Raquel J. Webster
Senior Counsel

February 22, 2021

BY ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket 5099 - Proposed FY 2022 Gas Infrastructure, Safety, and Reliability Plan
Responses to OER Data Requests – Set 2

Dear Ms. Massaro:

I have enclosed an electronic version of National Grid's[1] responses to the Rhode Island Office of Energy Resources' Second Set of Data Requests in the above-referenced matter.

Thank you for your attention to this matter. If you have any questions, please contact me at 781-907-2121.

Very truly yours,

Raquel J. Webster

Enclosures

cc: Docket 5099 Service List
Leo Wold, Esq.
Al Mancini, Division
John Bell, Division
Rod Walker, Division

[1] The Narragansett Electric Company d/b/a National Grid ("National Grid" or "Company").

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Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.

Joanne M. Scanlon

February 22, 2021
Date

Docket No. 5099- National Grid's FY 2022 Gas Infrastructure, Safety and Reliability (ISR) Plan - Service List 1/7/2021

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OER 2-1

Request:

In response to OER 1-1, National Grid provided data in an excel table. There is a row where the entry for Municipality (Column B) is "unknown" – please explain or provide a correct table.

Response:

Please see Attachment OER 2-1, which contains the updated table. In the updated table, only 0.13 miles are still listed as "Unknown" municipality. The Company recently switched to a new mapping platform and is in the process of updating the municipal boundaries. The Company expects to complete the municipal boundary updates in the next few months. These updates should address the remaining municipal mapping errors.

Prepared by or under the supervision of: Saadat Khan

Row	Municipality	Total miles of leak-prone pipe currently in place	Miles of leak-prone pipe replaced, repaired, or abandoned FY22 Proposed	FY22 Services	Miles of leak-prone pipe replaced, repaired, or abandoned FY21 Forecasted/Actual	FY21 Services	Miles of leak-prone pipe replaced, repaired, or abandoned FY20 Actual	FY20 Services	Miles of leak-prone pipe replaced, repaired, or abandoned FY19 Actual	FY19 Services	Miles of leak-prone pipe replaced, repaired, or abandoned FY18 Actual	FY18 Services
1	Barrington	1.64	0.08	1	0.95	41	0.74	60	0.67	53	1.18	35
2	Bristol	14.33	0.43	48	1.17	86	1.29	133	0.23	11	0.02	0
3	Burrillville	0.00	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
4	Central Falls	22.17	0.45	47	0.47	48	0.00	0	0.17	53	0.11	9
5	Coventry	5.71	0.00	0	0.19	6	0.64	29	0.00	0	0.12	5
6	Cranston	116.47	2.74	213	4.22	501	7.28	920	7.20	682	6.34	549
7	Cumberland	32.04	0.34	45	0.00	0	0.00	0	0.90	0	0.41	36
8	East Greenwich	2.97	0.00	0	0.00	0	0.36	13	0.00	0	0.34	14
9	East Providence	61.05	4.01	318	6.81	603	4.57	363	8.93	653	1.20	113
10	Exeter	0.23	0.00	0	0.46	7	0.00	0	0.00	0	0.00	0
11	Hopkinton	0.02	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
12	Johnston	27.82	0.89	30	1.75	101	3.01	285	2.06	227	2.92	251
13	Lincoln	18.73	1.36	75	1.04	78	0.00	1	0.70	100	0.85	76
14	Middletown	3.39	0.00	0	1.37	177	0.32	7	0.58	56	2.73	218
15	Narragansett	0.01	0.00	0	0.00	0	0.00	0	0.00	0	0.00	148
16	Newport	17.36	2.38	100	0.00	0	0.70	53	0.82	32	0.80	87
17	North Kingstown	1.72	1.51	72	0.17	7	4.06	123	0.00	0	0.57	31
18	North Providence	48.31	5.78	484	1.79	177	3.66	371	4.39	239	1.39	112
19	North Smithfield	7.94	1.34	73	0.00	0	0.01	32	0.40	29	0.00	0
20	Pawtucket	154.03	5.53	428	3.09	410	2.91	268	0.89	86	0.73	87
21	Portsmouth	0.27	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
22	Providence	238.73	13.06	1006	10.01	1228	1.60	324	6.95	783	5.59	896
23	Scituate	0.22	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
24	Smithfield	6.64	1.24	67	1.82	123	0.09	2	1.24	109	1.87	135
25	South Kingstown	3.34	0.25	6	0.00	0	0.06	1	0.00	0	0.00	0
26	Tiverton	0.06	0.00	0	0.14	8	0.00	0	0.00	0	0.00	0
27	Unknown	0.13	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
28	Warren	2.31	0.00	0	0.00	0	0.06	6	0.82	72	0.48	26
29	Warwick	77.25	6.74	408	7.81	614	10.14	157	12.60	961	12.18	1041
30	West Warwick	8.11	0.10	4	0.21	17	1.90	132	0.00	0	0.35	16
31	Westerly	10.68	1.90	112	0.62	34	2.26	147	2.97	149	5.86	165
32	Woonsocket	55.05	4.74	395	0.84	73	1.70	187	0.73	68	0.00	0
	Totals	938.74	54.87	3932	44.94	4339	47.37	3614	53.23	4363	46.05	4050

OER 2-2

Request:

Using data submitted in response to OER 1-1, please perform the following calculations and rankings:

(a) Rank municipalities in order of most total miles of leak-prone pipe currently in place to least.
(b) Calculate the miles of leak-prone pipe currently in place divided by population density (i.e. number of residents per unit of area). Rank municipalities in order of most miles of leak-prone pipe per population density to least.
(c) Calculate the percentage of miles replaced in % by dividing miles of leak- prone pipe replaced, repaired, or abandoned FY22 proposed (column D) by total miles of leak-prone pipe currently in place (column C) and multiplying by 100. Rank municipalities in order from higher percentage of miles replaced to least.

Response:

(a) Please see Attachment OER 2-2a.
(b) Please see Attachment OER 2-2b.
(c) Please see Attachment OER 2-2c

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Attachment OER 2-2a

Row	Municipality	Total miles of leak-prone pipe currently in place
22	Providence	238.73
20	Pawtucket	154.03
6	Cranston	116.47
29	Warwick	77.25
9	East Providence	61.05
32	Woonsocket	55.05
18	North Providence	48.31
7	Cumberland	32.04
12	Johnston	27.82
4	Central Falls	22.17
13	Lincoln	18.73
16	Newport	17.36
2	Bristol	14.33
31	Westerly	10.68
30	West Warwick	8.11
19	North Smithfield	7.94
24	Smithfield	6.64
5	Coventry	5.71
14	Middletown	3.39
25	South Kingstown	3.34
8	East Greenwich	2.97
28	Warren	2.31
17	North Kingstown	1.72
1	Barrington	1.64
21	Portsmouth	0.27
10	Exeter	0.23
23	Scituate	0.22
26	Tiverton	0.06
11	Hopkinton	0.02
15	Narragansett	0.01
3	Burrillville	0.00

Attachment OER 2-2b

Row	Municipality	Total miles of leak-prone pipe currently in place	Population Density (population/sq mi)	Miles of LPP/Population Density
6	Cranston	116.47	2,874	0.0405
29	Warwick	77.25	2,312	0.0334
22	Providence	238.73	9,776	0.0244
7	Cumberland	32.04	1,333	0.0240
12	Johnston	27.82	1,258	0.0221
20	Pawtucket	154.03	8,308	0.0185
9	East Providence	61.05	3,597	0.0170
13	Lincoln	18.73	1,213	0.0154
19	North Smithfield	7.94	529	0.0150
31	Westerly	10.68	758	0.0141
32	Woonsocket	55.05	5,394	0.0102
5	Coventry	5.71	590	0.0097
18	North Providence	48.31	5,816	0.0083
24	Smithfield	6.64	832	0.0080
2	Bristol	14.33	2,232	0.0064
25	South Kingstown	3.34	538	0.0062
16	Newport	17.36	3,173	0.0055
8	East Greenwich	2.97	800	0.0037
17	North Kingstown	1.72	610	0.0028
14	Middletown	3.39	1,249	0.0027
30	West Warwick	8.11	3,718	0.0022
10	Exeter	0.23	113	0.0020
4	Central Falls	22.17	16,307	0.0014
28	Warren	2.31	1,717	0.0013
23	Scituate	0.22	223	0.0010
1	Barrington	1.64	1,953	0.0008
21	Portsmouth	0.27	750	0.0004
26	Tiverton	0.06	539	0.0001
11	Hopkinton	0.02	188	0.0001
15	Narragansett	0.01	1,105	0.0000
3	Burrillville	0.00	306	0.0000

Attachment OER 2-2c

Row	Municipality	Total miles of leak-prone pipe currently in place	Miles of leak-prone pipe replaced, repaired, or abandoned FY22 Proposed	Miles of LPP/Population Density	Percent LPP Replaced in FY22
3	Burrillville	0.00	0.00	0.0000	N/A
17	North Kingstown	1.72	1.51	0.0028	87.8%
24	Smithfield	6.64	1.24	0.0080	18.7%
31	Westerly	10.68	1.90	0.0141	17.8%
19	North Smithfield	7.94	1.34	0.0150	16.9%
16	Newport	17.36	2.38	0.0055	13.7%
18	North Providence	48.31	5.78	0.0083	12.0%
29	Warwick	77.25	6.74	0.0334	8.7%
32	Woonsocket	55.05	4.74	0.0102	8.6%
25	South Kingstown	3.34	0.25	0.0062	7.5%
13	Lincoln	18.73	1.36	0.0154	7.3%
9	East Providence	61.05	4.01	0.0170	6.6%
22	Providence	238.73	13.06	0.0244	5.5%
1	Barrington	1.64	0.08	0.0008	4.9%
20	Pawtucket	154.03	5.53	0.0185	3.6%
12	Johnston	27.82	0.89	0.0221	3.2%
2	Bristol	14.33	0.43	0.0064	3.0%
6	Cranston	116.47	2.74	0.0405	2.4%
4	Central Falls	22.17	0.45	0.0014	2.0%
30	West Warwick	8.11	0.10	0.0022	1.2%
7	Cumberland	32.04	0.34	0.0240	1.1%
5	Coventry	5.71	0.00	0.0097	0.0%
8	East Greenwich	2.97	0.00	0.0037	0.0%
14	Middletown	3.39	0.00	0.0027	0.0%
10	Exeter	0.23	0.00	0.0020	0.0%
28	Warren	2.31	0.00	0.0013	0.0%
23	Scituate	0.22	0.00	0.0010	0.0%
21	Portsmouth	0.27	0.00	0.0004	0.0%
26	Tiverton	0.06	0.00	0.0001	0.0%
11	Hopkinton	0.02	0.00	0.0001	0.0%
15	Narragansett	0.01	0.00	0.0000	0.0%

OER 2-3

Request:

Using rankings from OER 2-2, to what extent are the proposed replacement percentages by municipality from (c) consistent with the amounts of leak-prone pipe given in items (a) and (b)? (e.g. does the municipality with the most leak- prone pipe also have the most miles proposed to be replaced, repaired, or abandoned in FY22?) Also, please comment on why this is an appropriate point of comparison or not.

Response:

The Company does not believe this is an appropriate comparison. The Company's main prioritization algorithm reviews leak prone pipe ("LPP") replacements on a micro level by pipe segment as opposed to reviewing LPP from a macro level by municipality.

National Grid has an obligation to maintain a safe and reliable gas system in the state of Rhode Island. The Company's proactive main replacement program is designed to meet this obligation. In addition, National Grid's proactive main replacement program is designed to meet federal pipeline safety code requirements to identify and reduce risk on its system as reflected in the Company's Distribution Integrity Management Plan ("DIMP").

To meet these requirements, National Grid reviews its inventory of gas pipe annually, and risk ranks that inventory using factors such as system performance, leak history, material and size. Based on this risk ranking, National Grid selects segments of main to replace annually, choosing segments with the highest risk scores whenever possible, and giving consideration for factors that may impact work timing such as municipal paving schedules. The main prioritization algorithm does incorporate factors that account for population density such as the probability of leak migrating into a building based on leak grades and the consequence factor, which is based on the types of buildings in the area of each the specific segment.

OER 2-4

Request:

How does National Grid factor in the number of residents and businesses proximate to a stretch of leak-prone pipe into its risk assessment and prioritization of leak-prone pipe replacement?

Response:

The Company factors in the number of residents and businesses proximate to a stretch of leak prone pipe by including in its main replacement algorithm a factor for the probability of a gas leak migrating into a building. Specifically, the algorithm considers leak history on each segment by leak grade. Leaks are graded on a variety of factors, including distance of gas leak reads from buildings, gas readings, the surface strata and other factors.

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OER 2-5

Request:

How does National Grid factor in health impacts of leakage into its risk assessment and prioritization of leak-prone pipe replacement? Please specify which, if any, health impacts are considered. If National Grid relies on data sources for health impacts, please provide citations.

Response:

The Company's algorithm deterioration factor is based on past leak history, which determines the risk of future leaks for the specific segment. This, in turn, reduces future gas leaks on the system. The reduction of leaks would reduce health impacts but the Company does not use health impact factors in its main prioritization algorithm.

OER 2-6

Request:

How does National Grid factor in environmental impacts of leakage into its risk assessment and prioritization of leak-prone pipe replacement? Please specify which, if any, environmental impacts are considered. If National Grid relies on data sources for environmental impacts, please provide citations.

Response:

The Company's leak prone pipe prioritization algorithm does not include a specific factor for the environmental impacts of gas leakage. The algorithm does factor in the reduction of future leaks, which, in turn, benefits the environment.

OER 2-7

Request:

Regarding leak-prone pipe: to what extent is the proposed replacement plan equitable? Please explain.

Response:

The Company does not select proactive main replacement segments with consideration of which communities have borne the highest costs to maintain the system and believes that to do so would violate of the Company's state and federal regulatory obligations.

National Grid has an obligation to maintain a safe and reliable gas system in the state of Rhode Island. The Company's proactive main replacement program is designed to meet this obligation. In addition, National Grid's proactive main replacement program is designed to meet federal pipeline safety code requirements to identify and reduce risk on its system, as reflected in the Company's Distribution Integrity Management Plan ("DIMP").

To meet these requirements, National Grid reviews its inventory of gas pipe annually, and risk ranks that inventory using factors such as system performance, leak history and material. Based on this risk ranking, National Grid identifies segments of main to replace annually, choosing segments with the highest risk scores whenever possible, and giving consideration to factors that may impact work timing such as municipal paving schedules. National Grid believes that all customers benefit when the Company designs its proactive main replacement program to meet the Company's obligation to provide safe and reliable service and in compliance with all pipeline safety rules and regulations.

OER 2-8

Request:

In what stage(s) of project development and implementation does National Grid coordinate with the following entities (or leverage the databases and maps they maintain) when selecting projects?

(a) RI Division of Statewide Planning
(b) RI Department of Transportation
(c) RI Department of Health
(d) Municipal Planning Offices

Response:

National Grid's Public Works department actively requests project information from all Rhode Island municipalities and the Rhode Island Department of Transportation ("RIDOT"). The Company reviews the project information it receives from these entities to determine whether any natural gas projects are required as a direct result of these municipal projects. National Grid shares the project information it receives from municipalities and the OER with project sponsors at National Grid. Each department actively reviews the information to determine whether any planned work will be impacted by proposed municipal work. National Grid attempts to replace leak prone pipe with all planned municipal and state projects by various project sponsors.

While selecting project scopes and locations, other Company departments will consult with the National Grid's Public Works department for additional information regarding municipal or state work within their project limits. These same Company departments may also consult with Rhode Island municipalities, state agencies, and/or other utilities, such as Narragansett Bay Commission ("NBC"), Providence Water, Newport Utilities Division, Kent Country Water Authority, or Bristol County Water Authority ("BCWA"), etc., directly.

Additionally, typically in the fall of each year, the Company's Public Works department provides the Company's capital work plans to all applicable Rhode Island municipalities and the RIDOT. The Company then has review meetings in mid-winter, as needed, with applicable municipalities, RIDOT and other agencies such as NBC, Providence Water, Newport Utilities Division, Kent County Water Authority and BCWA.

The Company does not coordinate directly with the Rhode Island Department of Health and RI Division of Statewide Planning. However, these agencies may have projects that are managed through the RIDOT. As explained above, the Company coordinate its work with the RIDOT.