

**Docket No. 4770**  
**Thirty Fifth Set of Data Requests of the**  
**Division of Public Utilities and Carriers to National Grid**  
**March 19, 2018**

- 35-1. Referring to the Testimony of Leary and McCabe (Book 15 of 17), Bates page 22, lines 16-19, the testimony describes how the existing low-income (or “income eligible”) discount for electric distribution customers is recovered, stating: “The discount provided to Rate A-60 customers is recovered through the residential rate design in the 2012 Rate Case, which resulted in a higher base distribution kWh rate. Consequently, all Rate A-16 residential customers are paying for the discount provided to Rate A-60 customers.” However, the Testimony of Isberg (Book 4 of 17), Bates page 95, lines 18-20, refers to the low-income (or “income-eligible”) discount generally, stating: “the value of the discount provided to customers taking the low-income rate, which is paid through base rates of all other customers.” Please clarify how the existing low-income (“income eligible”) rate discounts are currently recovered in rates. Is the revenue loss recovered from residential rate classes only, or is the revenue loss recovered from all rate classes (including non-residential)? Please answer this for both the electric and gas discounts separately and be specific as to which rate classes pay for the cost of the discount in distribution rates.

**Response can be found on Bates page(s) 1-4.**

- 35-2. Referring to PST-1, Bates page 58, regarding the PI Historian:
- a. Is the PI Historian currently being used by the Company or any of its affiliates in some form?
  - b. If the answer to (a) was yes, please identify where and at which facilities, and further explain how the PI Historian is being used.
  - c. If the answer to (a) was yes, please describe the additional plans for use of the PI Historian and the facilities that will benefit.
  - d. If the PI Historian is not currently being used by the Company, please explain why not.

**Response can be found on Bates page(s) 5-6.**

Division 35-1

Request:

Referring to the Testimony of Leary and McCabe (Book 15 of 17), Bates page 22, lines 16-19, the testimony describes how the existing low-income (or "income eligible") discount for electric distribution customers is recovered, stating: "The discount provided to Rate A-60 customers is recovered through the residential rate design in the 2012 Rate Case, which resulted in a higher base distribution kWh rate. Consequently, all Rate A-16 residential customers are paying for the discount provided to Rate A-60 customers." However, the Testimony of Isberg (Book 4 of 17), Bates page 95, lines 18-20, refers to the low-income (or "income-eligible") discount generally, stating: "the value of the discount provided to customers taking the low-income rate, which is paid through base rates of all other customers." Please clarify how the existing low-income ("income eligible") rate discounts are currently recovered in rates. Is the revenue loss recovered from residential rate classes only, or is the revenue loss recovered from all rate classes (including non-residential)? Please answer this for both the electric and gas discounts separately and be specific as to which rate classes pay for the cost of the discount in distribution rates.

Response:

The Company's statement in the Pre-Filed Joint Direct Testimony of Company Witnesses Ann Leary and Scott McCabe, Bates Page 22 of Book 15, Lines 16-19 regarding the recovery of the electric rate year low income discount from other electric residential customers is inaccurate. The electric low income discount provided to Rate A-60 customers is recovered from all customers, not only Rate A-16 customers. The base distribution rates for all customers include recovery of a portion of the rate year electric low income discount. In the Company's last general rate case in Docket No. 4323, Narragansett Electric estimated a low income discount of \$6,446,453 for Rate A-60 customers. The calculation of this amount is presented on Page 1 of Attachment DIV 35-1, which is Page 2 of Compliance Attachment D (Schedule JAL-4), Proposed Distribution Rate Design, from the Company's January 24, 2013 Compliance Filing in Docket No. 4323. The allocation of the low income discount is presented on Page 2 of Attachment DIV 35-1, which is Compliance Attachment 3B (Schedule JAL-1), the Compliance Revenue Allocation. Lines 29 and 30 present the reallocation of the low income discount of \$6.446 million to Narragansett Electric's residential and non-residential rate classes.

Recovery of Narragansett Gas's rate year low income discount is similarly recovered through the base distribution rates of its residential and non-residential rate classes. Narragansett Gas proposed the introduction of its low income rate classes in its 2008 general rate case in Docket No. 3943, with a rate year low income discount of \$792,453 for its Rate R-11 and R-13 customers. The calculation of this amount is presented on Page 2 of Attachment NG-Compliance RD-2, from Narragansett Gas's November 26, 2008 Compliance Filing in Docket No. 3943. The allocation of this low income discount is presented on Page 1 of Attachment

NG-Compliance RD-1. In Narragansett Gas's last general rate case in Docket No. 4323, Narragansett Gas did not specifically identify the amount of rate year low income discount. In designing rates, Narragansett Gas established upper and lower limits to the individual rate classes increases. Therefore, Narragansett Gas cannot isolate and identify the rate year low income discount allocated to residential and non-residential rate classes because the discount was embedded in the determination of base distribution rates.

The Narragansett Electric Company  
Rate Design for Residential Rates A-16 / A-60

Line	Billing Units	Rates Before Low Income Discount	Revenue Before Low Income Subsidy	Rate Adjustment for Low Income Subsidy	Rates Including Low Income Subsidy	Compliance Rates Including Reallocation of Capped Classes Rate Rev	Revenue
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Revenue Allocation		<u>\$133,620,023</u>				<u>\$133,808,673</u>
2							
3	Customer Charge:						
4	Monthly Bills- A-16	4,669,275	\$5.00	\$23,346,374	\$5.00	\$5.00	\$23,346,374
5	Monthly Bills- A-60	502,672	\$5.00	2,513,358	\$0.00	\$0.00	0
6							
7	Customer Charge Revenue	5,171,946		<u>25,859,732</u>			<u>23,346,374</u>
8							
9	Energy-based Charge:						
10	kWh Sales- A-16	2,830,141,506	\$0.03451	97,668,183	\$0.00103	\$0.03554	103,696,385
11	kWh Sales- A-60	291,989,246	\$0.03451	10,076,549	\$0.02207	\$0.02317	6,765,391
12		<u>3,122,130,751</u>		<u>107,744,732</u>			<u>110,461,776</u>
13							
14	Distribution Charge Revenue			<u>107,744,732</u>			<u>110,461,776</u>
15							
16	Rate A-16 Rev		121,014,558				127,042,759
17	Rate A-60 Rev		12,589,907				6,765,391
18							
19	Total Revenue		<u>\$133,604,464</u>				<u>\$133,808,150</u>
20							
21	Difference		(\$15,559)				(\$523)
22							
23							

24	Subsidy:	
25	Rate A-16 Customer Chg	\$5.00
26	Rate A-60 Customer Chg	\$0.00
27	Difference	(\$5.00)
28		
29	Billing Units	502,672
30	Subsidy - Customer Chg	(\$2,513,358)
31		
32	Rate A-16 kWh Chg	\$0.03554
33	Rate A-60 kWh Chg	\$0.02207
34	Difference	(\$0.01347)
35		
36	Billing Units	291,989,246
37	Subsidy - kWh Chg	(\$3,933,095)
38		
39	Total Subsidy	(\$6,446,453)

Notes:

43 Line (4), Column (a): Page 13, Column (a), Line (10)  
44 Line (5), Column (a): Page 13, Column (a), Line (11)  
45 Line (7), Column (a): Line (4) + Line (5)  
46 Line (10), Column (a): Page 13, Column (h), Line (10)  
47 Line (11), Column (a): Page 13, Column (h), Line (11)  
48 Line (12), Column (a): Line (10) + Line (11)  
49 Line (4), Column (b): Compliance  
50 Line (5), Column (b): Line (4)  
51 Line (10), Column (b): Compliance  
52 Line (11), Column (b): Line (10)  
53 Line (1), Column (c): Compliance Att 3B (Schedule JAL-1-S Page 1, Line (27))  
54 Line (4), Column (c): Column (a) x Column (b)  
55 Line (5), Column (c): Column (a) x Column (b)  
56 Line (7), Column (c): Line (4) + Line (5)  
57 Line (10), Column (c): Column (a) x Column (b)  
58 Line (11), Column (c): Column (a) x Column (b)  
59 Line (12), Column (c): Line (10) + Line (11)  
60 Line (14), Column (c): Line (12)  
61 Line (16), Column (c): Line (4) + Line (10)  
62 Line (17), Column (c): Line (5) + Line (11)  
63 Line (19), Column (c): Line (16) + Line (17)  
64 Line (21), Column (c): Line (19) - Line (1)  
65 Line (10), Column (d): Subsidy ÷ kWh less A-60 kWh  
66 Line (4), Column (e): Column (b)  
67 Line (5), Column (e): Compliance  
68 Line (10), Column (e): Column (b) + Column (d)  
69 Line (11), Column (e): Compliance

Line (4), Column (f): Column (e)  
Line (5), Column (f): Column (e)  
Line (10), Column (f): Column (e) + \$0.00110 per kWh, reallocation of capped classes shortfall  
Line (11), Column (f): Column (e) + \$0.00110 per kWh, reallocation of capped classes shortfall  
Line (1), Column (g): Compliance Att 3B (Schedule JAL-1-C Page 1, Line (45)) Column (b) x 1,000  
Line (4), Column (g): Column (a) x Column (f)  
Line (5), Column (g): Column (a) x Column (f)  
Line (7), Column (g): Line (4) + Line (5)  
Line (10), Column (g): Column (a) x Column (f)  
Line (11), Column (g): Column (a) x Column (f)  
Line (12), Column (g): Line (10) + Line (11)  
Line (14), Column (g): Line (12)  
Line (16), Column (g): Line (4) + Line (10)  
Line (17), Column (g): Line (5) + Line (11)  
Line (19), Column (g): Line (16) + Line (17)  
Line (21), Column (g): Line (19) - Line (1)  
Line (25), Column (a): Line (4), Column (b)  
Line (26), Column (a): Line (5), Column (f)  
Line (27), Column (a): Line (26) - Line (25)  
Line (29), Column (a): Line (5), Column (a)  
Line (30), Column (a): Line (27) x Line (29)  
Line (32), Column (a): Line (10), Column (e)  
Line (33), Column (a): Line (11), Column (e)  
Line (34), Column (a): Line (33) - Line (32)  
Line (36), Column (a): Line (11), Column (a)  
Line (37), Column (a): Line (34) x Line (36)  
Line (39), Column (a): Line (30) + Line (37)

X:\2012 neco\General Rate Case (4323)\Compliance Filing (Debt issuance)\Electric ACOS & Rate Design\Attachment 3\Sch JAL 1\_3\_4-S (Compliance).xls

The Narragansett Electric Company  
d/b/a National Grid  
R.I.P.U.C. Docket No. 4323  
Compliance Attachment 3B  
(Schedule JAL-1)  
Page 1 of 1

**The Narragansett Electric Company**  
**RESULTS OF ALLOCATED COST OF SERVICE STUDY AND REVENUE ALLOCATION**

Line	Total	Residential Rate A-16/ A-60	Small C&I Rate C-06	General C&I Rate G-02	200 kW Demand Rate G-32	3000 kW Demand Rate G-62	Lighting Rates S-10/S-14	Propulsion Rate X-01
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
<b>SECTION 1. SUMMARY OF RESULTS OF ALLOCATED COST OF SERVICE STUDY</b>								
1 Rate Base	\$561,738	\$296,490	\$54,542	\$82,460	\$77,651	\$19,545	\$29,286	\$1,764
2								
3 Compliance Rate of Return	7.17%	7.17%	7.17%	7.17%	7.17%	7.17%	7.17%	7.17%
4								
5 Return on Rate Base	\$40,277	\$21,258	\$3,911	\$5,912	\$5,568	\$1,401	\$2,100	\$126
6								
7 Operating Expenses (including taxes)	\$219,670	\$115,917	\$21,697	\$31,234	\$29,954	\$7,436	\$12,842	\$590
8								
9 Total Distribution Revenue Requirement	\$259,947	\$137,175	\$25,607	\$37,146	\$35,522	\$8,837	\$14,942	\$717
10								
11 less: Other revenue	\$8,163	\$3,555	\$1,318	\$1,593	\$935	\$477	\$269	\$15
12								
13 Distribution Rate Revenue Requirement	\$251,784	\$133,620	\$24,289	\$35,554	\$34,587	\$8,360	\$14,673	\$702
14								
15 Present Total Distribution Revenue	\$239,023	\$123,070	\$25,514	\$38,676	\$35,317	\$5,527	\$10,426	\$494
16								
17 Present Other Revenue	\$8,147	\$3,547	\$1,317	\$1,591	\$933	\$477	\$268	\$15
18								
19 Present Distribution Rate Revenue	\$230,876	\$119,523	\$24,198	\$37,085	\$34,384	\$5,050	\$10,158	\$479
20								
21 Increase/(Decrease) - Total Dist Revenue	\$20,924	\$14,106	\$93	-\$1,529	\$205	\$3,310	\$4,516	\$223
22								
23 <b>Percentage Increase/(Decrease)</b>	8.8%	11.5%	0.4%	-4.0%	0.6%	59.9%	43.3%	45.1%
24								
25								
26								
27 <b>Revenue Requirement @ Equal ROR</b>	\$251,784	\$133,620	\$24,289	\$35,554	\$34,587	\$8,360	\$14,673	\$702
28								
29 A-60 Rate Design Subsidy	-\$6,446	-\$6,446						
30 A-60 subsidy Re-allocated on Dist Rev Req Basis	\$6,446	\$3,421	\$622	\$910	\$886	\$214	\$376	\$18
31 Reallocation of Total A-60 Subsidy	\$0	-\$3,025	\$622	\$910	\$886	\$214	\$376	\$18
32								
33 Revenue Requirement w/ Low Income Subsidy	\$251,784	\$130,595	\$24,911	\$36,464	\$35,472	\$8,574	\$15,048	\$720
34 Increase/(Decrease) incl. Low Income Subsidy	\$20,908	\$11,072	\$713	-\$621	\$1,089	\$3,524	\$4,891	\$241
35								
36 Rev Req (Unconstrained Classes)	\$227,442	\$130,595	\$24,911	\$36,464	\$35,472			
37 % of Unconstrained Rev Req		57.42%	10.95%	16.03%	15.60%			
38								
39 Increase Constraint- 2 x system average						13.1%	17.5%	17.5%
40 Apply Constraint						\$724	\$1,825	\$86
41								
42 Shortfall from Constrained Classes	-\$6,020					-\$2,800	-\$3,066	-\$154
43 Re-allocation of Shortfall on Rev Req	\$6,020	\$3,457	\$659	\$965	\$939			
44 Energy Efficiency Uncollectibles	-\$611	-\$243	-\$47	-\$101	-\$180	-\$34	-\$5	-\$2
45 <b>Revenue Requirement</b>	\$251,173	\$133,809	\$25,524	\$37,328	\$36,232	\$5,740	\$11,977	\$564
46								
47 Increase/(Decrease) - Dist Rate Revenue	\$20,297	\$14,286	\$1,326	\$243	\$1,848	\$690	\$1,819	\$85
48								
49 Increase in Other Revenue	\$16	\$8	\$2	\$2	\$2	\$1	\$1	\$0
50 Recovery of Egy Eff Uncollectibles thru EE rates	\$611	\$243	\$47	\$101	\$180	\$34	\$5	\$2
51								
52 Increase/(Decrease) - Total Dist Revenue	\$20,924	\$14,537	\$1,374	\$346	\$2,030	\$725	\$1,825	\$86
53								
54 <b>Percentage Increase/(Decrease)</b>	8.8%	11.8%	5.4%	0.9%	5.7%	13.1%	17.5%	17.5%
55								
56 Return on Rate Base at Compliance Rates	7.17%	7.32%	9.52%	9.44%	9.52%	(6.06%)	(2.02%)	(0.55%)
57								
58								
59 Notes:								
60 Line (1): Compliance Attachment 3A, Page 1, Line (10)								Line (33): Line (27) + Line (31)
61 Line (3): Compliance Attachment 3A, Page 1, Line (32)								Line (34): Line (33) - Line (19)
62 Line (5): Line (1) x Line (3)								Line (36): Line (33) for unconstrained classes
63 Line (7): Compliance Attachment 3A, Page 1, Line (27) + Line (29)								Line (37): Line (36) + Line (36) Total
64 Line (9): Line (5) + Line (7)								Line (39): Constraint: Column (f) Line (23) Total x 1.5, Columns (g) and (h) Line (23) Total x 2
65 Line (11): Compliance Attachment 3A, Page 1, Line (17) + Line (18) + Line (19)								Line(40): Line (15) x Line (39) for constrained classes
66 Line (13): Line (9) - Line (11)								Line (42): Line (40) - Line (34)
67 Line (15): Compliance Attachment 3A, Page 1, Line (1)								Line (43): Line (37) x Line (42) Total for unconstrained classes
68 Line (17): Compliance Attachment 3A, Page 1, Line (2)								Line (44): Energy Efficiency Uncollectibles per Compliance Attachment 1, page 3
69 Line (19): Line (15) - Line (17)								Line (45): Line (33) + Line (42) + Line (43) + Line (44)
70 Line (21): Line (9) - Line (15)								Line (47): Line (45) - Line (19)
71 Line (23): Line (15) + Line (21)								Line (49): Line (11) - Line (17)
72 Line (27): Line (13)								Line (50): Line (44)
73 Line (29): (Compliance Attachment 3D: Page 2, Line (39))								Line (52): Line (47) + Line (49) + Line (50)
74 Line (30): - Line (29) allocated by Distribution Revenue Requirement on Line (13)								Line (54): Line (52) + Line (15)
75 Line (31): Line (29) + Line (30)								Line (56): [Line (45) + Line (11) - Operating Expense - Inc Taxes] ÷ Line (1)

Division 35-2

Request:

Referring to PST-1, Bates page 58, regarding the PI Historian:

- a. Is the PI Historian currently being used by the Company or any of its affiliates in some form?
- b. If the answer to (a) was yes, please identify where and at which facilities, and further explain how the PI Historian is being used.
- c. If the answer to (a) was yes, please describe the additional plans for use of the PI Historian and the facilities that will benefit.
- d. If the PI Historian is not currently being used by the Company, please explain why not.

Response:

- a. Yes, PI Historian is currently being used by the Company and its affiliates in both New England and New York.
- b. There are currently two PI Historian deployments serving the National Grid New England and New York Energy Management Systems (EMS) applications for transmission and distribution systems for the monitoring of approximately 700,000 data points. This data is used by operations, asset management, and engineering personnel to manage the system, identify operating issues, and understand system performance over time. A growing need for this information is being driven by work associated with grid modernization programs in New England and New York. An "Enterprise License" for PI Historian will permit the continued and unrestricted expansion of this application to support these programs as well as applications in the gas business.
- c. Additional plans for use of the PI Historian are as follows:
  - New deployments of the PI Historian application will be delivered to address the increasing volume of grid monitoring needs associated with grid modernization projects and the integration of distributed energy resources to capture, access, and store telemetry information.
  - Additional analytical/visualization software will be available for the Company's control centers, engineering, and asset management functions to make operational and investment decisions.

- This investment will increase the Company's ability to utilize this information across these areas and extend to other supportive functions.

(This response is identical to the Company's response to Division 12-1 in Docket No. 4780.)