/>
Transmission Capital Program	Glenn Herman	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Budget & Investment	Peter Neidhardt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Outage & Ops Planning	Oswaldo Ortega	<input type="checkbox"/>	<input type="checkbox"/>
	David Cloutier	<input type="checkbox"/>	<input type="checkbox"/>
Standards	Jen Hebsch	<input type="checkbox"/>	<input type="checkbox"/>

Eversource Project Funding Authorization Process Summary

Eversource's Project Management process follows several processes and procedures based on the widely accepted Project Management Institute's ("PMI") best practice Project Management Body of Knowledge ("PMBok"). This process utilizes the five phases of Project Management which are:

1. Initiate
2. Plan
3. Executing
4. Controlling
5. Closing

During each of these phases, project funding authorizations may be requested as the scope is identified and refined. As such, there are several types of estimates used by Eversource depending upon the stage of a capital project.

- Order of Magnitude Cost Estimate – these are used as a placeholder for evaluating alternatives and identifying preferred solutions for capital projects. This type of estimate is used early within the initiation phase of the project in which high level cost comparisons of alternative projects are needed. These estimates have an accuracy range of -50% and +200%.
- Conceptual Cost Estimate – these are used for budget purposes for capital projects. This type of estimate is used in the initial engineering phase of the project (in preparation for Eversource Project Approval Committee "EPAC" authorization). This estimate will be completed to assist the Solution Design Committee in determining the preferred alternative. These estimates have an accuracy range of - 25% and +50%.
- Planning Cost Estimates – are used to detail the cost of a project used in the planning phase of the project. These estimates are usually +/-25%.
- Engineering Cost Estimate – these are used to detail the cost of a project used in the approval and construction phase of the project. This estimate is used when at least 70-90% of the engineering is complete. Often times the pricing of major materials is known at this stage of a project. These estimates have an accuracy range of -10% to +10%.
- Construction Cost Estimate – Used to detail the cost of a project used in construction phase of the project. Service contracts for construction, testing and commissioning are generally in place at this stage. These estimates have an accuracy range of -10% to +10%.
- Actual Final Cost – actual costs incurred at project completion (after closeout).

The need for revised project funding authorization is part of the process throughout the project lifecycle. Below are a few examples of funding requests during the project lifecycle.

Initiate

Initiating a new project within Eversource typically involves the communication of a need from System Planning (load driven, compliance with standards, etc.) or Asset Management (aging infrastructure, equipment obsolescence, etc.). Initially, there may be several potential solutions to

address a need and conceptual engineering may be required to develop these options to a point where the alternatives can be evaluated. As part of the process in this stage, a site visit is conducted with high level stakeholders to begin to prepare conceptual plans/drawings to obtain approval for the project. Initial cost estimates are also developed to include preliminary engineering and the initial project planning cost. Consider this “seed” money to get the correct resources in place to begin the Planning Phase of the project. This would include consideration for hiring external resources if Eversource resources cannot handle the work load.

Once a preferred solution is selected, further conceptual engineering and analysis may be required to identify certain project specific risks e.g. likelihood of encountering subsurface ledge or other obstructions during excavation, contaminated soils, etc. At each stage of project development, additional detail is defined, risks are uncovered and where appropriate, mitigated. In parallel with the solution definition, the project’s estimated cost is developed and refined to a greater level of accuracy. During conceptual engineering, additional funding approval may be required to assess alternatives and, in some cases, approve physical work, for example soil borings, test pits and soil analysis. This is required to develop the preferred solution to a point where full project funding approval can be requested. Once a preferred solution is identified, Eversource’s Solution Design Committee evaluates the proposed solution against the viable alternatives and where appropriate recommends moving forward with project funding approval through EPAC. In other cases, the SDC may request additional work to develop other alternatives or refine the preferred alternative prior to approval.

A Project Authorization Form (PAF) is generated at this stage to obtain project approval from upper Management. The PAF includes an Executive Summary, Project Description, Overall Justification along with Alternatives Considered and a Preliminary Cost Estimate. The Cost Estimate is generated using recent completed projects with a similar scope. It also assumes pricing for known materials and service cost.

Plan

Once project approval is obtained, the Planning Stage begins. The outcome of this stage is to prepare a guide through which the project travels. During this stage, several stake holders, including Eversource Engineering, conduct a site visit to begin developing the detailed scope document for the project. Among other things, the scope document is used to prepare bid documents for outsourcing engineering (or as a road map for internal engineering) as well as additional services as may be required. The contractors that are chosen for Request for Proposals (RFP) are selected by the project team and Eversource Procurement Department considering past experience and cost and schedule track records. When the proposals are received, they are reviewed by several members of the project team, including Eversource Engineering and the Procurement Department. Depending on the complexity of the project, the proposals can vary greatly from the Preliminary Cost Estimates provided in the PAF. Once the engineering resource is selected, 30% design packages are generated and used to obtain RFP’s for major materials, Lead Commissioning Engineer (LCE) and several other contractors as needed. During engineering, many unknowns begin to come to light and resource requirements are better understood which assist in the RFPs.

Historically, full project funding approval was provided based on the conceptual or planning cost estimate, but in recent years Eversource has transitioned to a staged project sanctioning approach with initial funding provided to develop the detailed engineering and risk mitigation. Once the scope is known in detail, full funding approval is requested which allows for the purchase of engineered equipment with long lead times and the placing of contracts for construction, testing and commissioning, etc. This stage-gate approval approach creates more certainty over actual final cost because the engineering is completed and firm pricing for major materials and when appropriate construction, test and commissioning is available.

Even with the staged approval process, during project execution it is not unusual for unforeseen issues to materialize. These issues include finding buried objects not identified on drawings, changes to approach based on feedback from local stakeholders, storms, equipment failures, emergent outage constraints, etc. To respond appropriately, the Project Manager may need to commit additional resources, identify alternative ways of working, etc. These deviations from the original scope can also affect the project cost estimate.

After receipt of all proposals, the known project costs are compared to the authorized full funding project estimate. If the pricing is in line with the full funding authorization, no requests are made for additional funding. However, if the cost exceeds the initial estimate, a Supplemental Request Form (SRF) may be required for supplementary funding. In circumstances where the project direct costs are forecast to exceed the authorized direct funding by 10% or more, Eversource's project controls require the Project Manager to request supplemental project approval by returning to EPAC and explaining the need for additional project resources be that additional internal labor, outside services, or materials.

When the planning is well underway, and the requested contracts are implemented, the Executing phase begins. During this phase, the work that was planned is carried out. In the early part of this stage, environmental testing is conducted to determine if there are any environmental hazards that need to be remediated. This is normally added as a risk in the PAF or SRF and a dollar value is applied. However, there are some instances where the amount of remediation is much more extensive than anticipated and the costs are much higher than identified as part of the risk. This may also be the case when civil and electrical construction is underway, and unknowns arise. Another submission of the SRF may be needed to capture these costs as well.

Execute/Control

During the Executing Phase, the cost & schedule controls are put in place as part of the Controlling Phase. Weekly Project Meetings are held to discuss the construction progress and the remaining work to be done. From time to time, the weather, as well as storm related outages, can cause schedule delays. The outcomes of these delays can result in change orders from the contractor to cover additional time/resources needed to complete the projects. These change orders are reviewed by the project team to negotiate pricing and confirm that the request is indeed out of scope. Monthly cost meetings are also conducted which include the Eversource Project Management and Upper Management teams. During these cost meetings, the cost controls are discussed, reviewed and recommended corrective actions are implemented as needed. If, at any

time during the Executing Phase, the cumulative effect of project change or contract change orders results in a variance of 10% or greater in direct project cost, then an additional Supplemental Funding Request would be required.

No supplemental request should be required during the Closing Phase.

Indirect Project Costs

All Eversource projects are assessed indirect costs from several overhead categories. These include, but are not limited to:

- Internal labor overheads (employee benefits, etc.)
- Stores (applied to materials ordered through our stock room)
- Engineering and Supervision (E&S)
- Misc. Distribution Expense (MDEC)
- Administrative (AS&E)
- AFUDC (cost of money)

Each of these overheads is assessed at a rate defined by the corporation and is applied to the appropriate category of direct costs charged to the project. These rates vary over time and are adjusted with some frequency.

Indirect costs are included in each type of project estimate and are based upon the rates at that time and the categories of direct costs anticipated at that time.

Variations in the value of indirect costs can come from four basic sources:

1. Variation in overhead rate – generally more of an influence on long duration projects
2. Increase (or decrease) in direct project costs – often seen as the project scope becomes more well defined and direct costs are known. This can be the result of increase in project scope or higher than expected contract service costs due to market conditions.
3. Change from internal resources to contracted (external) resources or vice versa – this would impact the internal labor overheads which are significant, but often comes with an increase or decrease to the direct cost for external labor, ie. true cost of internal labor shows up as a direct labor cost and a labor loader, whereas external labor does not get a labor loader (we are billed a “loaded” rate by vendors). Both will be assessed other applicable overheads such as E&S, MDEC and AS&E.
4. Change from owner furnished to contractor furnished materials – contractor furnished materials will not be assessed the Stores overhead, though usually include a contractor markup. Again, not a large overall difference in project cost, but potentially a noticeable variation in indirect costs.

Though variations (increases) in indirect project costs do not drive the need to secure additional project funding for distribution projects, they do contribute to overall project cost and are included in monthly project forecasting and reporting.

The E&S rate tends to be the most volatile and can result in large variations in overall indirect cost.

REDACTED

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 19-057

Date Request Received: 08/13/2019

Request No. OCA 6-097

Request from: Office of Consumer Advocate

Date of Response: 08/28/2019

Page 1 of 1

Witness: Erica L. Menard

Request:

Reference Menard Testimony, Attachment ELM-2 (Perm), Bates 1160, Line 64, describing a rebuild at Garvins substation that resulted the Company booking approximately \$5.3 million to account 362890, distribution station equipment.

- a. Please provide a brief narrative summarizing the project.
- b. Please provide the Project Authorization Form and any planning area studies that were completed for this project.
- c. If the Company conducted any analyses consistent with its TD 190 relating to the feasibility of non-wire alternatives to the transformer upgrade, please provide those analyses. If the Company did not conduct such analyses, please explain why this is the case.
- d. If the Company's justification for not studying the feasibility of non-wire alternatives is based on asset condition or project lead time, please provide documentation supporting those justifications.

Response:

a. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

REDACTED

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 19-057

Date Request Received: 10/28/2019

Date of Response: 11/18/2019

Request No. TS 2-060

Page 1 of 2

Request from: New Hampshire Public Utilities Commission Staff

Witness: Erica L. Menard, Joseph A. Purington, Lee G. Lajoie

Request:

Re: Gavins Substation Rebuild, #A14S08, OCA 6-097 (CONFIDENTIAL). Please provide the following information for this project:

- a. Re: Justification for Additional Resources at pages 3-4: Explain why the initial scoping and design of the project overlooked or failed to consider these cost driving factors. Were the design/scoping engineers interviewed by Management to determine the root cause for these omissions? If not, why not? If yes, what were the results of those discussions? Why was EPS directed by Eversource Engineering to provide additional resources above and beyond what was agreed upon in the PO proposal and what were the unforeseen complications with the protection and control system?
- b. Please provide an itemized break-out of overheads, AFUDC, and other costs leading up to the variance?
- c. Re: Actions to Prevent Recurrence at page 4: Explain why the site was not visited and spec'd out by Eversource engineers during the original scoping and design of the project.
- d. At any time did Project Managers work with project cost analysts to control cost escalation for this project? If not, why not? If yes, what were the results? Given the monthly reports received by Management, was Management actively involved in controlling the cost escalation of this project? If not why not? If yes, were cost controls put into place?

Response:

Clarifications and refinements to the scope and cost estimate in the normal evolution of the project are to be expected and do not constitute "omissions." Eversource Management is informed of such changes in the normal course of monthly project reporting. The preliminary engineering and original estimate did not "fail" to consider these items, nor were the items missed. The engineering and project-cost estimation process is iterative and involves graduated stages of information gathering, assessment, estimation and projections that are refined to a final pre-construction cost based on detailed project plans and detailed cost assessments. The cost estimates derived on the basis of conceptual-level engineering plans and preliminary cost projections are not intended to serve as the basis for final, pre-construction starting points for the project. Therefore, the premise that costs were "overlooked" is false.

- a) [REDACTED]

REDACTED

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

b) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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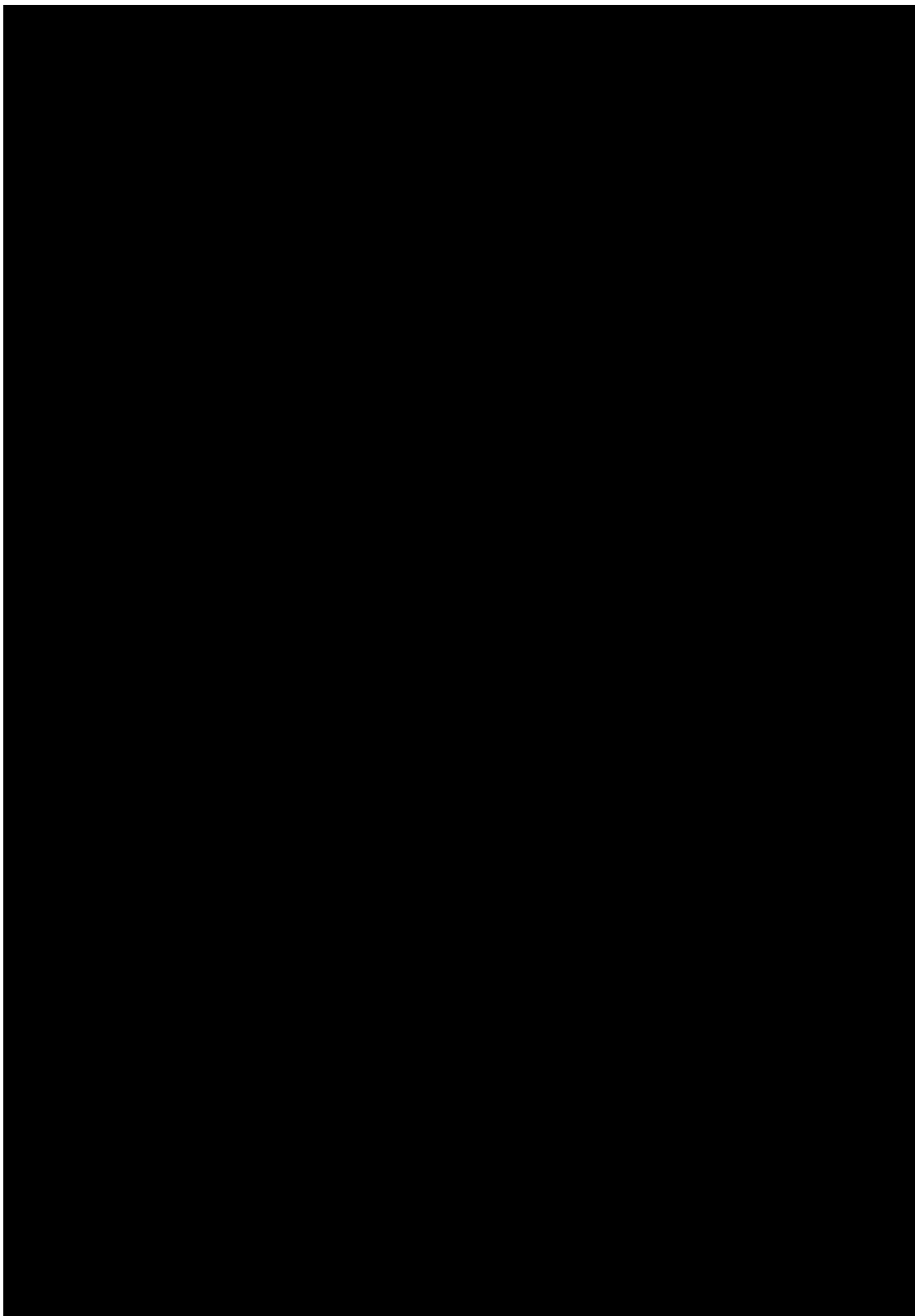
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Dated 8/13/2019

Public Service Co of New Hampshire



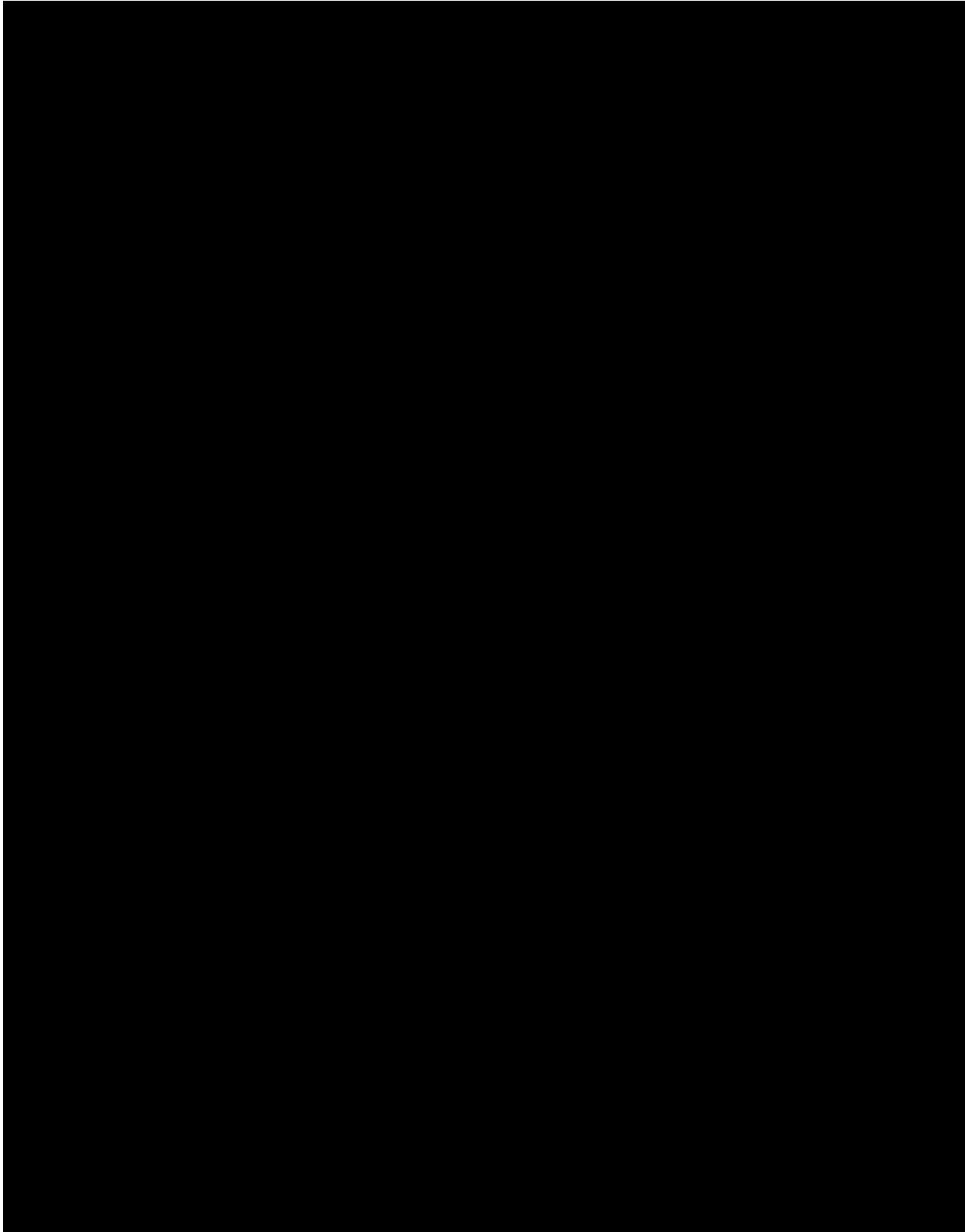
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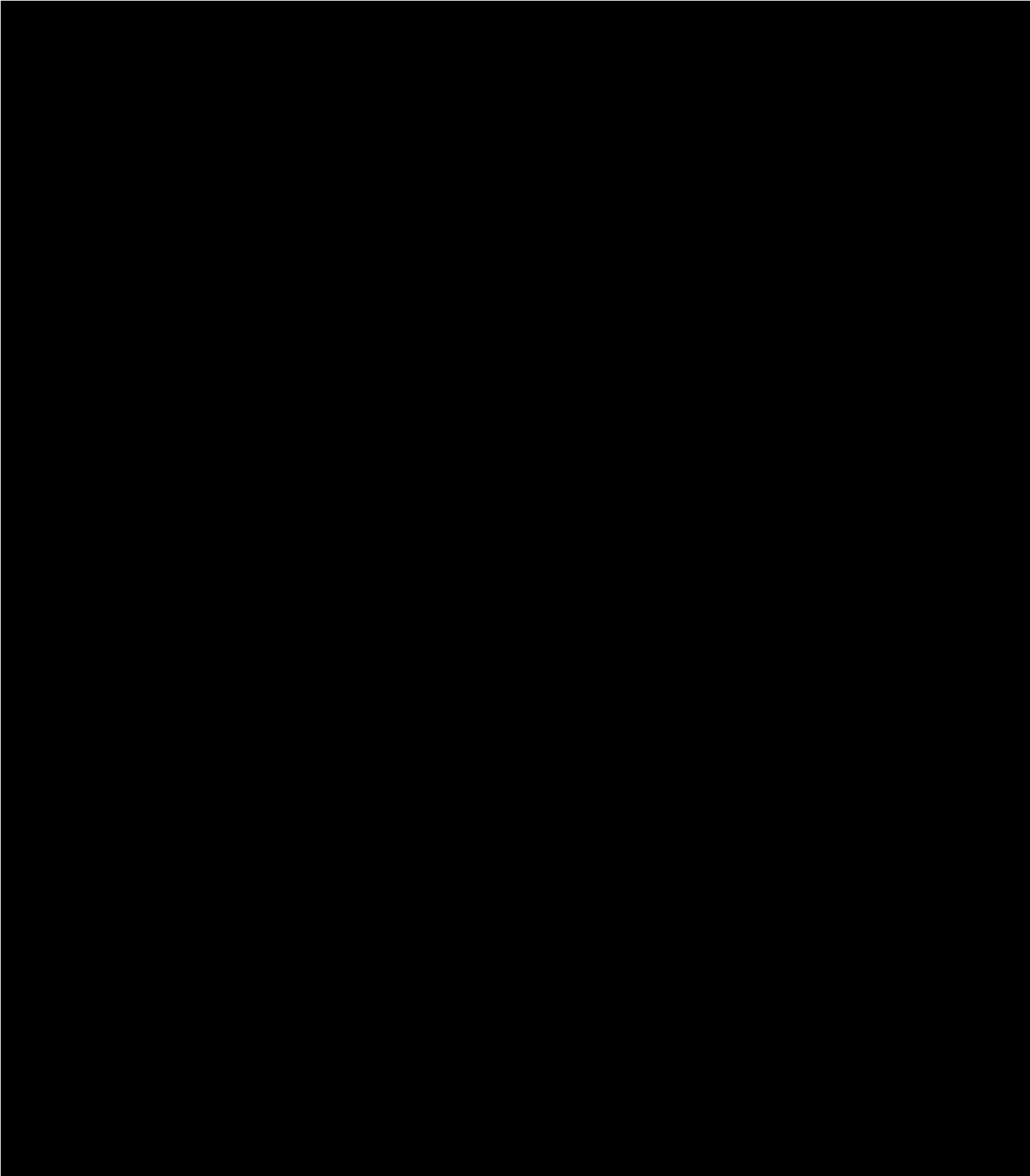
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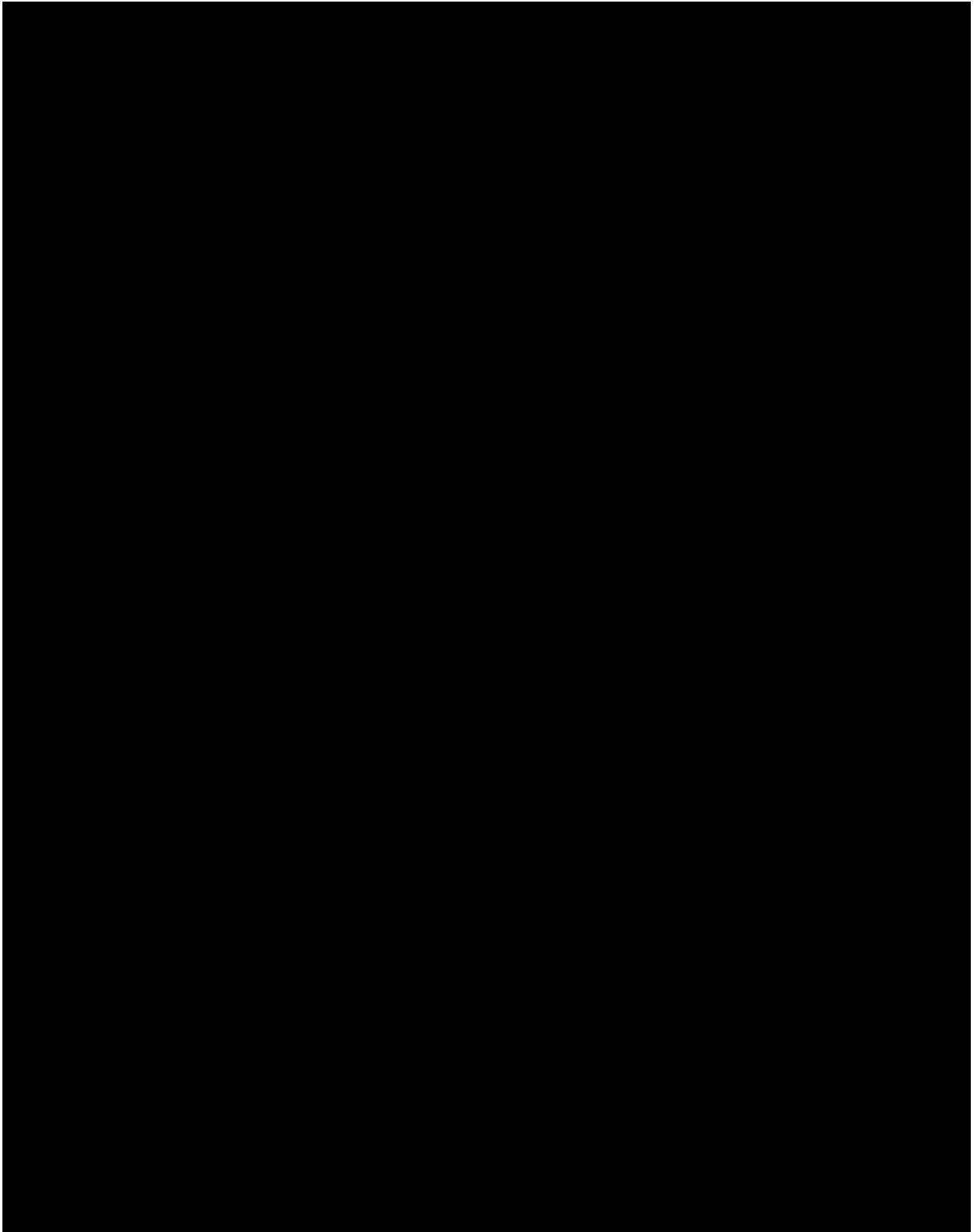
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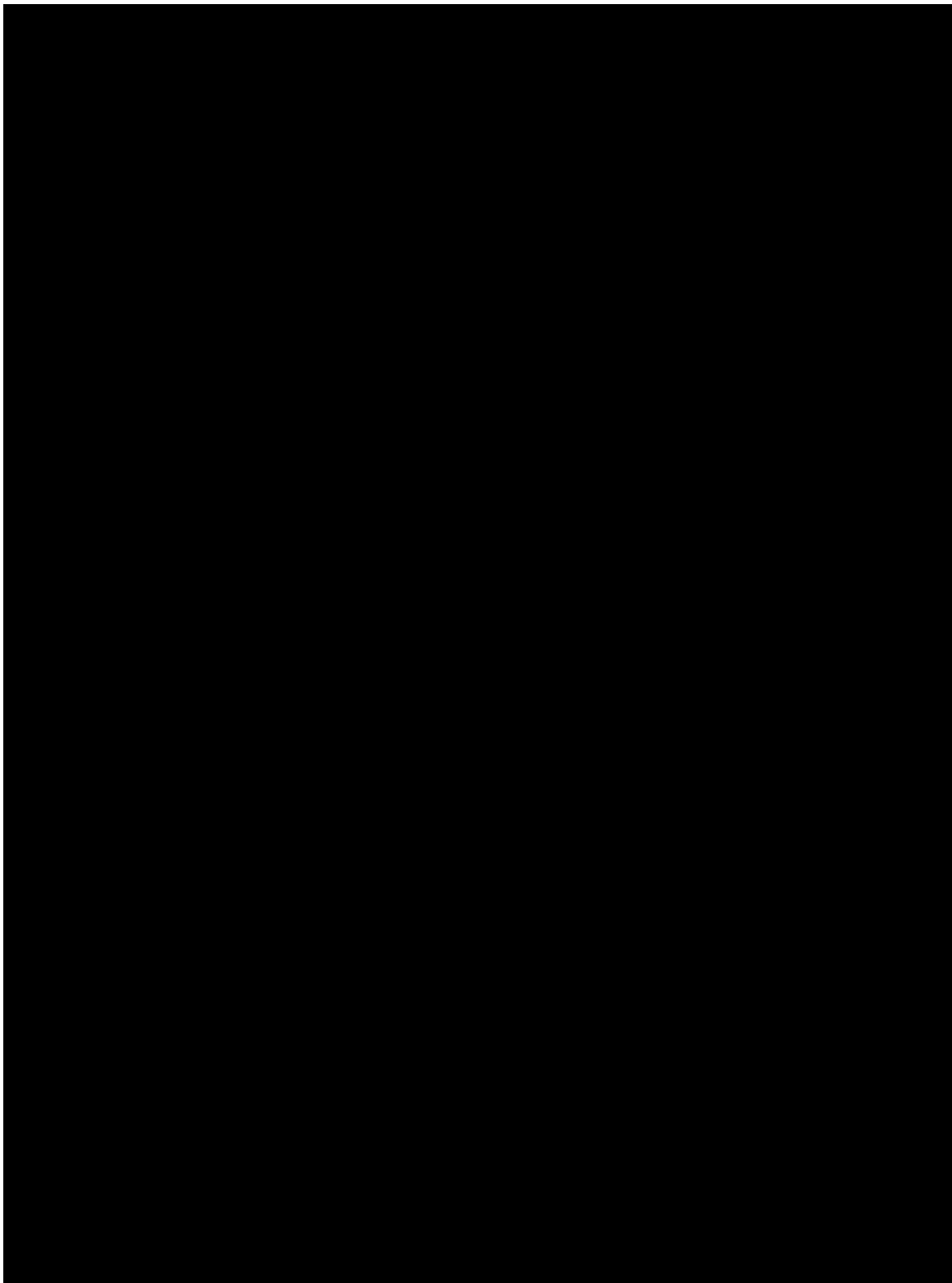
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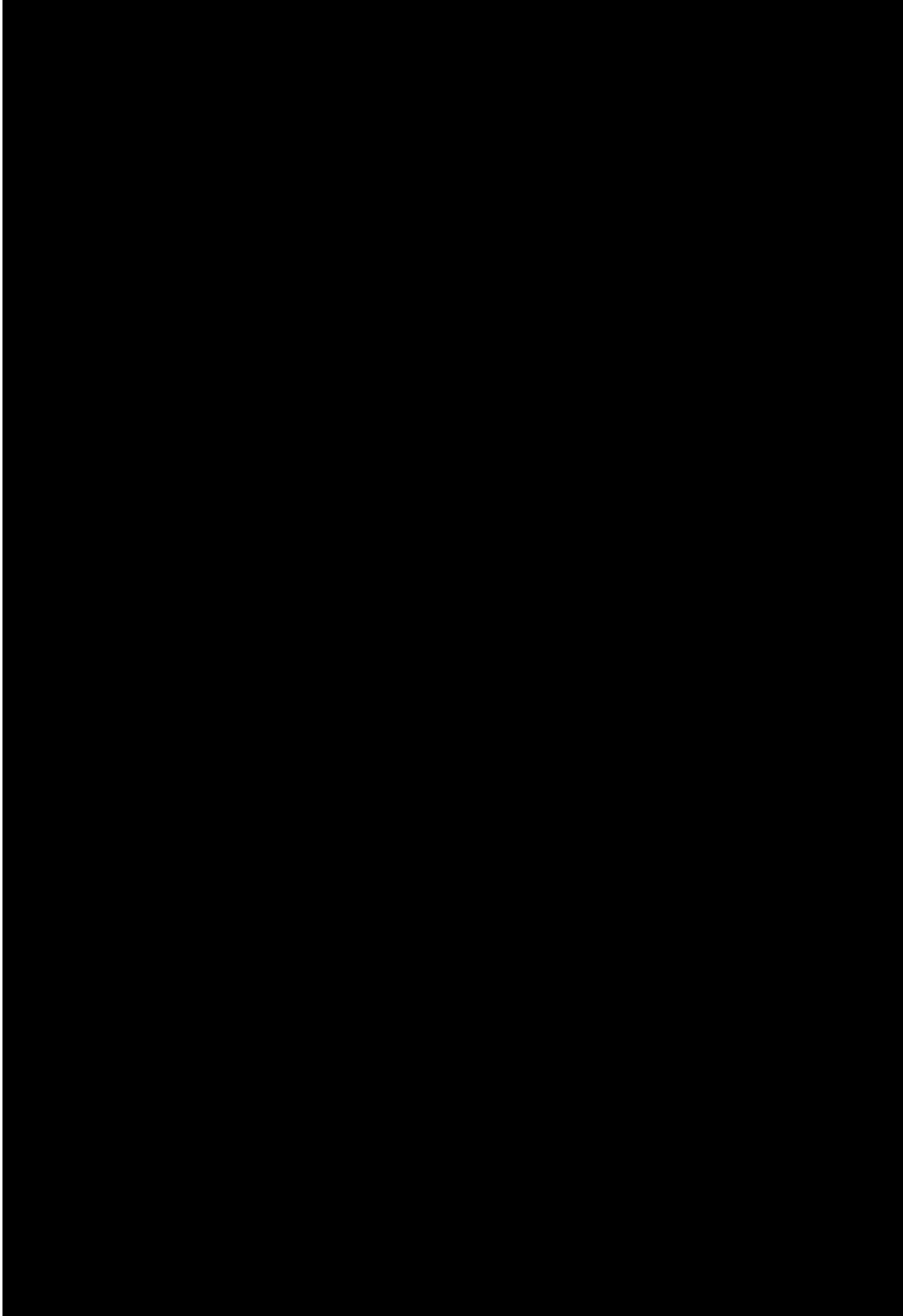
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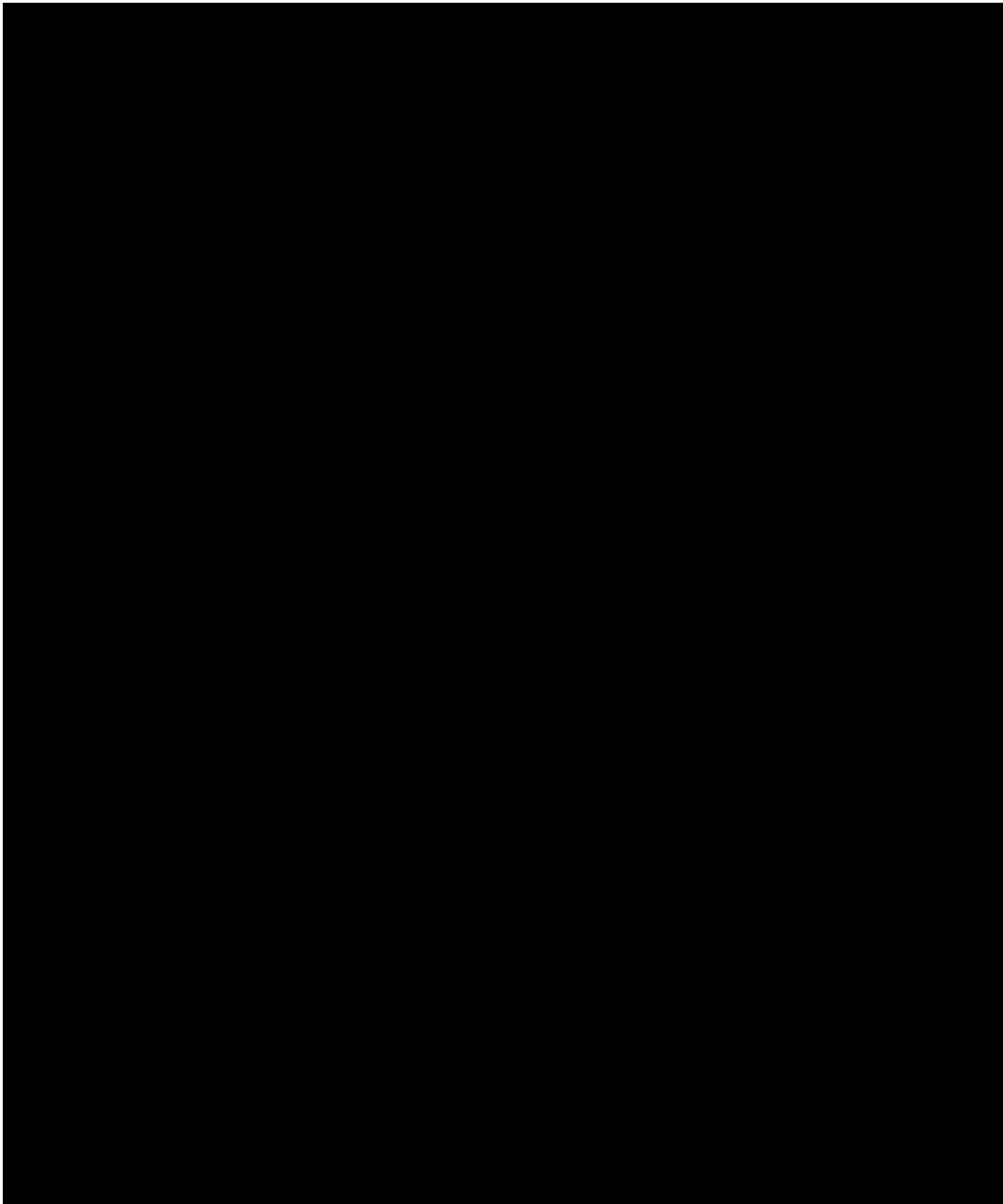
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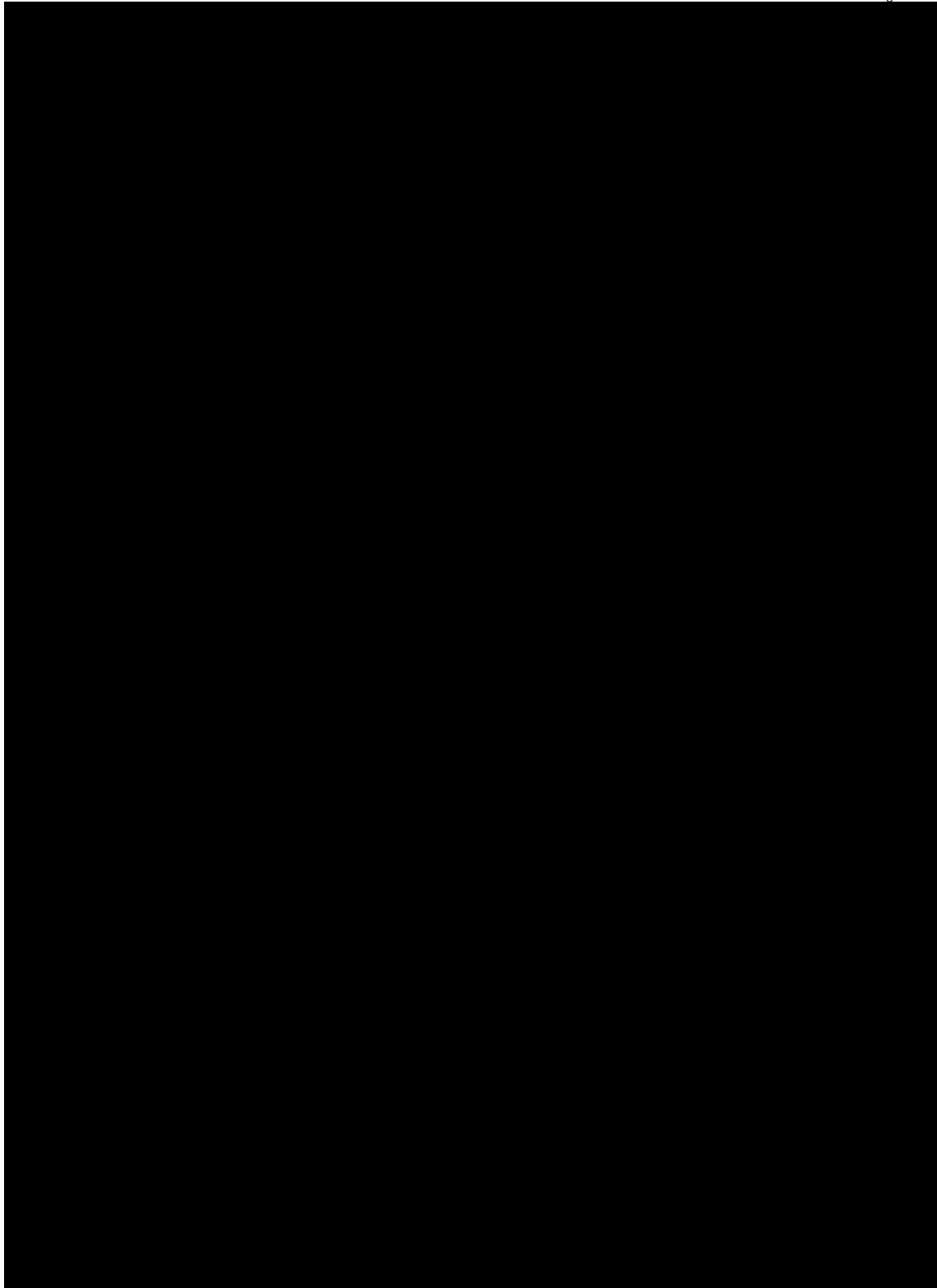
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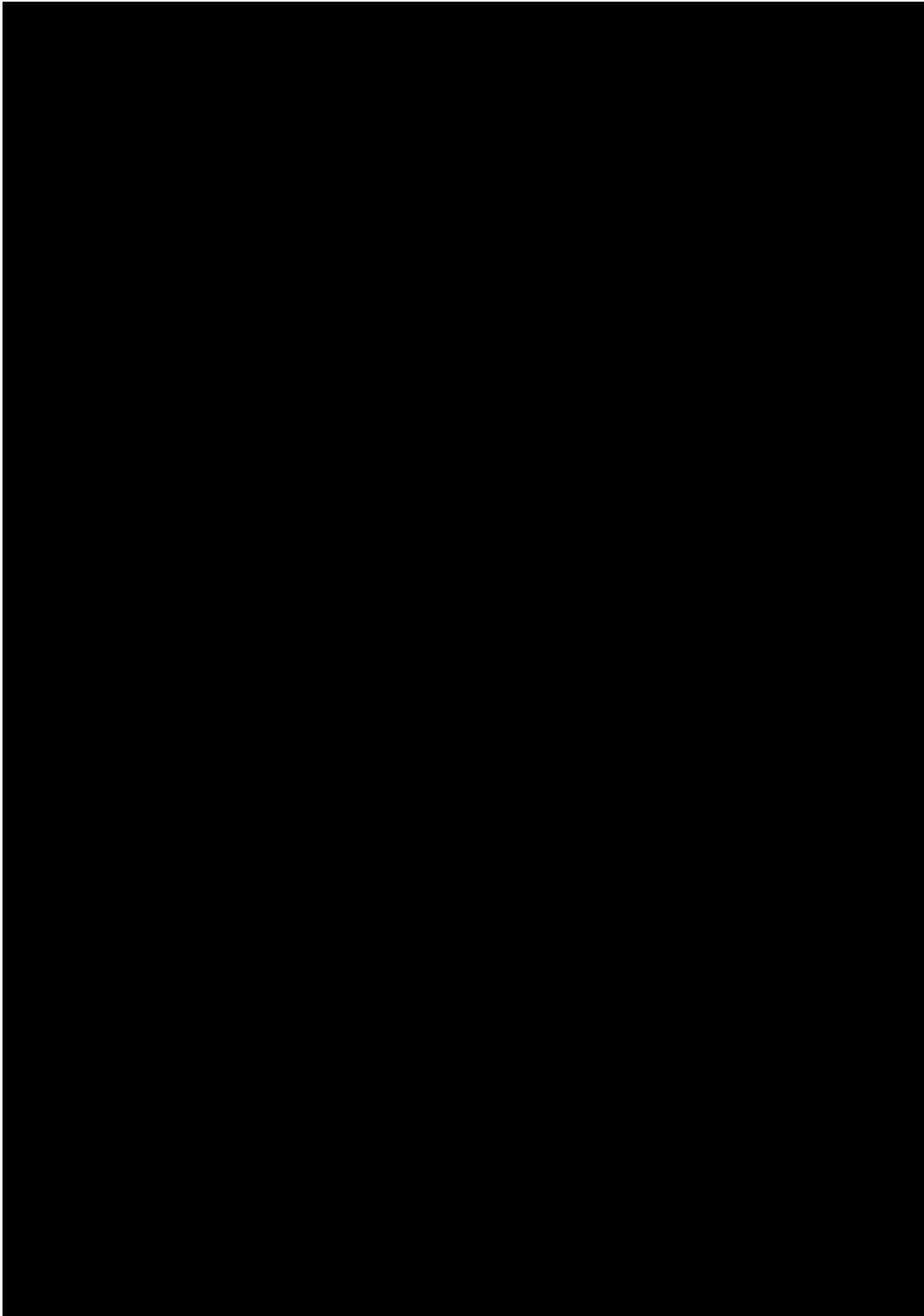
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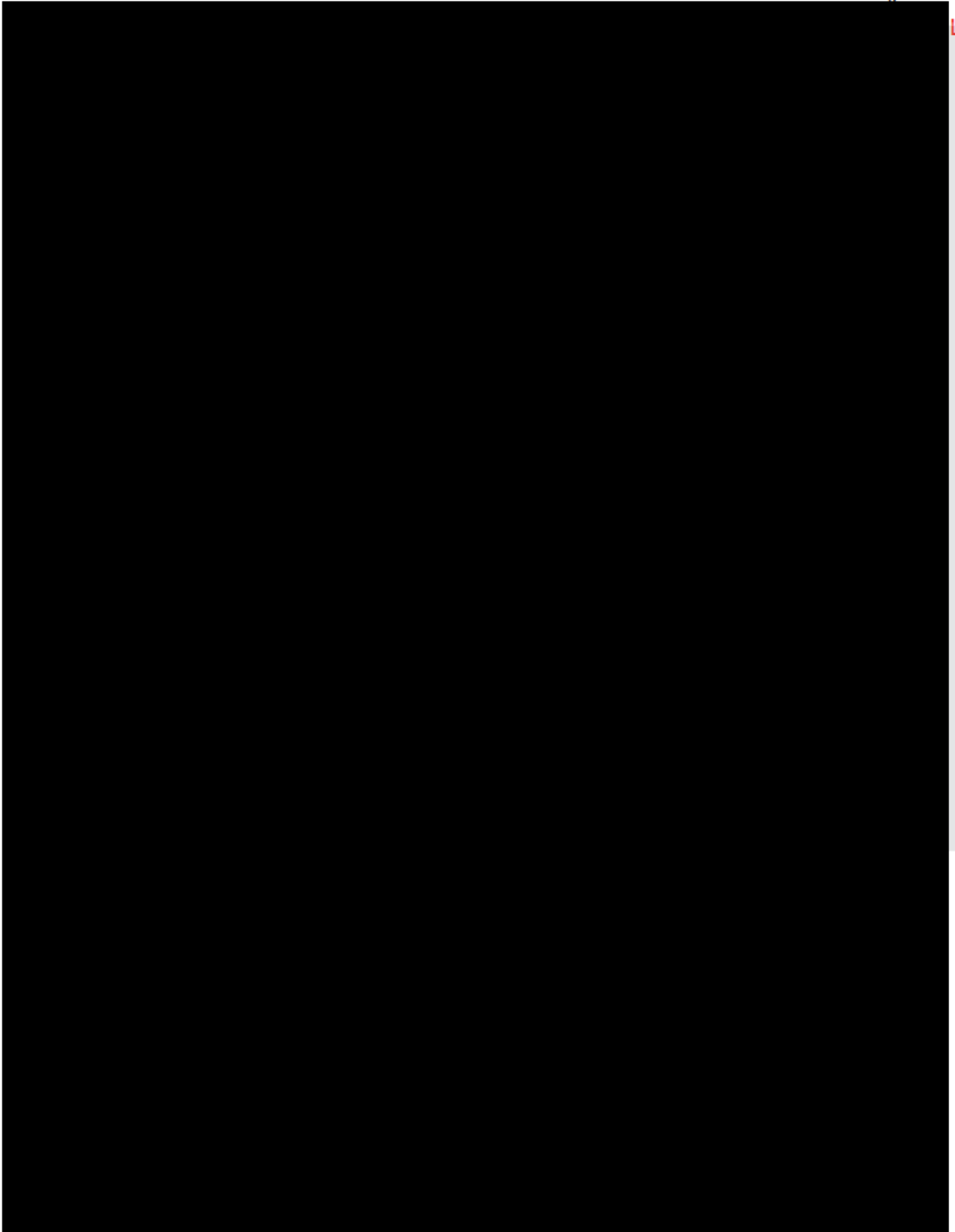
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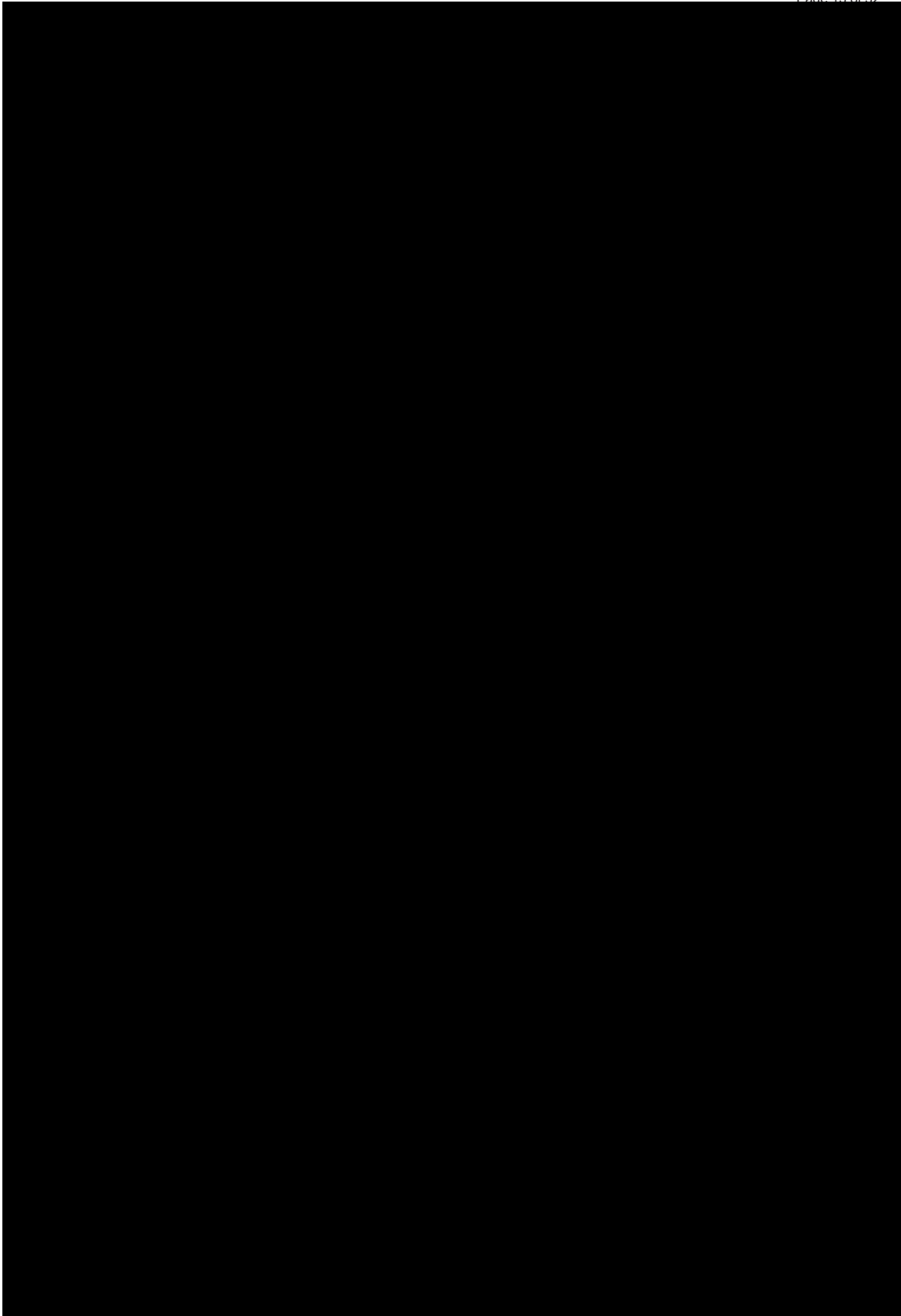
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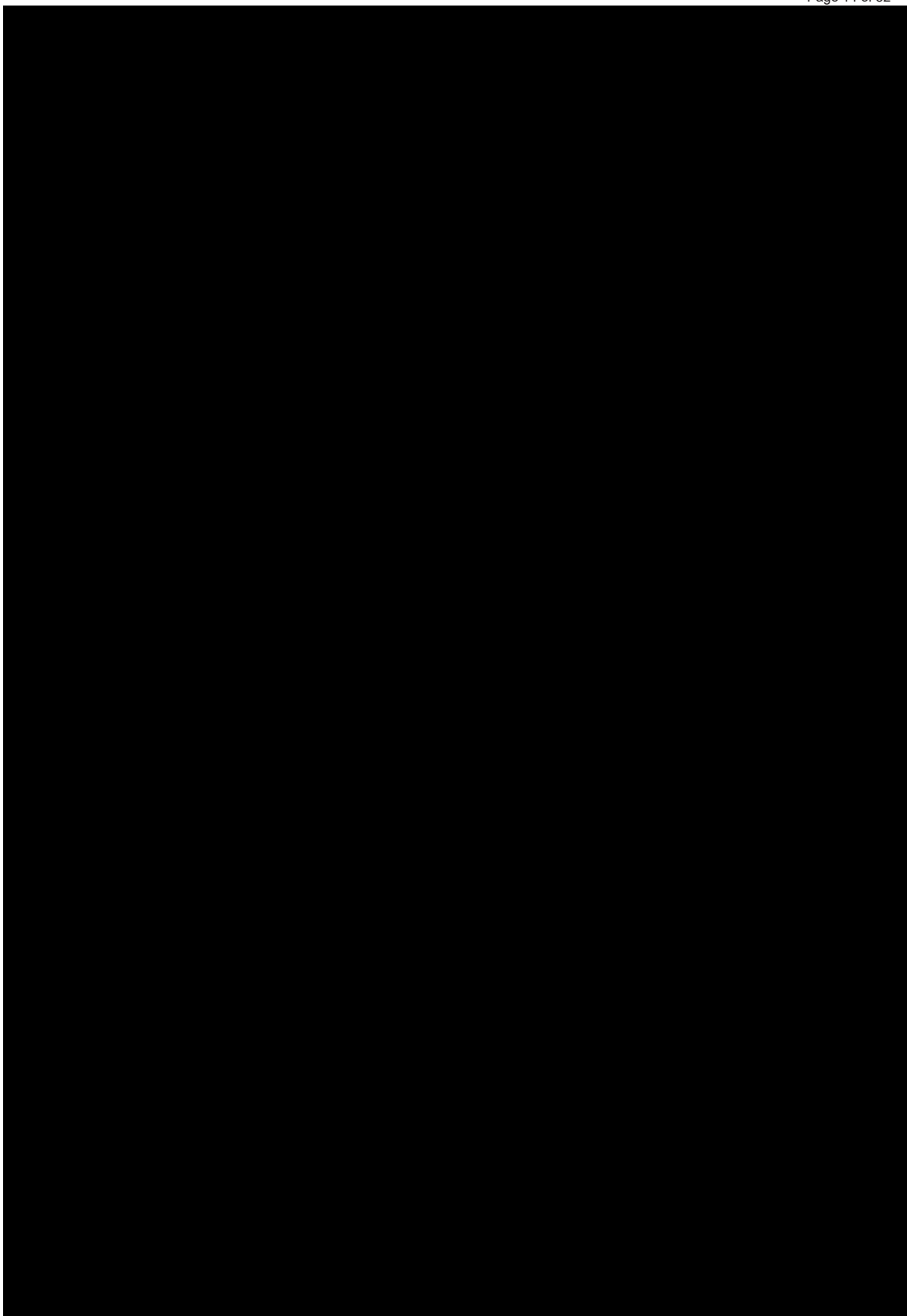
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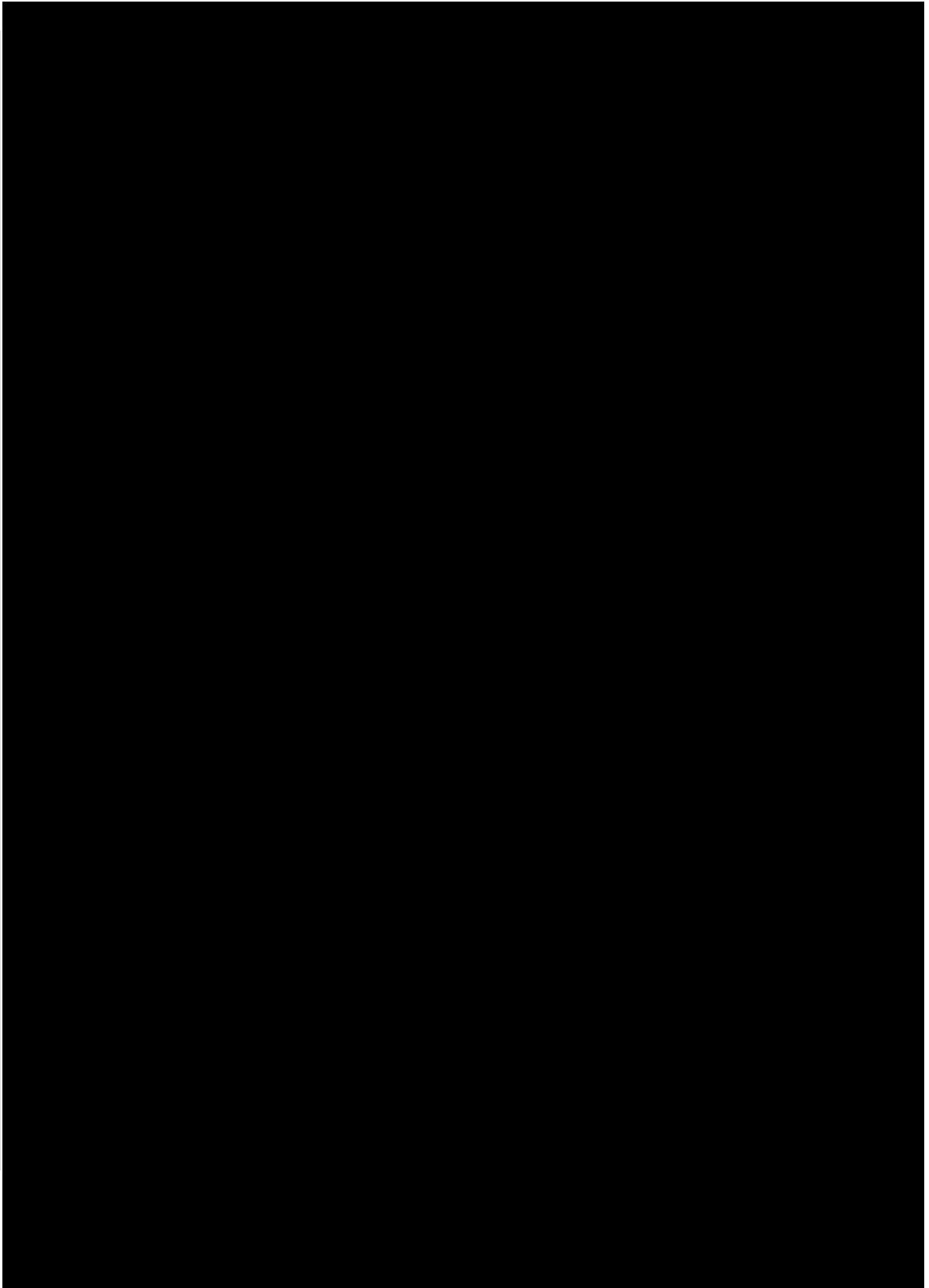
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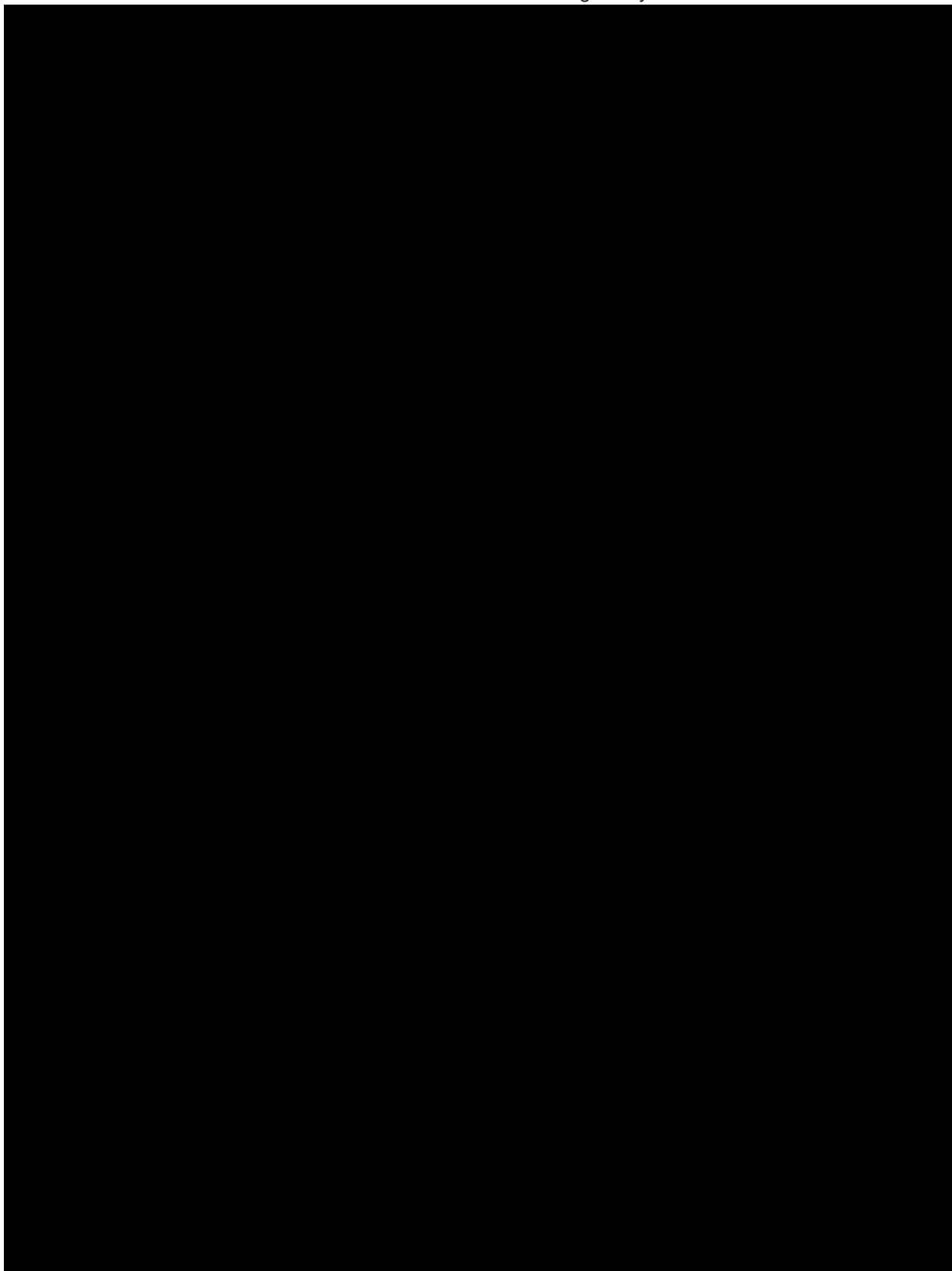


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Accounting Policy Statement No. 2



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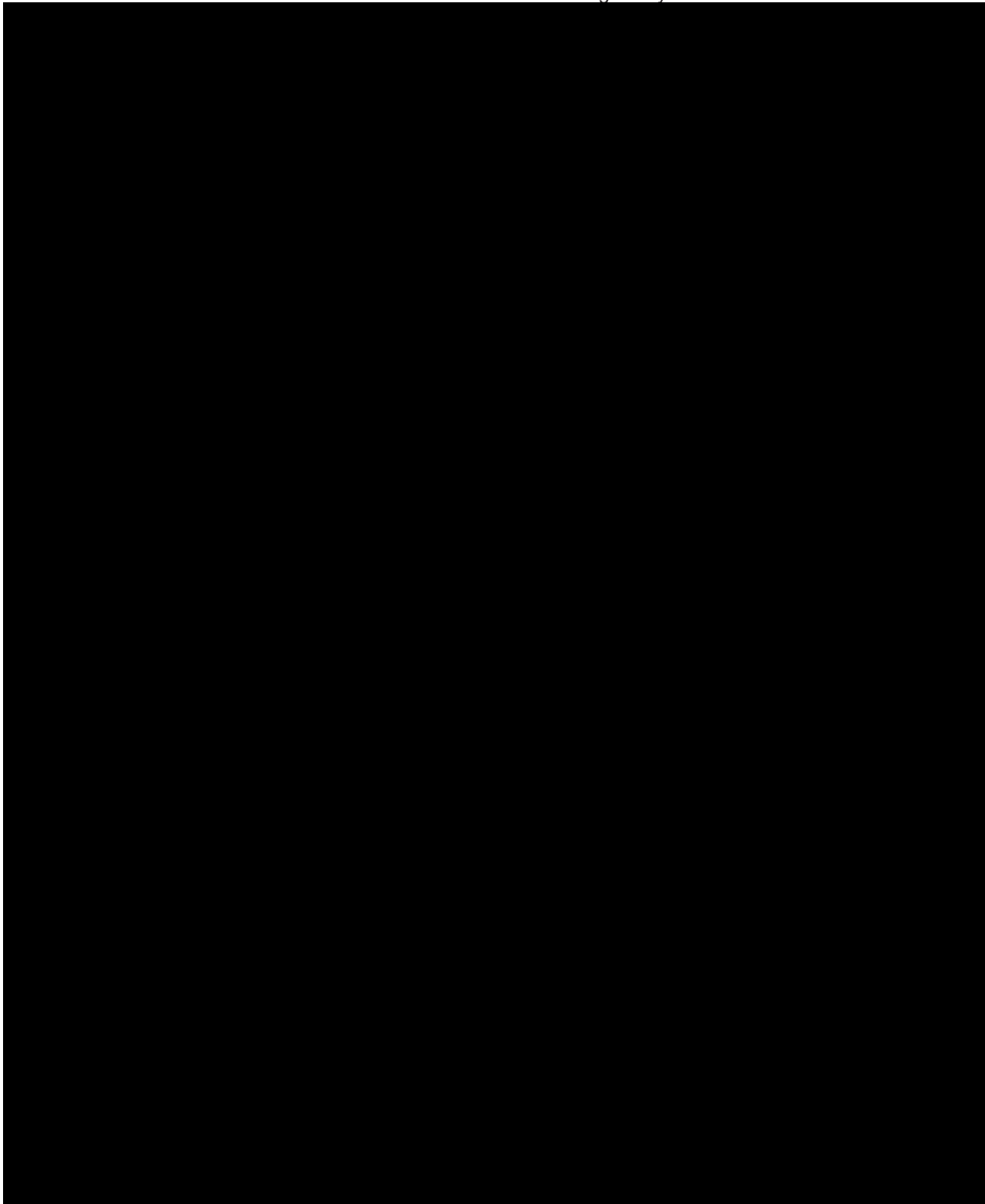


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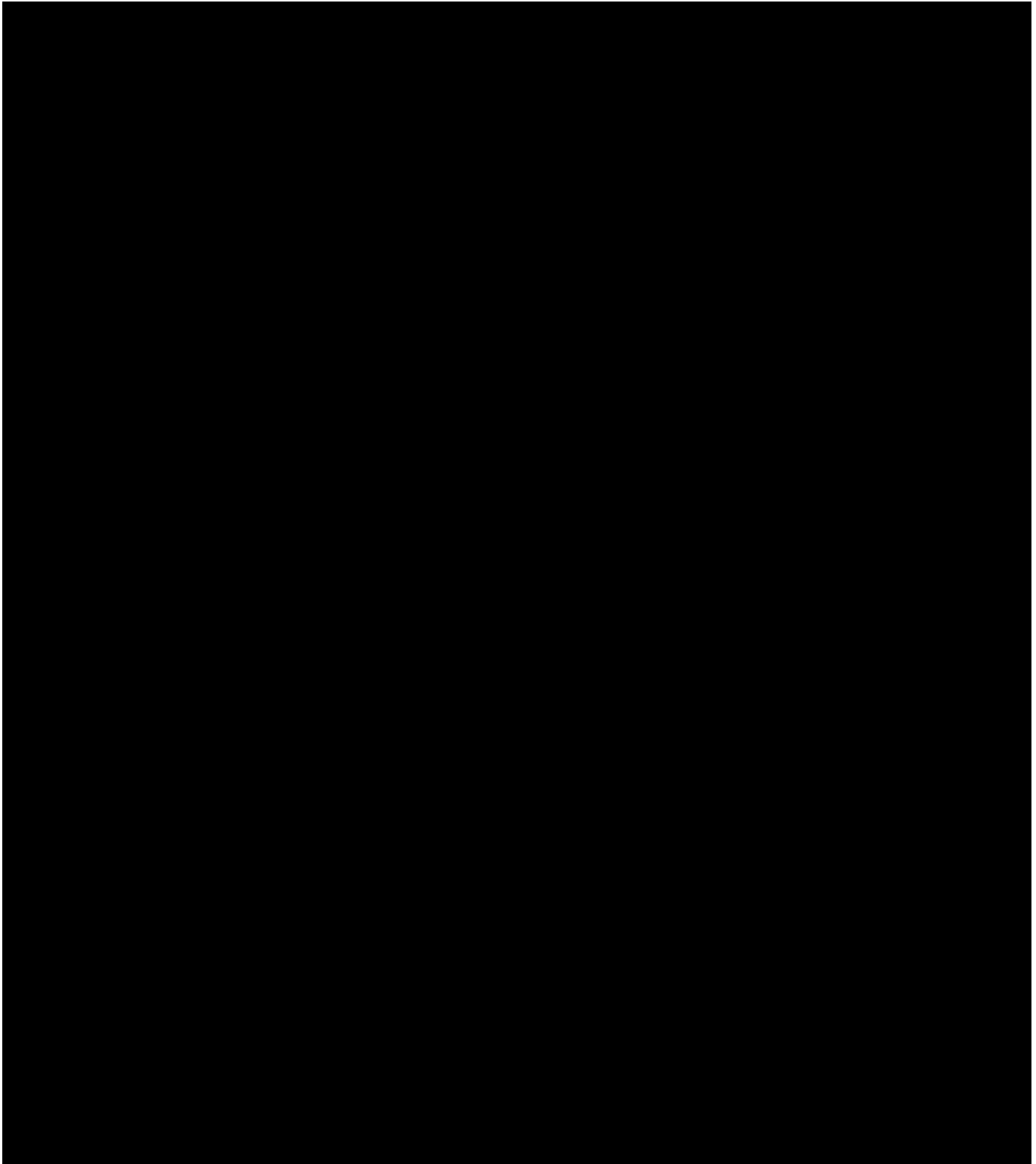




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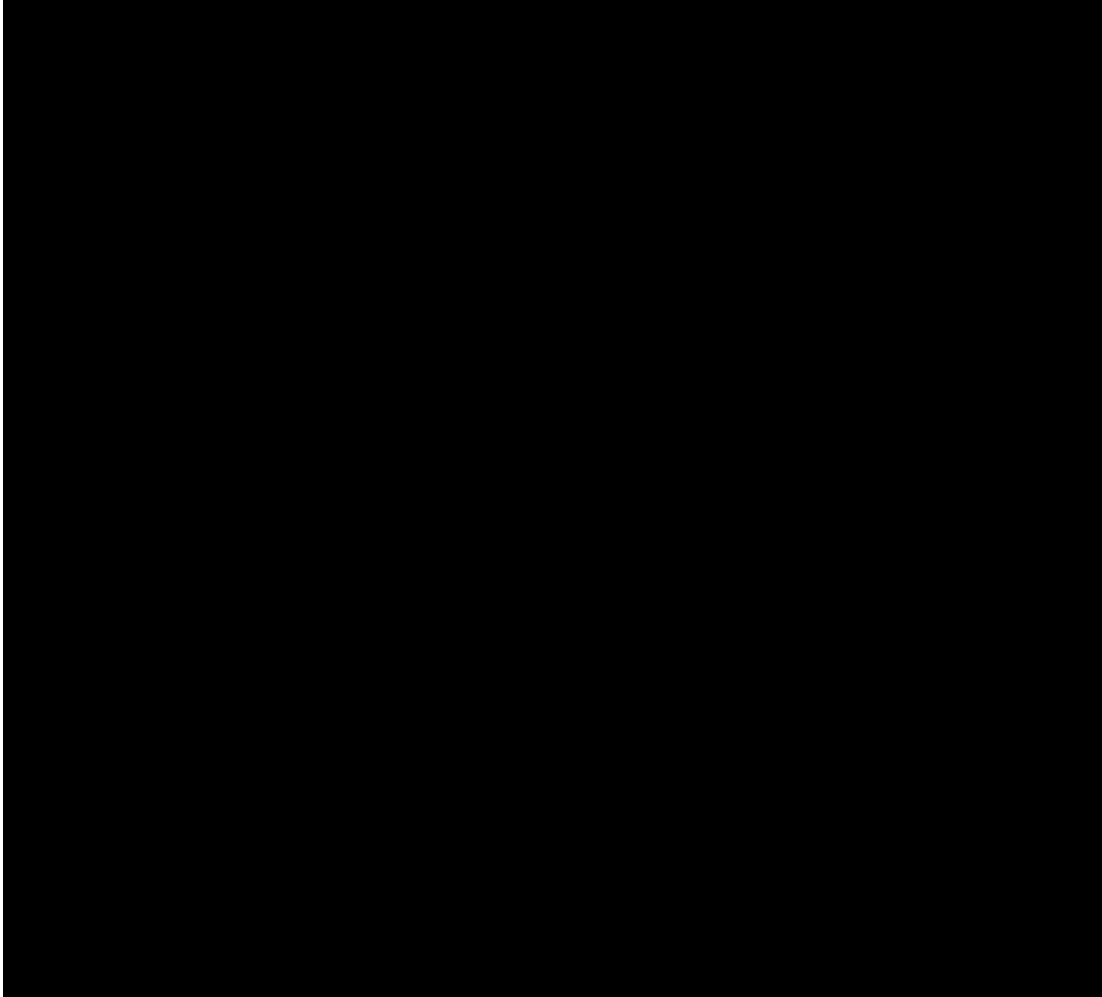
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Operations Project Authorization





Accounting Policy Statement No. 2
Operations Project Authorization

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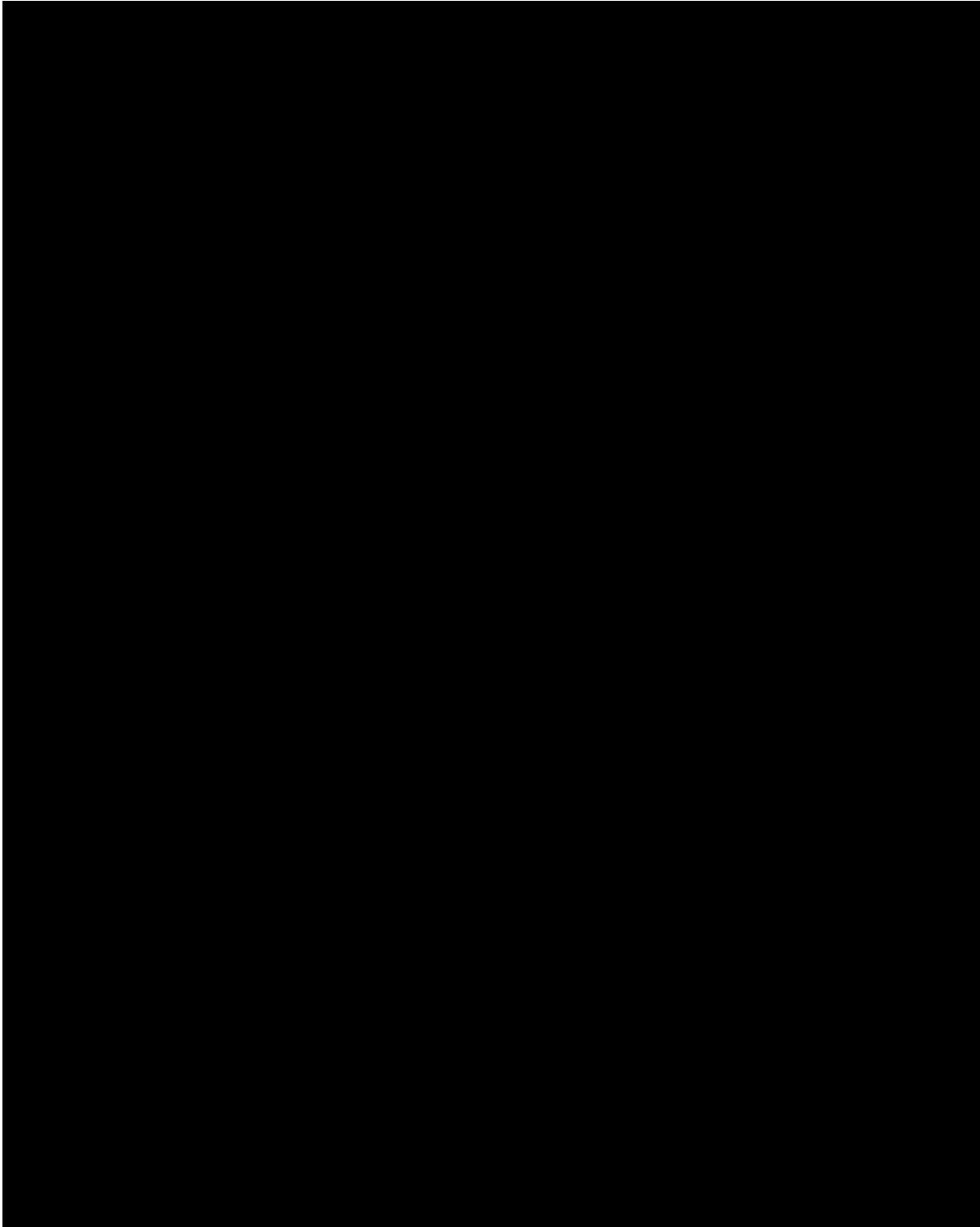




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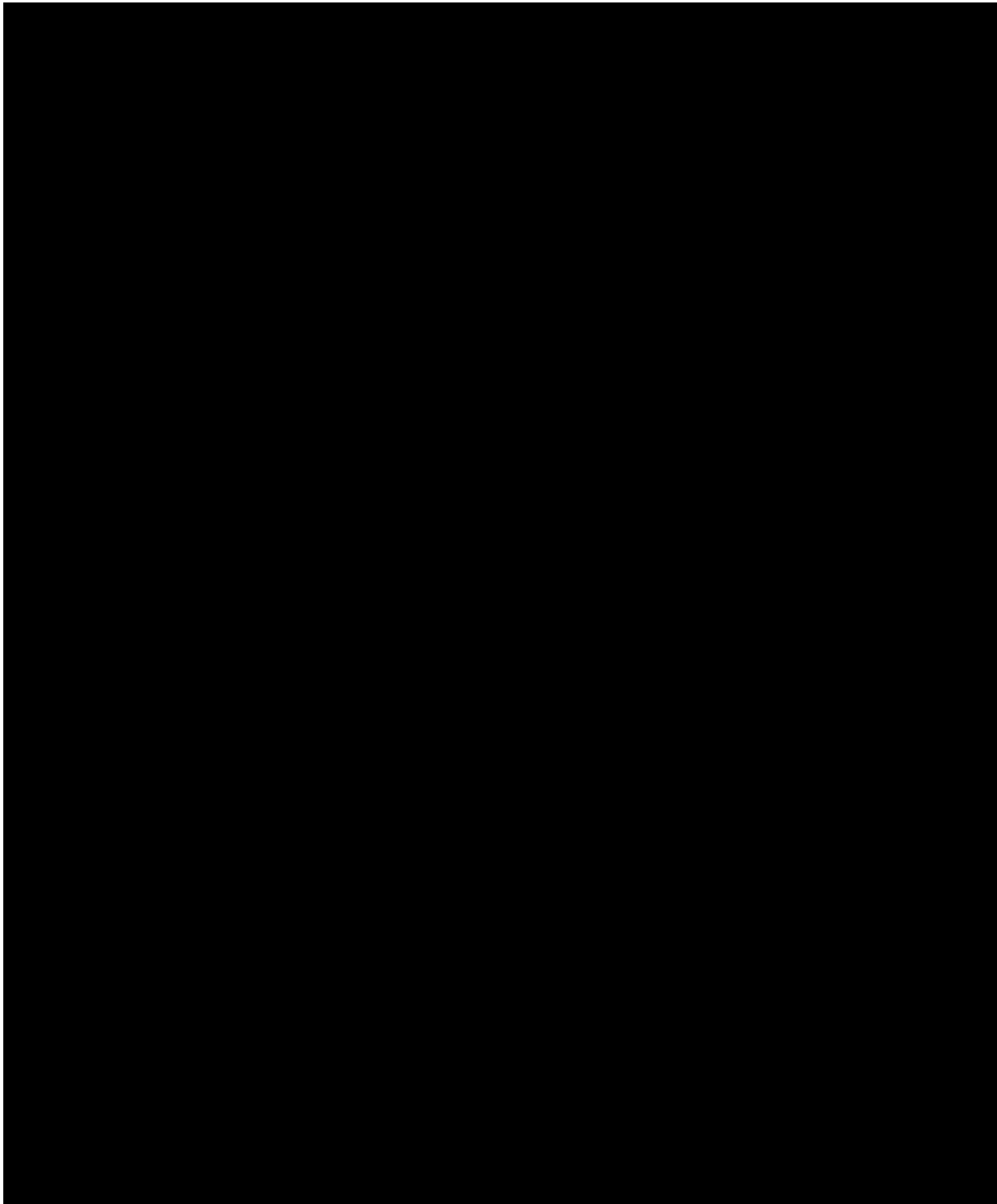
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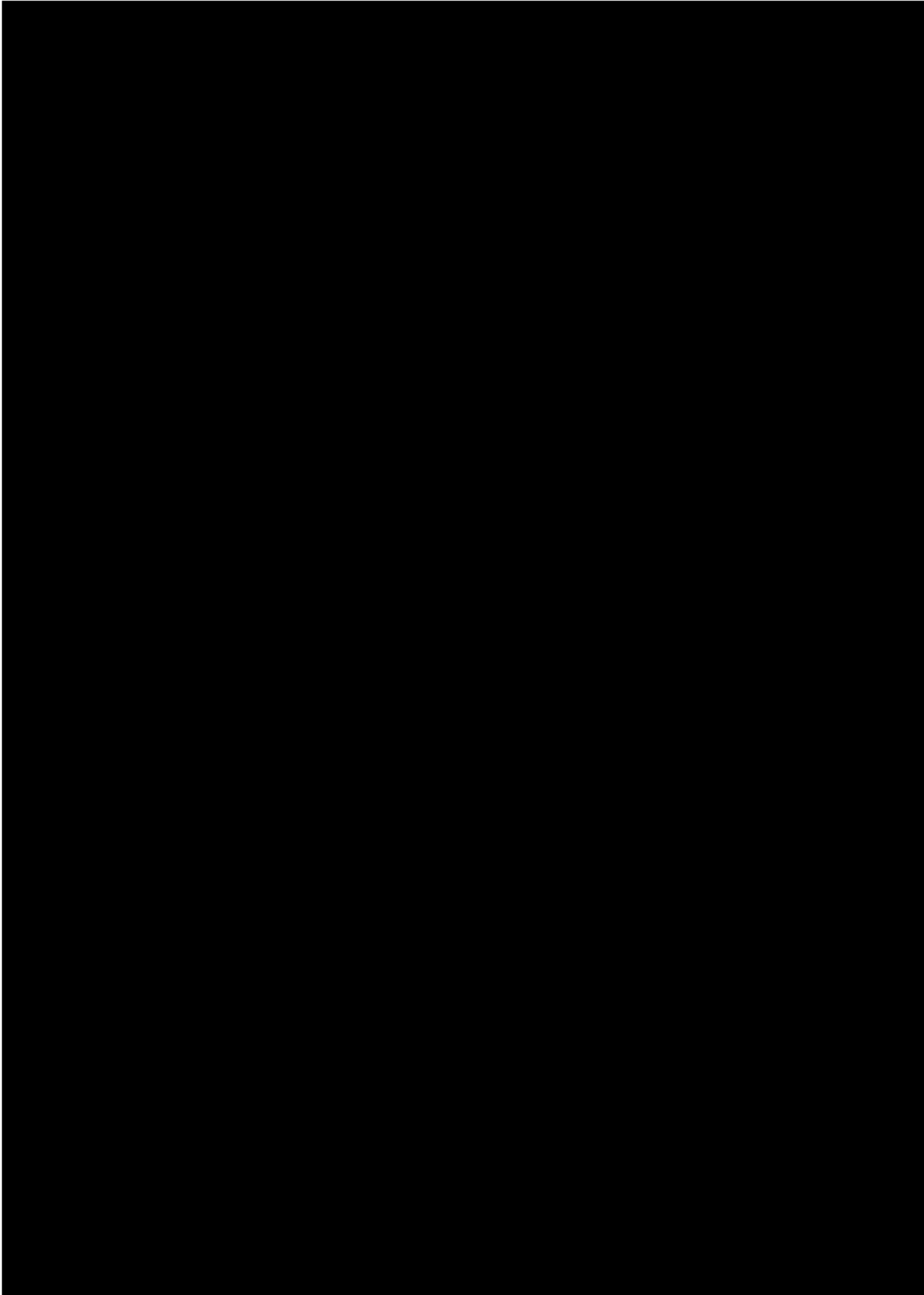
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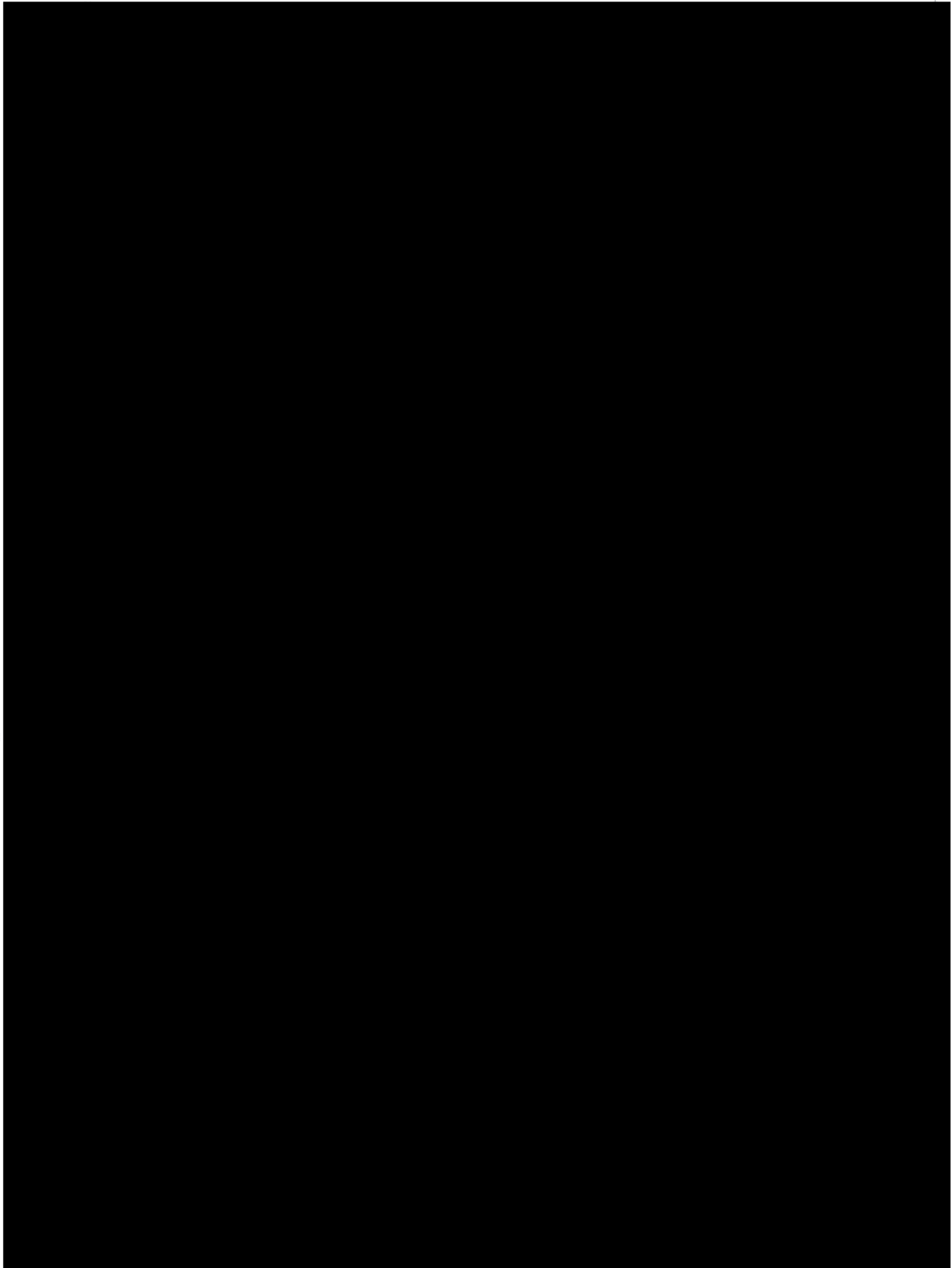
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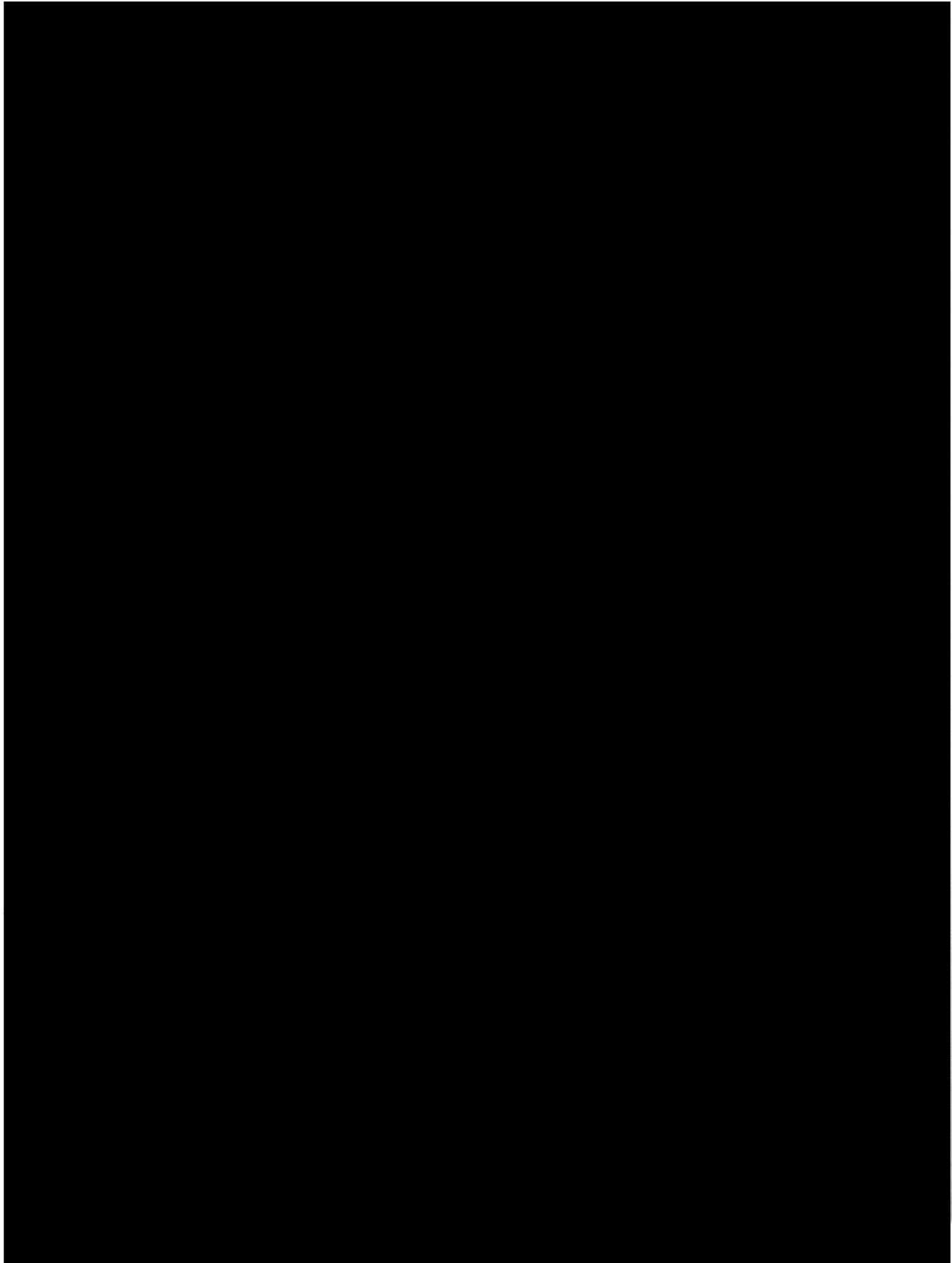
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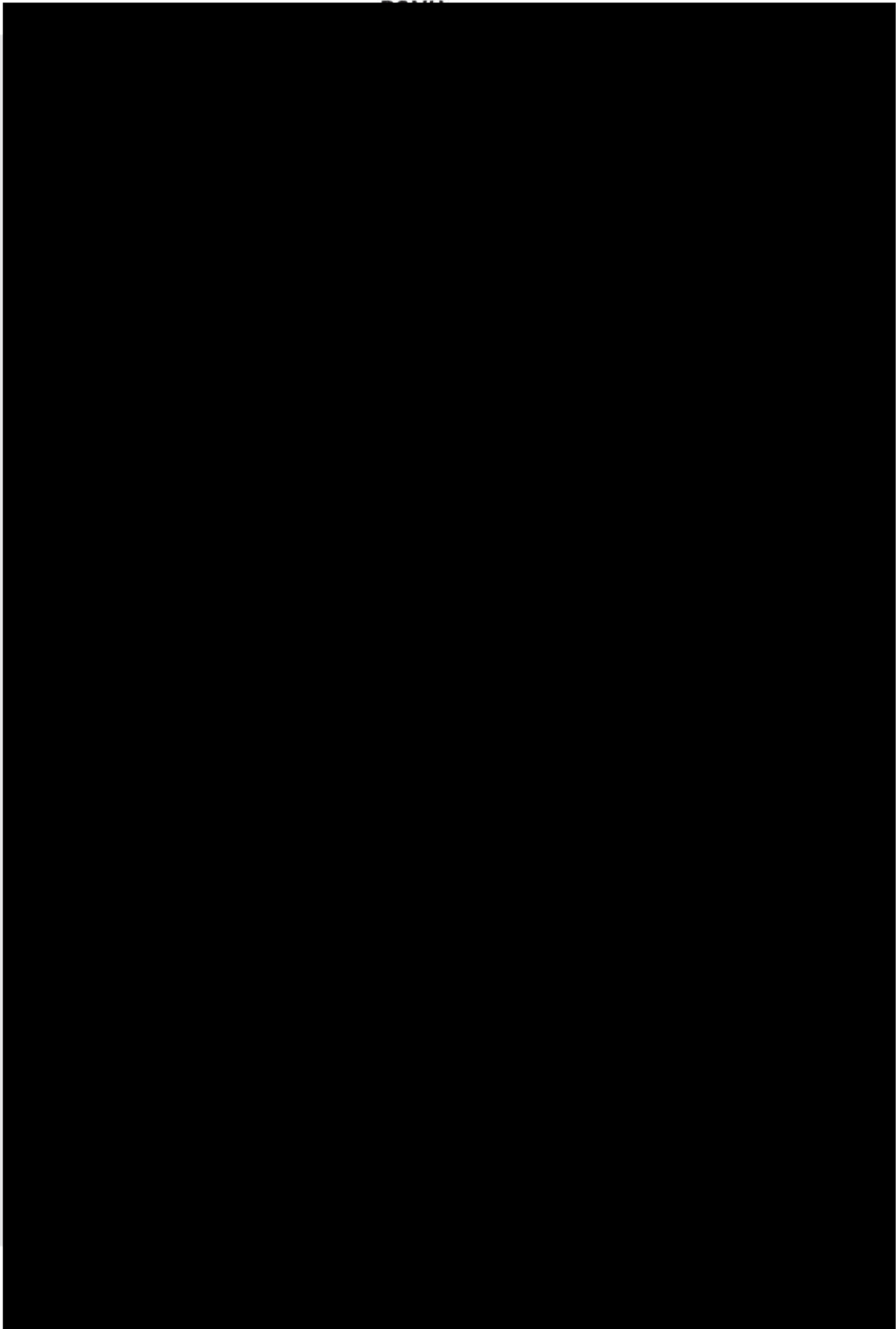
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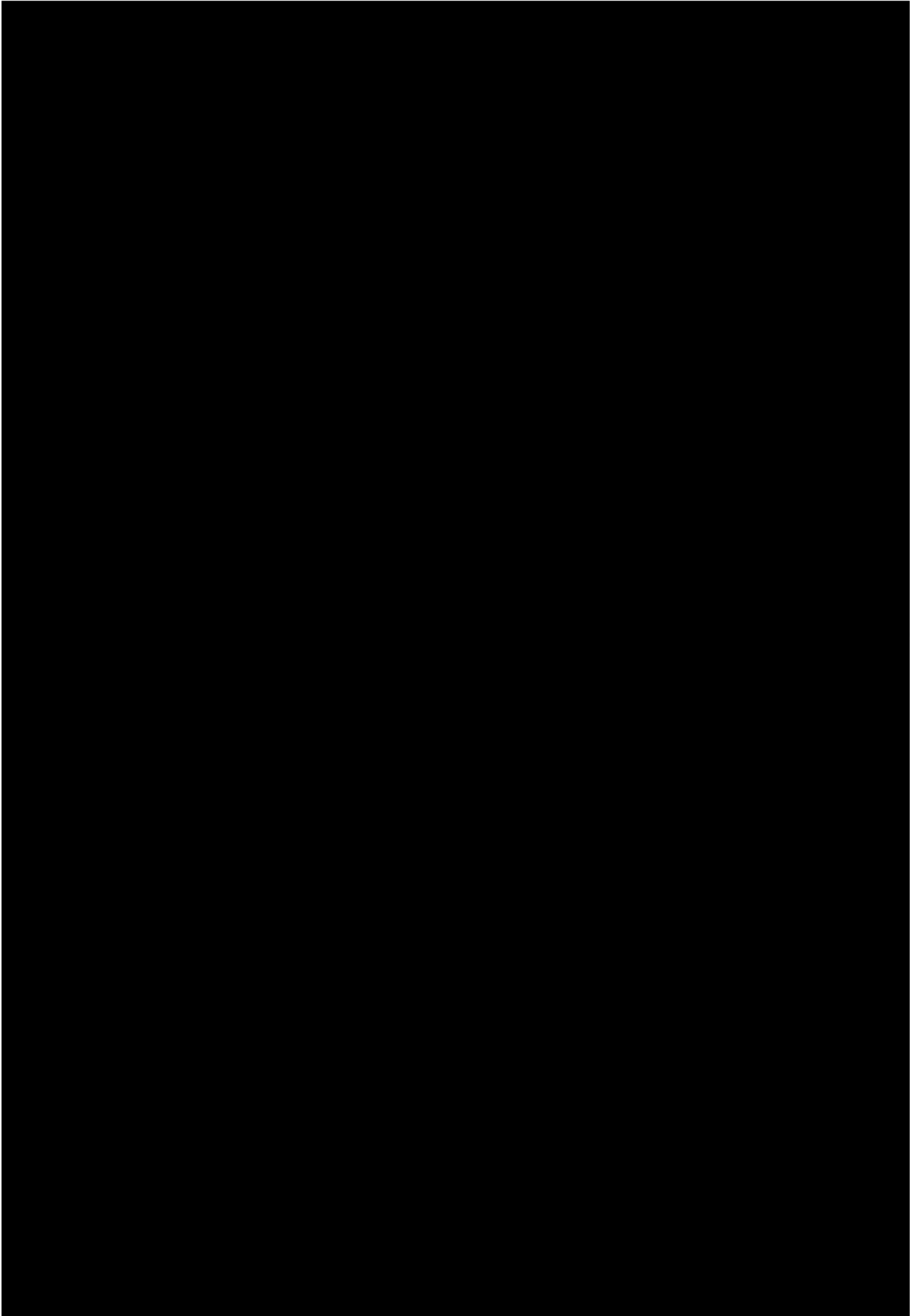
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Docket No. DE 19-057
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Public Service Co of New Hampshire Project Approval Information

Fund Project Number <u>A14N21</u>	Status <u>open</u>	Revision <u>52</u>
Project Title <u>BERLIN EASTSIDE 34.5KV LINE BREAKER</u>		Operating Unit <u></u>
Initiated By <u>PWRPLANT</u>		Initiated Date <u>1/1/2001 00:00:00</u>

Description of Work BERLIN EASTSIDE 34.5KV LINE BREAKER ADDITION

Location DIST SUBS - NEW HAMPSHIRE

Project Schedule / Expenditures		Est Start Date :	1/1/2014	Est Complete Date :	5/31/2018	
2014	2015	2016	2017	2018	Future Years	Total
\$72,885.75	\$4,685.20	\$781,146.02	\$2,222,320.03	\$565,000.00	\$0.00	<u>\$3,646,037</u>
	Capital	Expense	Removal	Retirements	Credits	
Cost Breakdown	\$3,610,850	\$0	\$35,187	\$0	\$0	\$3,646,037.00

Reason For Work

Background Information

Approvals

Level	Approver	Approval Limit	Date Approved
Project Manager	Snow_TERMINATED, Hutton	\$0	4/3/2018
Plant Accounting	Salbinski, Chris	\$0	4/3/2018
Manager - Investment Pla	Menard, Erica	\$50,000	4/4/2018
Director - EPAC Chair	Dipaola-Tromba, John	\$250,000	4/5/2018
Director - EPAC Chair	Wegh, George	\$250,000	4/23/2018
Vice President - Electric P	Purington, Joseph	\$1,000,000	5/15/2018
Sr. VP Electric Engineering	Khan, Aftab	\$5,000,000	5/16/2018
Sr. VP/President - Ops	Quinlan, William	\$5,000,000	6/1/2018

Supplement Request Form
Approved at March 28, 2018 EPAC
[Link to Meeting Minutes](#)

Date Prepared: March 22, 2018	Project Title: Berlin 3525 Breaker Addition
Company/Companies: Eversource NH	Project ID Number: A14N21, A14N2101
Organization: NH Operations	Plant Class / (F, P, Type): Distribution
Project Initiator: Sam Bosse	Project Type: <i>Specific</i>
Project Manager: Hutton N. Snow	Capital Investment Part of Original Operating Plan? Yes
Project Sponsor: James Eilenberger	O&M Expenses Part of the Original Operating Plan? N/A
Current Authorized Amount: \$1,308,101	Estimated in service date(s): June 1, 2017
Supplement Request: \$2,337,936	Other:
Total Request: \$3,646,037	

Supplement Justification

Background

The Project Authorization Form (PAF) for the Berlin 3525 Breaker Addition project was approved in March 2016. At that time, the project was approved at a cost of \$1,308,101 with a planned in-service date of December 2016. The total project cost was based on direct costs of \$1,070,747 with indirect costs of \$222,359 and AFUDC of \$14,995. No contingency was included.

Executive Summary

This supplemental funding request of \$2,337,936 is being made to cover the total cost of the 3525 Breaker Addition project at Berlin s/s in Berlin, NH. Since early 2017, direct costs have increased by \$1,767,444 and associated increases in indirect costs are \$574,865. AFUDC has decreased by \$4,373. The initial estimate contained very little breakdown of the of the cost components and did not account for various critical resources such as a commissioning engineer or for the necessary line modifications required. Therefore, a direct tie back to the original does not exist for many of the actual costs. Other items such as engineering and testing were severely underestimated. The following table summarizes the increases and comparison to the original estimate:

<u>Item</u>	<u>Current Authorized</u>	<u>To go</u>	<u>Total Cost</u>	<u>Net Increase</u>	<u>Comments</u>
Capital Additions - Direct, Other	\$ 120,942	\$ -	\$ -	\$ (120,942)	Distributed in details below
ENR/PM/Siting - LT	\$ 35,387	\$ -	\$ 120,007	\$ 84,620	Add'l design review time, scope refinement
ENR/PM/Siting - Leidos	\$ -		\$ 593,693	\$ 593,693	No contract engineering in original estimate
ENR/PM/Siting - GZA	\$ -	\$ -	\$ 97,022	\$ 97,022	Encountered significant contaminated soils
Property Taxes	\$ -	\$ -	\$ 27,994	\$ 27,994	Not previously applied to capital projects
ENR/PM/Siting - Other	\$ -	\$ -	\$ 74,869	\$ 74,869	Not included in original estimate
Materials	\$ 161,641	\$ -	\$ 382,446	\$ 220,805	Line materials and Cianbro furnished materials
Construction - LT	\$ -	\$ -	\$ 160,839	\$ 160,839	Full time standby coverage, additional CR time
S/S Construction - Cianbro	\$ 700,000	\$ 335,608	\$ 723,775	\$ 23,775	Bid plus COs for contaminated soil
Line Construction - JCR		\$ -	\$ 362,862	\$ 362,862	Not included in original estimate
Line Construction - USA		\$ -	\$ 116,201	\$ 116,201	Not included in original estimate
Construction - Other		\$ -	\$ 75,518	\$ 75,518	Not included in original estimate
Testing - LT		\$ -	\$ 11,587	\$ 11,587	Not included in original estimate
Testing - Elect Test	\$ 52,777	\$ -	\$ 135,098	\$ 82,321	Under estimated
Testing - LCE (W/M)		\$ 42,522	\$ 217,000	\$ 217,000	Not included in original estimate
Reimbursements		\$ -	\$ (260,720)	\$ (260,720)	Salvage Value
Removals	\$ -		\$ -	\$ -	
Total - Direct Spending	\$ 1,070,747	\$ 378,130	\$ 2,838,191	\$ 1,767,444	
Capital Additions - Indirect	\$ 222,359	\$ 113,439	\$ 797,224	\$ 574,865	
AFUDC	\$ 14,995	\$ 3,000	\$ 10,622	\$ (4,373)	
Grand Total	\$ 1,308,101	\$ 494,569	\$ 3,646,037	\$ 2,337,936	

Supplement Cost Summary

Note: Dollar values are in thousands:

Capital Additions - Direct	1,071	2,027	3,098
Less Customer Contribution	0	0	0
Removals net of Salvage _____ %	0	-260	-260
Total Direct Spending	1,071	1,767	2,838
Capital Additions - Indirect	222	575	797
AFUDC	15	-4	11
Total Capital Request	1,308	2,338	3,646
O&M	0	0	0
Total Request	1,308	2,338	3,646

Note: Dollar values are in thousands:

Total Supplement Request by year view:

	Year 2017	Year 2018	Year 20__ +	Total
Capital Additions - Direct	1,607	450	0	2,057
Less Customer Contribution	0	0	0	0
Removals net of Salvage ____%	-290	0	0	-290
Total Direct Spending	1,317	450	0	1,767
Capital Additions - Indirect	463	112	0	575
AFUDC	-7	3	0	-4
Total Capital Request	1,773	565	0	2,338
O&M	0	0	0	0
Total Request	1,773	565	0	2,338



Accounting Policy Statement No. 2
Operations Project Authorization

Docket No. DE 19-057
Data Request STAFF 12-045
Dated 9/20/2019
Attachment STAFF 12-045 AD
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Project Authorization Form

General Information

Date Prepared: 03/07/2016	Project Title: Berlin Breaker Addition
Company: Eversource - NH	Project ID Number: A14N21
Organization: NH Operations - Substation Engineering	Class(es) of Plant: Distribution
Project Initiator: Sam Bosse	Project Category: Basic Business
Project Owner/Manager: Hut Snow	Project Type: Specific
Project Sponsor: Jim Eilenberger	Project Purpose: Part of regulatory tracked program? No
Estimated in service date: 12/31/2016	Capital Investment Part of Original Operating Plan? Yes
If Transmission Project: No	Supplement to Existing Authorization? Yes
	O&M Expenses Part of the Original Operating Plan? No

If Chief Executive Officer or subsidiary board approval is required, document the review by Enterprise Risk Management (ERM) and Financial Planning and Analysis (FP&A)

ERM: _____

FP&A: _____

Executive Summary

Berlin S/S (115/34.5 kV) has three independent issues that have been combined into one project to gain efficiencies. The three items are:

- 1) Add a 34.5 kV line breaker- Both the 3525 and 3521 lines are fed from a single breaker (7,601 total customers) so the addition of a line breaker will allow each circuit to have their own breaker improving reliability.
- 2) Add a grounding bank to Berlin S/S- Berlin S/S gets its ground source from transformer TB 83 and secondly from an old grounding bank that is part of the obsolete feed to Brookfield Hydro. Pending completion of a new feed to Brookfield Hydro (being installed by the customer) the 62 year old gassing transformer and grounding bank currently feeding Brookfield will be removed requiring a new grounding bank to be installed and
- 3) The completion of the upgrade to the nearby Community Street 4 kV substation eliminated the need for the 55 year old 4 kV substation at Berlin so the transformer and switchgear will be removed as part of this project.



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Project Costs Summary

(\$000)	Prior Authorized*	Prior Spend*	2016	2017	Totals	Supplemental Authorization*
Capital Additions - Direct	\$ 461	\$ 50	\$ 920	\$	\$ 970	
Customer Contribution				\$	\$	
Removals net of Salvage		\$ 1	\$ 100	\$	\$ 101	
Total - Direct Spending	\$ 461	\$ 51	\$ 1,020	\$	\$ 1,071	\$ 610
Capital Additions - Indirect	\$ 183	\$ 27	\$ 195	\$	\$ 222	
Subtotal Request	\$ 644	\$ 78	\$ 1,215	\$	\$ 1,293	
AFUDC		\$2	\$13	\$	\$ 15	
Total Request	\$ 644	\$ 80	\$ 1,228	\$	\$ 1,308	

* to be completed if supplemental authorization is required

Summary Project Description

The project includes adding a 34.5kV line breaker, adding a grounding bank and removing obsolete equipment at Berlin (Eastside) substation.

- 1) Add a new breaker which will feed the 3525X line. This will improve the area reliability by feeding the 3525X line on its own breaker instead of having both the 3525X Line (3,233 customers) and 3521X line (4,368 customers) fed from a single breaker;
- 2) The 34.5-22kV 62 year old transformer TB254 and the 1948 vintage OCB will not be required to feed Gorham Paper & Tissue load when their new 115-22kV substation is completed in early 2016. Prior to de-energizing and removing TB254 a new ground bank is required as it is the backup ground source for the substation when the main transformer TB 83 is taken out of service or trips out. (NOTE: The second 115-34.5kV transformer (TB115) feeding Berlin S/S is connected wye-delta therefore it does not provide a ground source). Without a ground source the voltage would fluctuate outside NHPUC limits at 34.5kV for all customers fed only from TB115 so installation of a ground bank on 34.5kV Bus 1 is included in this project and
- 3) Remove the 55 year old 34.5-4kV transformer (TR158) and corresponding 59 year old switchgear which was de-energized when Community Street S/S was rebuilt and energized to feed the 4kV Berlin load.



Accounting Policy Statement No. 2
Operations Project Authorization

Project Authorization

Approver	Approver Name	Approver Signature	Date
Project Initiator	Sam Bosse		
Project Manager	Hutton Snow		
Plant Accounting	Michelle Roncaioli		
Manager Substation	Thelma Brown		
Director	James Eilenberger		
Senior Vice President	Peter Clarke		

Overall Justification

To provide a separate breaker for the 3525X line and 3521 line which combined serve 7,601 customers. This project provides for a second ground source for the substation (necessary when the old TB 254 is removed) and removes obsolete and out of service equipment.

Project Scope

- Remove 34.5-22kV transformer and OCB.
- Install a 34.5kV breaker for the 3525X line
- Install ground bank on the 34.5kV bus one (1).
- Remove 34.5- 4kV transformer and 4kV switchgear.

Project Objectives

Separate the 3525X and 3521X lines to be fed by two breakers. Currently there are 3,233 customers on circuit 3525X and 4,368 customers on 3521X.

Remove obsolete equipment while completing the breaker installation in Berlin East Side SS. Over the past year it has been determined that doing all removals in conjunction with the new installation is more efficient than designing multiple projects and mobilizing multiple times.

Business Process and / or Technical Improvements:

- Reliability
- Removal of obsolete equipment

Assumptions

Contractor will mobilize once for all portions of the construction.



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Alternatives Considered

- 1) Some de-energized equipment can remain on-site which may save some removal costs. However, the transformer TB254 and associated equipment needs to be removed in order to utilize the bay position to feed the new 3525X breaker. Savings for this alternative would be minimal.
- 2) Do not separate the 3525X circuit from the 3521X line breaker but remove obsolete equipment. This would leave 7601 customers on a single breaker and not provide a looped system between two breakers.
- 3) Replace the wye-delta 115-34.kV transformer TB115 instead of installing a ground bank. This would be an additional \$2M to provide a new transformer. Additionally, the wye ground at the 115kV side of TB115 is still preferred to act as a ground source for the 115kV system in this area.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Engineering	8/1/16
In Service	12/30/16



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Financial Evaluation

Direct Capital Costs (\$000)	2014	2015	2016	Total
Straight Time Labor	\$ 14	\$ 1	\$ 20	\$ 35
Overtime Labor	\$			\$
Outside Services	\$ 3	\$	\$ 750	\$ 753
Materials	\$ 32	\$	\$ 130	\$ 162
Other, including contingency amounts (describe)	\$ 1	\$	\$ 120	\$ 121
Total	\$ 50	\$ 1	\$ 1,020	\$ 1,071

Indirect Capital Costs (\$000)	2014	2015	2016	Total
Benefits / Loaders	\$ 23	\$ 3	\$ 195	\$ 222
Capitalized interest or AFUDC, if any	\$ 1	\$ 1	\$ 13	\$ 15
Total	\$ 24	\$ 5	\$ 208	\$ 237

Total Capital Costs	\$ 74	\$ 6	\$ 1,228	\$ 1,308
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Total O&M Costs				
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Total Project Costs (\$000)	\$ 74	\$ 6	\$ 1,228	\$ 1,308
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Regulatory Approvals

Permitting may be required by the City of Berlin.

Risks and Risk Mitigation Plans

None identified.

Minutes
03-28-2018 Meeting

9. Berlin 3525 Breaker Addition – D. Plante – APPROVED FOR \$3,646,037 WITH COMMENTS
 - Date Prepared – changed to March date.
 - Plant Class – add Substation.

Attendance

EPAC Role	Required Members	In-Person	Phone	Voting Designee
Co-Chair	George Wegh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Co-Chair	John Dipaola-Tromba	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
EPAC Administrator	Farah Omokaro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Projects	Tim Revellese	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Alexis Ané	<input type="checkbox"/>	<input type="checkbox"/>	
Project Controls	Raymond Gagnon	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Engineering	James Eilenberger	<input type="checkbox"/>	<input type="checkbox"/>	
	John Case	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	John Zicko	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Robert Andrew	<input type="checkbox"/>	<input type="checkbox"/>	
	Rod Kalbfleisch	<input type="checkbox"/>	<input type="checkbox"/>	
	Swapan Dey	<input type="checkbox"/>	<input type="checkbox"/>	
Siting & Compliance	Robert Clarke	<input type="checkbox"/>	<input type="checkbox"/>	
Investment Planning	Leanne Landry	<input type="checkbox"/>	<input type="checkbox"/>	Glenn Herman
Integrated Planning & Scheduling	Diana Mahoney	<input type="checkbox"/>	<input type="checkbox"/>	
Compliance	Vicki O'Leary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Transmission /System Ops	Barry R. Bruun	<input type="checkbox"/>	<input type="checkbox"/>	
	Brian Dickie	<input type="checkbox"/>	<input type="checkbox"/>	
Field Ops & Field Engineering	Anthony A. Anzalone	<input type="checkbox"/>	<input type="checkbox"/>	
	Charles Fontenault	<input type="checkbox"/>	<input type="checkbox"/>	
	Donald Boudreau	<input type="checkbox"/>	<input type="checkbox"/>	
	Marc Geaumont	<input type="checkbox"/>	<input type="checkbox"/>	
	Mark Blanchard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Saurabh Sahni	<input type="checkbox"/>	<input type="checkbox"/>	

EPAC Role	Required Attendees	In-Person	Phone
Siting	Kate Shanley	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Siting & Construction Services	Michelle Gallicchio	<input type="checkbox"/>	<input type="checkbox"/>
Licensing & Permitting	Mark Gardella	<input type="checkbox"/>	<input type="checkbox"/>
Procurement	Craig Dikeman	<input type="checkbox"/>	<input type="checkbox"/>
	Fran O'Keefe	<input type="checkbox"/>	<input type="checkbox"/>
Substation Engineering	Daniel Foley	<input type="checkbox"/>	<input type="checkbox"/>
	Mark Bellandese	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Thelma Brown	<input type="checkbox"/>	<input type="checkbox"/>
Protection & Controls	Dennis Western	<input type="checkbox"/>	<input type="checkbox"/>
	John Babu	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Stuart Hollis	<input type="checkbox"/>	<input checked="" type="checkbox"/>
T Line & Civil Engineering	Chris Soderman	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Mohsen Sahirad	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Jim Bodkin	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Jamil Abdullah	<input type="checkbox"/>	<input type="checkbox"/>
	Donald Dibuono	<input type="checkbox"/>	<input type="checkbox"/>
Transmission Capital Program	Glenn Herman	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Budget & Investment	Peter Neidhardt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Outage & Ops Planning	Oswaldo Ortega	<input type="checkbox"/>	<input type="checkbox"/>
	David Cloutier	<input type="checkbox"/>	<input type="checkbox"/>
Standards	Jen Hebsch	<input type="checkbox"/>	<input type="checkbox"/>

Public Service Co of New Hampshire Project Approval Information

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Fund Project Number A14N21	Status open	Revision 41
Project Title BERLIN EASTSIDE 34.5KV LINE BREAKER	Operating Unit	
Initiated By PWRPLANT	Initiated Date 01/01/2001 00:00:00	

Description of Work	BERLIN EASTSIDE 34.5KV LINE BREAKER ADDITION
Location	DIST SUBS - NEW HAMPSHIRE

Project Schedule / Expenditures		Est Start Date :	1/1/2014	Est Complete Date :	5/31/2018
2014	2015	2016	2017	2018	Future Years
\$73,681.04	\$5,938.43	\$1,228,481.52	\$0.00	\$0.00	\$0.00
					Total
					<u>\$1,308,101</u>
	Capital	Expense	Removal	Retirements	Credits
Cost Breakdown	\$1,181,993	\$0	\$122,655	\$0	\$0
					\$1,304,647.47

Reason For Work

Background Information

Approvals

Level	Approver	Approval Limit	Date Approved
Project Manager	Menard, Erica	\$0	03/15/2016
Plant Accounting	Roncaloli_TERMINATED, Michele	\$0	03/15/2016
Manager - PSNH Dist	Brown, Thelma	\$100,000	03/15/2016
Director - PSNH Dist	Eilenberger, James	\$250,000	03/15/2016
Sr. VP/President - Ops	Clarke, Peter	\$5,000,000	03/21/2016



Accounting Policy Statement No. 2
Operations Project Authorization

Project Authorization Form

General Information

Date Prepared: 03/07/2016	Project Title: Berlin Breaker Addition
Company: Eversource - NH	Project ID Number: A14N21
Organization: NH Operations - Substation Engineering	Class(es) of Plant: Distribution
Project Initiator: Sam Bosse	Project Category: Basic Business
Project Owner/Manager: Hut Snow	Project Type: Specific
Project Sponsor: Jim Eilenberger	Project Purpose: Part of regulatory tracked program? No
Estimated in service date: 12/31/2016	Capital Investment Part of Original Operating Plan? Yes
If Transmission Project: No	Supplement to Existing Authorization? Yes
	O&M Expenses Part of the Original Operating Plan? No

If Chief Executive Officer or subsidiary board approval is required, document the review by Enterprise Risk Management (ERM) and Financial Planning and Analysis (FP&A)

ERM: _____

FP&A: _____

Executive Summary

Berlin S/S (115/34.5 kV) has three independent issues that have been combined into one project to gain efficiencies. The three items are:

- 1) Add a 34.5 kV line breaker- Both the 3525 and 3521 lines are fed from a single breaker (7,601 total customers) so the addition of a line breaker will allow each circuit to have their own breaker improving reliability.
- 2) Add a grounding bank to Berlin S/S- Berlin S/S gets its ground source from transformer TB 83 and secondly from an old grounding bank that is part of the obsolete feed to Brookfield Hydro. Pending completion of a new feed to Brookfield Hydro (being installed by the customer) the 62 year old gassing transformer and grounding bank currently feeding Brookfield will be removed requiring a new grounding bank to be installed and
- 3) The completion of the upgrade to the nearby Community Street 4 kV substation eliminated the need for the 55 year old 4 kV substation at Berlin so the transformer and switchgear will be removed as part of this project.



Accounting Policy Statement No. 2
Operations Project Authorization

Project Costs Summary

(\$000)	Prior Authorized*	Prior Spend*	2016	2017	Totals	Supplemental Authorization*
Capital Additions - Direct	\$ 461	\$ 50	\$ 920	\$	\$ 970	
Customer Contribution				\$	\$	
Removals net of Salvage		\$ 1	\$ 100	\$	\$ 101	
Total - Direct Spending	\$ 461	\$ 51	\$ 1,020	\$	\$ 1,071	\$ 610
Capital Additions - Indirect	\$ 183	\$ 27	\$ 195	\$	\$ 222	
Subtotal Request	\$ 644	\$ 78	\$ 1,215	\$	\$ 1,293	
AFUDC		\$2	\$13	\$	\$ 15	
Total Request	\$ 644	\$ 80	\$ 1,228	\$	\$ 1,308	

* to be completed if supplemental authorization is required

Summary Project Description

The project includes adding a 34.5kV line breaker, adding a grounding bank and removing obsolete equipment at Berlin (Eastside) substation.

- 1) Add a new breaker which will feed the 3525X line. This will improve the area reliability by feeding the 3525X line on its own breaker instead of having both the 3525X Line (3,233 customers) and 3521X line (4,368 customers) fed from a single breaker;
- 2) The 34.5-22kV 62 year old transformer TB254 and the 1948 vintage OCB will not be required to feed Gorham Paper & Tissue load when their new 115-22kV substation is completed in early 2016. Prior to de-energizing and removing TB254 a new ground bank is required as it is the backup ground source for the substation when the main transformer TB 83 is taken out of service or trips out. (NOTE: The second 115-34.5kV transformer (TB115) feeding Berlin S/S is connected wye-delta therefore it does not provide a ground source). Without a ground source the voltage would fluctuate outside NHPUC limits at 34.5kV for all customers fed only from TB115 so installation of a ground bank on 34.5kV Bus 1 is included in this project and
- 3) Remove the 55 year old 34.5-4kV transformer (TR158) and corresponding 59 year old switchgear which was de-energized when Community Street S/S was rebuilt and energized to feed the 4kV Berlin load.



Accounting Policy Statement No. 2
Operations Project Authorization

Project Authorization

Approver	Approver Name	Approver Signature	Date
Project Initiator	Sam Bosse		
Project Manager	Hutton Snow		
Plant Accounting	Michelle Roncaioli		
Manager Substation	Thelma Brown		
Director	James Eilenberger		
Senior Vice President	Peter Clarke		

Overall Justification

To provide a separate breaker for the 3525X line and 3521 line which combined serve 7,601 customers. This project provides for a second ground source for the substation (necessary when the old TB 254 is removed) and removes obsolete and out of service equipment.

Project Scope

- Remove 34.5-22kV transformer and OCB.
- Install a 34.5kV breaker for the 3525X line
- Install ground bank on the 34.5kV bus one (1).
- Remove 34.5- 4kV transformer and 4kV switchgear.

Project Objectives

Separate the 3525X and 3521X lines to be fed by two breakers. Currently there are 3,233 customers on circuit 3525X and 4,368 customers on 3521X.

Remove obsolete equipment while completing the breaker installation in Berlin East Side SS. Over the past year it has been determined that doing all removals in conjunction with the new installation is more efficient than designing multiple projects and mobilizing multiple times.

Business Process and / or Technical Improvements:

- Reliability
- Removal of obsolete equipment

Assumptions

Contractor will mobilize once for all portions of the construction.



Accounting Policy Statement No. 2
Operations Project Authorization

Alternatives Considered

- 1) Some de-energized equipment can remain on-site which may save some removal costs. However, the transformer TB254 and associated equipment needs to be removed in order to utilize the bay position to feed the new 3525X breaker. Savings for this alternative would be minimal.
- 2) Do not separate the 3525X circuit from the 3521X line breaker but remove obsolete equipment. This would leave 7601 customers on a single breaker and not provide a looped system between two breakers.
- 3) Replace the wye-delta 115-34.kV transformer TB115 instead of installing a ground bank. This would be an additional \$2M to provide a new transformer. Additionally, the wye ground at the 115kV side of TB115 is still preferred to act as a ground source for the 115kV system in this area.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Engineering	8/1/16
In Service	12/30/16



Accounting Policy Statement No. 2
Operations Project Authorization

Financial Evaluation

Direct Capital Costs (\$000)	2014	2015	2016	Total
Straight Time Labor	\$ 14	\$ 1	\$ 20	\$ 35
Overtime Labor	\$			\$
Outside Services	\$ 3	\$	\$ 750	\$ 753
Materials	\$ 32	\$	\$ 130	\$ 162
Other, including contingency amounts (describe)	\$ 1	\$	\$ 120	\$ 121
Total	\$ 50	\$ 1	\$ 1,020	\$ 1,071

Indirect Capital Costs (\$000)	2014	2015	2016	Total
Benefits / Loaders	\$ 23	\$ 3	\$ 195	\$ 222
Capitalized interest or AFUDC, if any	\$ 1	\$ 1	\$ 13	\$ 15
Total	\$ 24	\$ 5	\$ 208	\$ 237

Total Capital Costs	\$ 74	\$ 6	\$ 1,228	\$ 1,308
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Total O&M Costs				
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Total Project Costs (\$000)	\$ 74	\$ 6	\$ 1,228	\$ 1,308
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Regulatory Approvals

Permitting may be required by the City of Berlin.

Risks and Risk Mitigation Plans

None identified.

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 19-057

Date Request Received: 10/28/2019

Date of Response: 11/18/2019

Request No. TS 2-059

Page 1 of 2

Request from: New Hampshire Public Utilities Commission Staff

Witness: Erica L. Menard, Joseph A. Purington, Lee G. Lajoie

Request:

Re: Berlin Eastside 34.5kV Line Breaker, #A14N21, 12-045AD. Please provide the following information for this project:

- a. Re: Executive Summary and related table at pages 2-3: Please explain why so many of the direct and indirect costs for this project were omitted or not considered in the original estimate. Were the design/scoping engineers interviewed by Management to determine the root cause for these omissions? If not, why not? If yes, what were the results of those discussions?
- b. Please provide an itemized break-out of overheads, AFUDC, and other costs leading up to the variance?
- c. Did Eversource engineers conduct a site visit and site assessment during the initial scoping and designing of the project? If not, why not?
- d. At any time did Project Managers work with project cost analysts to control cost escalation for this project? If not, why not? If yes, what were the results? Given the monthly reports received by Management, was Management actively involved in controlling the cost escalation of this project? If not why not? If yes, were cost controls put into place?

Response:

- a) Refer to Attachment TS 2-059 for a general summary of the project life cycle and Eversource project funding and authorization process at the time of the project. This document includes reference to a recent transition to a staged sanctioning process where full project funding authorization is not granted until sufficient engineering and procurement information is available to develop a full project estimate of sufficient accuracy to minimize the need for incremental authorizations during construction.

This project was initiated in 2014 as a single breaker addition to support installation of a new substation at Community Street. In 2016, the project was changed to incorporate scopes from other independent project needs. A new aggregate estimate was prepared and authorized at that time. This estimate was completed prior to completion of preliminary engineering, which was necessary to finalize detailed scope of the project.

The engineering for this project proved to be much more complex than anticipated, resulting in more engineering cost. The site contained contaminated soils requiring a soils management plan and disposal costs. Unanticipated scope included significant 34.5kV Line work. Electrical testing was included in the original estimate, however, due to policy changes to minimize human performance errors, which require full time commissioning engineer presence on site during projects of this nature, the testing cost increased.

These are not considered omissions due to the conceptual nature of the scope known at the time of the original estimate.

- b) The indirect cost variance is as follows:

	Original PAF, \$k	Supplement, \$k
Direct Cost	\$1,070	\$2,838
Indirect Cost	\$222	\$797
Aggregate Indirect Rate	21%	28%
AFUDC	\$15	\$11

The variance in indirect cost is driven primarily by an increase in direct cost of the project and to a lesser degree, increase in overhead rates.

- c) A site visit was conducted prior to the preparation of the initial scope and estimate. Several site visits also took place later in the design process and assisted with refinement of the scope of work, particularly with respect to incorporating the scope of work of the other independent project needs.
- d) At the time this project was in execution, it was Eversource's practice to assign dedicated cost analysts to support project managers with cost control, analysis and forecasting for major transmission projects. At the time of this project, cost analyst support for distribution-only projects did not perform all of these functions and was transitioning this practice to fully support major distribution-only projects.

This project was reviewed monthly at the Distribution Capital Project Review meeting. Cost control measures included budget forecasting, weekly and monthly reviews of the project cost, change order review and negotiations with contractors as well as attending the monthly Distribution Capital Review and Major Project Group meetings. Project forecast changes were presented and justified to management at these meetings. Impacts to the annual distribution budgets were discussed with respect to cash flow adjustments from year to year. Required cost controls included a requirement to request and secure supplemental funding to complete the project.

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
 CAPITAL ADDITIONS PLACED IN SERVICE FOR 2019-2022
 LISTING OF ESTIMATED PLANT IN SERVICE BY PROJECT

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Item No	Location	Project Title	In Service Date	2019	2020	2021	2022
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1001	Various	PURCHASE TRANSFORMERS AND REGULATOR ANNUAL PROJECT	12/31/20xx	\$14,000,000	\$10,443,000	\$10,455,000	\$10,724,000
1002	Various	SYSTEM REPAIRS/OBSELETE ANNUAL PROJECT	12/31/20xx	\$10,000,000	\$9,500,000	\$9,836,300	\$10,033,900
1003	Various	CIRCUIT TIES FORECAST PROJECT	12/31/xx	\$9,500,000	\$9,500,000	\$9,500,000	\$9,500,000
1004	Various	OPERATIONS SERVICES (VEHICLES, TRAINING, METERS, ETC.)	12/31/xx	\$5,825,179	\$9,309,000	\$9,101,200	\$9,294,300
1005	Various	NEW/EXISTING CUSTOMERS ANNUAL PROJECT	12/31/20xx	\$7,996,717	\$7,752,000	\$7,907,040	\$8,065,181
1006	Various	DISTRIBUTION AUTOMATION - POLE TOP	12/31/xx	\$0	\$11,400,000	\$5,700,000	\$5,700,000
1007	Various	DISTRIBUTION LINE ROW ANNUAL PROGRAM	12/31/xx	\$4,750,000	\$4,845,000	\$4,941,900	\$5,039,750
1008	Various	STREETSIDE RECONSTRUCTION/HARDENING FORECAST PROJECT	12/31/xx	\$0	\$2,945,000	\$3,325,000	\$4,275,000
1009	Various	FACILITIES/WAREHOUSING	12/31/xx	\$3,473,000	\$8,446,755	\$4,294,495	\$3,254,500
1010	Keene	EMERALD STREET SUBSTATION	06/01/2020	\$9,562,386	\$14,336,133	\$0	\$0
1011	Various	ROW HARDENING/RECONDUCTORING	12/31/xx	\$1,900,000	\$1,900,000	\$3,800,000	\$5,054,000
1012	Various	UNIT SUBSTATION TRANSFORMER REPLACEMENTS FORECAST PROJECT	12/31/xx	\$0	\$0	\$1,425,000	\$4,750,000
1013	Various	DISTRIBUTION AUTOMATION - POLE TOP	12/31/xx	\$20,000,000	\$0	\$0	\$0
1014	Various	SIMPLE/COMPLEX SERVICES ANNUAL PROJECT	12/31/20xx	\$3,239,973	\$3,149,250	\$3,212,235	\$3,276,480
1015	Various	LACONIA AREA 12 KV SUBSTATION CHANGES FORECAST PROJECT	12/31/xx	\$0	\$522,500	\$1,900,000	\$4,750,000
1016	Various	TELECOM ENGINEERING	12/31/xx	\$5,700,000	\$2,172,000	\$1,972,000	\$1,972,000
1017	Manchester	EDDY SUBSTATION CONTROL HOUSE	12/01/2020	\$5,904,954	\$9,980,700	\$0	\$0
1018	Various	REJECT POLE REPLACEMENT ANNUAL PROGRAM	12/31/xx	\$2,375,000	\$2,375,000	\$2,375,000	\$2,375,000
1019	Dover	DOVER SUBSTATION REBUILD	12/31/2021	\$0	\$0	\$13,078,650	\$0
1020	Portsmouth	PORTSMOUTH SUBSTATION - ADD TRANSFORMER	06/01/2020	\$3,770,550	\$9,264,400	\$0	\$0
1021	Various	ELECTROMECHANICAL RELAY REPLACEMENTS FORECAST PROJECT	12/31/xx	\$0	\$3,135,000	\$6,175,000	\$3,135,000
1022	New Hampton	PEMIGEWASSETT SUBSTATION REPLACEMENT	12/01/2020	\$4,331,657	\$7,760,550	\$0	\$0
1023	Various	NHDOT PROJECT ANNUAL PROGRAM	12/31/20xx	\$2,000,000	\$1,938,000	\$1,976,760	\$2,016,295
1024	Various	SUBSTATION PEAK LOAD FORECAST PROJECT	12/31/20xx	\$0	\$0	\$475,000	\$3,800,000
1025	Various	RELIABILITY IMPROVEMENTS ANNUAL PROJECT	12/31/xx	\$1,900,000	\$1,900,000	\$1,900,000	\$1,900,000
1026	Various	34.5 KV OCB SUBSTATION BREAKER AND ANCILLARY EQUIPMENT	12/31/xx	\$2,375,000	\$950,000	\$1,425,000	\$1,425,000
1027	Tamworth	WHITE LAKE SUBSTATION REBUILD	12/01/2022	\$0	\$0	\$0	\$10,899,350
1028	Various	ELECTROMECHANICAL RELAY REPLACEMENT PROGRAM	12/31/xx	\$2,280,000	\$950,000	\$1,092,500	\$1,092,500
1029	Troy	MONADNOCK SUBSTATION REPLACE TRANSFRMR TB40	12/31/2021	\$0	\$0	\$9,728,000	\$0
1030	Milford	SOUTH MILFORD TRANSFORMER ADDITION FORECAST PROJECT	12/01/2022	\$0	\$0	\$0	\$9,500,000
1031	Manchester	HUSE RD TRANSFORMER REPLACEMENT FORECAST PROJECT	12/01/2022	\$0	\$0	\$0	\$9,500,000
1032	Madbury	MADBURY SUBSTATION FORECAST PROJECT	12/01/2023	\$0	\$0	\$0	\$0
1033	Milford	SECOND ASHLAND TRANSFORMER FORECAST PROJECT	12/01/2023	\$0	\$0	\$0	\$0
1034	Manchester	LARGER TRANSFORMERS PINE HILL FORECAST PROJECT	12/01/2024	\$0	\$0	\$0	\$0
1035	Various	CAIDI IMPROVEMENT	12/31/xx	\$475,000	\$950,000	\$1,900,000	\$1,900,000
1036	Various	NH DMS FORECAST PROJECT	12/01/2022	\$0	\$0	\$0	\$8,550,000
1037	Various	VARIOUS 4 KV CONVERSION FORECAST PROJECT	12/31/xx	\$0	\$475,000	\$1,900,000	\$1,900,000
1038	Various	ROW REPLACE FIELD EQUIPMENT - ANNUAL PROJECT	12/31/20xx	\$1,200,000	\$1,162,800	\$1,186,056	\$1,209,777
1039	Various	TOOLS AND EQUIPMENT- FIELD OPERATIONS ANNUAL PROGRAM	12/31/20xx	\$1,100,000	\$1,122,000	\$1,144,440	\$1,167,329
1040	Claremont	RIVER ROAD SUBSTATION	12/01/2020	\$2,058,328	\$4,674,950	\$0	\$0
1041	Nashua	MILLYARD SUBSTATION REPLACEMENT	12/31/2020	\$0	\$6,689,900	\$0	\$0
1042	Various	INFORMATION TECHNOLOGY	12/31/xx	\$440,000	\$440,131	\$4,350,000	\$827,600
1043	Various	LINE RELOCATIONS ANNUAL PROGRAM	12/31/20xx	\$1,000,000	\$969,000	\$988,380	\$1,008,148
1044	Various	SUBSTATION OPERATIONS ANNUAL PROGRAM	12/31/xx	\$950,000	\$950,000	\$950,000	\$950,000
1045	Various	POWER TRANSFORMER FAILURE FORECAST PROJECT	12/31/20xx	\$1,000,000	\$0	\$1,000,000	\$1,000,000
1046	Various	DIRECT BURIED CABLE REPLACEMENT	12/31/xx	\$0	\$950,000	\$950,000	\$950,000
1047	Laconia	WEIRS SUBSTATION REBUILD	10/01/2022	\$0	\$0	\$0	\$4,750,000
1048	Various	DA BACKHAUL ENHANCEMENT FORECAST PROJECT	2023 and 2024	\$0	\$0	\$0	\$0
1049	Various	CAPACITOR SWITCH REPLACEMENTS ANNUAL PROGRAM	12/31/xx	\$760,000	\$760,000	\$760,000	\$760,000
1050	Various	DISTRIBUTION SUBSTATION ENGINEERING ANNUAL PROGRAM	12/31/xx	\$712,500	\$726,750	\$741,285	\$760,000
1051	Various	PLC AUTOMATION SCHEME REPLACEMENT	12/31/xx	\$190,000	\$475,000	\$950,000	\$950,000
1052	Rochester	TWOMBLEY SUBSTATION REBUILD	12/01/2020	\$237,500	\$3,847,500	\$0	\$0
1053	Various	MAINTAIN VOLTAGE ANNUAL PROJECT	12/31/20xx	\$665,000	\$665,000	\$665,000	\$665,000
1054	Various	STORM CAPITALIZATION ANNUAL PROGRAM	12/31/20xx	\$600,000	\$581,400	\$593,028	\$604,889
1055	Various	OH INSURANCE CLAIM ANNUAL PROJECT	12/31/20xx	\$600,000	\$581,400	\$593,028	\$604,889
1056	Various	PEAK LOAD DISTRIBUTION LINE FORECAST PROJECT	12/31/20xx	\$950,000	\$475,000	\$475,000	\$475,000
1057	Various	OTHER	12/31/20xx	\$235,303	\$540,383	\$581,047	\$587,615
1058	Various	CABLE TV PROJECTS ANNUAL PROGRAM	12/31/20xx	\$500,000	\$484,500	\$494,190	\$504,074
1059	Various	MISCELLANEOUS OTHER FORECAST PROJECT	12/31/20xx	\$2,600,000	\$0	\$0	\$0
1060	Manchester	BROOK ST SUBSTATION - 13TR1 REPLACEMENT	12/31/2020	\$0	\$2,499,450	\$0	\$0
1061	Various	NON-ROADWAY LIGHTING ANNUAL PROJECT	12/31/20xx	\$400,000	\$387,600	\$395,352	\$403,259
1062	Various	INSTALL ANIMAL PROTECTION	12/31/xx	\$0	\$475,000	\$475,000	\$475,000
1063	Various	PORCELAIN CHANGE-OUT ANNUAL PROGRAM	12/31/xx	\$950,000	\$0	\$0	\$0
1064	Claremont	CLAREMONT AREA SUBSTATION UPGRADES	12/31/2020	\$518,115	\$1,851,550	\$0	\$0
1065	Rochester	ROCHESTER 4KV CONVERSION	12/31/xx	\$0	\$1,544,700	\$623,200	\$0
1066	Various	HEATHER-LITE REPLACEMENT FORECAST PROJECT	12/31/xx	\$237,500	\$0	\$475,000	\$475,000
1067	Keene	REPLACE 2 SF6 SWITCHES WITH TRAYER KEENE	12/31/2019	\$1,836,295	\$0	\$0	\$0
1068	Various	NH LINE CONTRACTORS ANNUAL PROGRAM	12/31/20xx	\$300,000	\$290,700	\$296,514	\$302,444

Item No	Location	Project Title	In Service Date	2019	2020	2021	2022
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1069	Various	REPLACE LATTICE STEEL TOWERS	12/31/xx	\$285,000	\$285,000	\$285,000	\$285,000
1070	Various	REPLACE DEGRADED MANHOLES	12/31/xx	\$190,000	\$285,000	\$285,000	\$285,000
1071	Rye	RYE AREA 4KV STUDY	12/31/2019	\$1,567,264	\$0	\$0	\$0
1072	Various	JOINT POLES PURCHASE & SALE ANNUAL PROGRAM	12/31/20xx	\$200,000	\$193,800	\$197,676	\$201,630
1073	Various	TELEPHONE PROJECTS ANNUAL PROGRAM	12/31/20xx	\$200,000	\$193,800	\$197,676	\$201,630
1074	Various	TOOLS AND EQUIPMENT - SUBSTATION OPERATIONS ANNUAL PROGRAM	12/31/20xx	\$160,000	\$163,200	\$166,464	\$169,793
1075	Various	DISTRIBUTION AUTOMATION - SUBSTATION	12/31/xx	\$1,000,000	\$0	\$0	\$0
1076	Bedford	BEDFORD SUBSTATION PLC AUTOMATION SCHEME	12/31/2019	\$984,655	\$0	\$0	\$0
1077	Various	ROW PEAK LOAD FORECAST PROJECT	12/31/20xx	\$967,090	\$0	\$0	\$0
1078	Laconia	LACONIA SUBSTATION EQUIPMENT REPLACEMENT	12/31/2019	\$950,000	\$0	\$0	\$0
1079	Various	DISTRIBUTION AUTOMATION - SUBSTATION	12/31/xx	\$0	\$950,000	\$0	\$0
1080	Various	DISTRIBUTION AUTOMATION - LINE SENSORS	12/31/xx	\$0	\$171,000	\$171,000	\$171,000
1081	Various	MINOR STORMS CAPITAL - PSNH ANNUAL PROGRAM	12/31/20xx	\$130,000	\$125,970	\$128,489	\$131,059
1082	Various	HPS ADDS/CHANGES ANNUAL PROJECT	12/31/20xx	\$120,000	\$116,280	\$118,606	\$120,978
1083	Amherst	AMHERST SUBSTATION - PLC AUTOMATION REPLACEMENT	12/31/2020	\$0	\$665,000	\$0	\$0
1084	Various	MISC OFFICE EQUIPMENT ANNUAL PROGRAM	12/31/20xx	\$100,000	\$102,000	\$104,040	\$106,121
1085	Various	NESC CAPITAL REPAIRS	12/31/20xx	\$100,000	\$95,000	\$95,000	\$95,000
1086	Various	DOWNTOWN PORTSMOUTH UG SYSTEM IMPROVEMENT	12/31/xx	\$95,000	\$95,000	\$95,000	\$95,000
1087	Various	DISTRIBUTION AUTOMATION - TELECOM	12/31/xx	\$0	\$95,000	\$95,000	\$95,000
1088	Various	INSTALL ANIMAL PROTECTION FORECAST PROJECT	12/31/2019	\$475,000	\$0	\$0	\$0
1089	Various	PCB TRANSFORMER CHANGEOUT ANNUAL PROGRAM	12/31/20xx	\$75,000	\$72,675	\$74,129	\$75,611
1090	Various	TOOLS AND EQUIPMENT - ENGINEERING ANNUAL PROGRAM	12/31/20xx	\$75,000	\$75,000	\$75,000	\$75,000
1091	Various	TOOLS AND EQUIPMENT- TROUBLESHOOTER ANNUAL PROGRAM	12/31/20xx	\$0	\$60,000	\$60,000	\$60,000
1092	Rye	RETIRE FOYES CORNER SUBSTATION 4KV	07/01/2020	\$0	\$190,000	\$0	\$0
1093	Various	RELIABILITY DISTRIBUTION AUTOMATIONN FORECAST PROJECT	12/31/xx	\$180,000	\$0	\$0	\$0
1094	Various	DISTRIBUTION AUTOMATION - TELECOM	12/31/xx	\$100,000	\$0	\$0	\$0
1095	Rochester	RETIRE FOYES CORNER SUBSTATION 4KV FORECAST PROJECT	12/31/2019	\$95,000	\$0	\$0	\$0
				<u>\$149,448,967</u>	<u>\$172,977,727</u>	<u>\$140,230,679</u>	<u>\$165,280,099</u>

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 19-057

Date Request Received: 10/11/2019

Request No. OCA 8-003

Request from: Office of Consumer Advocate

Date of Response: 10/24/2019

Page 1 of 1

Witness: Troy Dixon, Douglas P. Horton

Request:

Capital Projects. Refer to Attachment EHC/TMD-3 (perm), Page 2 of 8. Provide a listing of the projects included in each of the respective years 2019-2022, by item number similar to the listings provided in response to OCA 1-009. If the Company cannot provide the information in that format, explain why not and provide listings by year in the most detailed format available by project.

Response:

The Company's capital planning process begins with a high-level, long-range (5 year) capital expenditure and capital addition forecast by major category of investment developed in the spring of each year. The 5-year forecast is also referred to as the strategic plan. Toward the end of each year, a detailed one-year capital expenditure plan is developed at the specific project level for the coming year. This one-year capital expenditure plan forms the basis of the Company's capital budget for the upcoming year. This capital budget includes capital additions and cost of removal.

The step adjustments proposed in this case are based on the high-level, long-range capital additions forecast, which is produced by category of investment and is not developed to encompass a specific project level because this level of detail comes later in the process and is designed to pertain specifically to an upcoming investment year. Therefore, a detailed plan by project is not available for the step adjustments. However, a detailed plan for capital expenditures at the project level is available for calendar year 2019 and is included in the Company's annual construction budget filing (provided in SFR-001756 and Attachment OCA 1-009 F). As described in the response to Staff 13-009, the amounts referenced in the 2019-2022 step increases in this rate case are estimated amounts based on forecasted levels of plant additions. The actual step increases will be based on actual plant additions within the step adjustment year. In addition, the detailed capital plan for calendar year 2020 will become available later this year.

Attachment OCA 8-003 provides a list of estimated additions by year from the Company's strategic plan at the most detailed level available in a format similar to the Form E-22 annual construction budget.