

**STATE OF RHODE ISLAND
PUBLIC UTILITIES COMMISSION**

**IN RE: THE NARRAGANSETT ELECTRIC)
COMPANY, D/B/A NATIONAL GRID'S)
FY 2021 GAS INFRASTRUCTURE)
SAFETY, AND RELIABILITY PLAN)**

DOCKET NO. 4996

DIRECT TESTIMONY

OF

ALBERICO MANCINI

February 4, 2020

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1 **I. INTRODUCTION**

2

3 **Q. PLEASE STATE YOUR NAME AND THE BUSINESS ADDRESS OF YOUR**
4 **EMPLOYER.**

5 A. My name is Alberico Mancini. I am employed by the Rhode Island Division of Public
6 Utilities and Carriers (“Division”). The Division is located at 89 Jefferson Blvd., Warwick,
7 Rhode Island 02888.

8

9 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS MATTER?**

10 A. I am testifying on behalf of the Division.

11

12 **Q. WHAT IS YOUR POSITION WITH THE DIVISION?**

13 A. I am the Assistant Chief Accountant for the Division. I have been employed in this position
14 since April of 2019. Prior to being promoted to the Assistant Chief Accountant, I was a
15 Rate Analyst for the Division from May of 2014 through April 2019 and a Public Utilities
16 Engineering Specialist from February, 1999 through May, 2014.

17

18 **Q. WHAT DOES YOUR POSITION WITH THE DIVISION ENTAIL?**

19 A. As Assistant Chief Accountant for the Division, I am responsible for detailed analysis of
20 the accounting records and financial structure of utilities under the jurisdiction of the Public
21 Utilities Commission (“PUC” or “Commission”) and the Division. This includes

1 reviewing utility filings in concert with Division consultants and presenting the Division's
2 findings and recommendations to the Division Administrator and Commission.

3 Q. **WOULD YOU PLEASE OUTLINE YOUR EDUCATIONAL BACKGROUND?**

4 A. I graduated from the University of Rhode Island in 1994 with a Bachelor of Science degree
5 in Civil Engineering.

6
7 Q. **ARE YOU A MEMBER OF ANY PROFESSIONAL SOCIETIES?**

8 A. I am a member of the American Water Works Association (AWWA), New England Water
9 Works Association (NEWWA), and the Rhode Island Water Works Association
10 (RIWWA).

11
12 Q. **PLEASE BRIEFLY DESCRIBE YOUR EXPERIENCE WITH NATURAL GAS
13 UTILITIES.**

14 A. I have worked in the natural gas industry for the Division since May of 2014 when I was
15 promoted to Rate Analyst. Over the past 5 years, I have familiarized myself with the gas
16 business and gas distribution system of The Narragansett Electric Company, d/b/a National
17 Grid ("NGrid-Gas" or "Company") through my review of the Company's annual Gas Cost
18 Recovery filings, Distribution Adjustment Charge filings, Long Range Plan filings and
19 Infrastructure, Safety, and Reliability Plan filings. In that time, I have also conducted site
20 visits of facilities and capital projects throughout NGrid-Gas's distribution system.

1 **Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT BEFORE THE RHODE**
2 **ISLAND PUBLIC UTILITIES COMMISSION?**

3 A. Yes. I provided direct testimony in Docket No. 2904, relating to the request of the
4 Woonsocket Water Department's request for Infrastructure Replacement ("IFR") funding;
5 in Docket No. 2961, relating to the Providence Water Supply Board's ("PWSB") request
6 for IFR funding; in Docket No. 2969, relating to Prudence Island Utilities Corporation's
7 moratorium on new service connections; in Docket No. 2985, relating to Newport Water
8 Division's request for IFR/Capital Improvement Project ("CIP") funding; in Docket No.
9 3164, relating to Pawtucket Water Supply Board's request for IFR funding; in Docket No.
10 3311, relating to Kent County Water Authority's ("KCWA") IFR and CIP programs; in
11 Docket No. 3660, relating to KCWA's IFR and CIP projects; in Docket No. 4571, relating
12 to PWSB's request for CIP funding; and in Docket 4611, relating to KCWA's IFR and CIP
13 projects.

14

15 **II. PURPOSE OF TESTIMONY**

16

17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 A. The purpose of my testimony is to describe the review that was performed by the Division
19 regarding the Company's FY 2021 Gas Infrastructure, Safety, and Reliability Plan Proposal
20 that was submitted to the Division on September 27, 2019 ("Initial ISR Plan" or "Initial
21 Plan") and to discuss, in general terms, the process that ultimately resulted in a mutually
22 agreed to budget for the Gas Infrastructure, Safety, and Reliability FY 2021 Proposal that

1 was filed with the Commission on December 20, 2019 (“ISR Plan” or “Plan”). I will also
2 discuss the Division’s review of the ISR Plan for conformity with the agreed to budget and
3 discussions and agreements of the Company and the Division.
4

5 **III. ISR PLAN EVALUATION PROCESS**

6
7 **Q. WOULD YOU OUTLINE THE REVIEW THAT PRECEDED THE COMPANY’S**
8 **FILING OF THE PLAN?**

9 A. Yes. On September 27, 2019, the Company submitted the Initial ISR Plan to the Division.
10 As a first step in undertaking its evaluation of the Initial Plan, the Division retained Rod
11 Walker of the firm Rod Walker & Associates Consultancy, Inc. (“RW&AC”) to review the
12 Initial Plan. The Division also scheduled a “Walkthrough” of the Initial Plan with the
13 Company for early October, 2019. A copy of the agenda of the Walkthrough is attached
14 hereto and marked Exhibit A.
15

16 The Walkthrough occurred on October 7, 8 , 9 and 10, 2019 and generated multiple sets of
17 follow-up information requests which were submitted to and answered by the Company
18 informally. Copies of the requests and the Company’s responses are attached hereto and
19 marked as Exhibits B-1, B-2, B-3, B-4, B-5, B-6, B-7 and B-8.

1 During the Walkthrough, the Division requested the Company to provide high, medium
2 and low ISR scenarios for the FY 2021 Gas ISR budget.¹ On November 8, 2019, the
3 Division issued formal data requests to the Company. The Company provided data
4 responses to these requests on a rolling basis. A complete set of the responses dated
5 December 20, 2019 has been filed as Book 2 of 2 of the ISR Plan

6 .
7 **Q. WHAT WAS THE OUTCOME OF THE DIVISION'S REQUEST FOR THE HIGH,
8 MEDIUM AND LOW ISR SCENARIOS?**

9 A. On November 13, 2019, the Company submitted a response to the Division's request. A
10 copy of the Company's response is provided as an attachment to its response to Div 1-13.

11
12 **Q. WHAT DID THE DIVISION DO AFTER IT RECEIVED THE COMPANY'S
13 HIGH, MEDIUM AND LOW ISR SCENARIOS?**

14 On November 26, 2019 and December 5, 2019, the Division and NGrid-Gas met to discuss
15 the high, medium and low ISR scenarios as well as a revised proposed budget for the ISR
16 plan. Attached hereto and marked as Exhibit C is a schedule that shows the principal
17 iterations of the ISR budget from September 27, 2019 through December 10, 2019.

¹ This request was orally conveyed to the Company at the Walkthrough and was subsequently submitted to the Company in the form of a formal data request, Div 1-13.

1 **IV. REVIEW AND ANALYSIS**

2

3 **Q. WHAT WERE THE DIVISION'S PRINCIPAL CONCERNS WITH THE INITIAL**
4 **ISR PLAN?**

5 A. First, the Division was concerned about the magnitude of the Plan's budget (\$149,506,000)
6 as compared to the size of the budget of the FY 2020 Gas ISR Plan (\$118,003,000).²
7 Another major concern was the magnitude of the overall budget's increase that was
8 attributable to external statutory requirements—paving (\$29,079,748) and professional
9 engineering ("PE") Stamp costs (est. \$2.0 million)³. Third, the Division was concerned
10 about the magnitude of increases in certain discretionary categories of the FY 2021 ISR
11 Plan, *e.g.*, Proactive Main Replacement and Reliability. Fourth, a review of the Company's
12 2018 System Integrity Report raised the concern that despite the expenditure of significant
13 sums of money on proactive pipe replacement, total leak receipts have increased slightly
14 over the prior year. Lastly, the Division wanted to ensure that its recommendations
15 regarding the NGrid-Gas's FY 2020 Gas ISR Plan had been or were being addressed by
16 the Company.

17

18 **Q. HOW WOULD YOU LIKE TO ORGANIZE THE REMAINDER OF YOUR**
19 **TESTIMONY?**

² These figures exclude the costs contained in the plan for the Southern Rhode Island ("RI") Gas Expansion Project and Paving.

³ The estimate of PE Stamp costs was not included in the Company's September 27, 2019 submission but was discussed at the October 7, 2019 Walkthrough.

- 1 A. I would like to organize the remainder of the Division’s testimony as follows:
- 2 1) Discussion of the adjustments that were made to 7 cost categories and/or sub-
- 3 categories:
- 4 a) Proactive Main Replacement;
- 5 b) Pressure Regulating Facilities;
- 6 c) Allen’s Avenue;
- 7 d) Gas System Reliability;
- 8 e) LNG;
- 9 f) Paving; and
- 10 g) PE Stamps.
- 11 2) Discussion of the Southern RI Gas Expansion Project.

12

13 Discussion regarding: i) the overall state of the Company’s proactive main and service

14 programs, ii) the 2018 System Integrity Report, and iii) follow-up to last year’s gas ISR

15 plan recommendations as reflected in Docket No. 4916, Order No. 23521, is provided in

16 the Direct Testimony of Rod Walker. As of the date that the Company filed the ISR Plan

17 with the PUC, the budgeted amount for the Company’s “Heat Decarbonization” Program

18 was intended as a placeholder, subject to further discussions between Division and the

19 Company regarding the terms of the program. Those discussions did not take place as

20 anticipated. The Division recommends that the Heat Decarbonization Program should be

21 removed from the FY 2021 Gas ISR Plan without prejudice. The Company agrees with

22 this recommendation and has withdrawn the program from the ISR Plan.

1 **Q. WHAT OBSERVATIONS WOULD YOU LIKE TO MAKE REGARDING THE**
2 **ADJUSTMENTS THAT WERE MADE TO THE PROPOSED BUDGET FOR**
3 **PROACTIVE MAIN REPLACEMENT?**

4 A. The Proactive Main Replacement category is broken down into three sub-categories which
5 consist of the following: Main Replacement (Proactive) – Leak Prone Pipe (<16-inch),
6 Main Replacement (Proactive) Large Diameter LPCI Program (16-inches or greater), and
7 the Atwells Avenue Project. Adjustments were made in all three sub-categories. A driver
8 of the Company’s efforts to adjust these sub-categories downward from the Initial ISR Plan
9 was the significant increase in FY 2021 for the Atwells Avenue Project, as well as the
10 increase in the Main Replacement budget.⁴

11

12 Main Replacement (Proactive) – Leak Prone Pipe

13 The Company’s Initial ISR Plan included 49.7 miles of leak prone main installation,
14 which included 0.58 miles for the Atwells Avenue Project and 3 miles that should
15 have been included in the Public Works Projects category. The Company removed
16 \$544,000 in leak prone main costs associated with the Atwells Avenue Project. The
17 Company also removed an additional \$2.0 million from the Initial ISR Plan by
18 decreasing installation miles of leak prone main installation to 42.3 miles while
19 increasing the Public Works abandonment miles to 13 miles.⁵ In total, the Company

⁴ Another principal driver of the Company’s efforts in this regard was the substantial increase in the Reliability category from the FY 2020 Gas ISR budget.

⁵ The Company had inadvertently included 3 additional abandonment miles in the Leak Prone Pipe category while only abandoning 10 miles in Public Works Projects.

1 will install 55.9 miles while abandoning 61 miles of leak prone pipe, for a total
2 budget for leak prone main of \$59.250 million.

3
4 Main Replacement (Proactive) - Large Diameter LPCI Program

5 The Company reduced the \$4.398 million budget for this program contained in the
6 Initial ISR Plan by \$1.0 million. The Company has represented that new efficiencies
7 in construction methods enabled the Company to reduce its original estimate to
8 \$3.398 million while rehabilitating the planned 4,600 feet of leak prone pipe.

9
10 Atwells Avenue Project

11 This project consists of 4 segments of leak prone, cast iron main that needs to be
12 abandoned and replaced with high density plastic pipe: Segment 1A, Segment 1B,
13 Segment 2 and Segment 3. The Initial ISR Plan contained a FY 2021 estimate for
14 the Atwells Avenue Project of \$2.25 million which was intended cover Section 1B
15 and the design of Section 3. Section 1A and Section 2 were being addressed in FY
16 2020.

17
18 Prior to the filing of the ISR Plan, the Company updated the cost estimate for FY
19 2021 for the Atwells Avenue Project to \$7.081 million. The Division inquired about
20 the significant increase in the cost of this project for FY 2021. NGrid-Gas explained
21 the principal cause of the increase was that the Company had been unable perform
22 Section 1A work in FY 2020 due to the late start of construction in that year.

1 Accordingly, Section 1A became part of the FY 2021 ISR Plan, along with Section
2 1B and the design work for Section 3. See Exhibit B-7.

3
4 After further discussions with the Division, the Company reduced the FY 2021 cost
5 estimate of \$7.081 million by \$2.0 million to account for costs associated with
6 restoration of Segment 1A and 1B that will not be incurred in FY 2021. These costs
7 will be included in the Company's FY 2022 Gas ISR Plan.

8
9 The sum of all of the aforementioned adjustments results in reducing the Proactive Main
10 Replacement category budgeted amount contained in the Initial ISR Plan (\$68.441 million)
11 by \$712,000. The proposed budget for this category in the ISR Plan is \$67.729 million.
12 The Division agrees with the Company's adjustments and the proposed budgeted amount
13 for this category.

14
15 **Q. WHAT ARE YOUR OBSERVATIONS REGARDING THE ADJUSTMENT THAT**
16 **WAS MADE TO THE PROPOSED BUDGET FOR PRESSURE REGULATING**
17 **FACILITIES?**

18 **A.** The Initial ISR Plan included \$9.349 million for work at 9 pressure regulating facilities and
19 installation of a second bypass valve at 11 other facilities. In the course of discussions with
20 the Company and in discovery (see Div 1-4), the Division expressed concern about the
21 significant increase in this sub-category from the Company's FY 2020 Gas ISR Plan. To
22 address the Division's concern, the Company proposed deferring one station replacement

1 and installing a second bypass valve at 9 rather than 11 locations. The Company plans to
2 undertake the deferred station replacement and install a second bypass valve at the tenth
3 and eleventh locations in its FY 2022 Gas ISR Plan. The Company has represented to the
4 Division that the proposed reduction can be implemented without increasing the risk of
5 system failure.

6
7 The Company's proposal reduces the budget for this sub-category by \$1.5 million for FY
8 2021 from \$9.349 million to \$7.849 million. Based on its discussions with the Company,
9 the Division believes the Company's proposal represents a reasonable effort to mitigate the
10 substantial increase in annual costs associated with this category of capital work without
11 increasing the risk of system failure.

12
13 **Q. PLEASE DISCUSS THE DIVISION'S REVIEW OF THE ADJUSTMENT THAT**
14 **WAS MADE TO THE ALLEN'S AVENUE MULTI-STATION REBUILD**
15 **PROJECT BUDGET?**

16 A. The Allens Avenue Multi-Station Rebuild Project is a seven (7) year project which began
17 in FY 2016 and is scheduled to be completed in FY 2022. In the Initial ISR Plan, the
18 Company had budgeted \$7.5 million for work to be performed in FY 2021. During
19 discussions that led to the mutually agreed to FY 2021 Gas ISR budget, the Company
20 informed the Division that it was able to advance \$1.3 million of work on this project that
21 was to be performed in FY 2021 to FY 2020. The Company explained that it was able to
22 accelerate the project timeline for this work due to contractor availability and available

1 funding in the FY 2020 Gas ISR budget. As a result, the Company reduced the FY 2021
2 budget for the Allens Avenue Multi-Station Rebuild Project from \$7.5 million to \$6.2
3 million.

4
5 **Q. PLEASE DISCUSS YOUR OBSERVATIONS REGARDING ADJUSTMENT**
6 **THAT WAS MADE TO THE GAS SYSTEM RELIABILITY BUDGET.**

7 A. The Initial ISR Plan contained a budget for Gas System Reliability work of \$2.986 million.
8 A portion of this amount included funding for moving an existing low-pressure regulator
9 station within the flood plain at the intersection of Wood Street and Woodlawn Avenue in
10 Bristol, RI to a new location outside of the flood plain. During the Division's review of
11 this program, the Company informed the Division that, with the exception of certain close-
12 out costs, the work regarding moving the regulator station had been substantially completed
13 in FY 2020. As a result, the Company agreed to reduce the original budget amount for
14 this sub-category by \$615,000, resulting in a proposed budget for the Gas System
15 Reliability sub-category of \$2.371 million.

16
17 **Q. HOW DID THE COMPANY AND THE DIVISION ARRIVE AT THE FINAL**
18 **BUDGET FOR THE LNG SUB-CATEGORY?**

19 A. The Initial ISR Plan contained a proposed budget of \$7.158 million for projects associated
20 with the Company's Liquefied Natural Gas (LNG) Facilities. The Division was concerned
21 about the significant increase in this budget sub-category from the Company's FY 2020
22 Gas ISR Plan. *See e.g., Div 1-7.* On November 13, 2019, the Company provided the

1 Division with high, medium and low scenarios for the FY 2021 Gas ISR Plan budget in
2 response to Div 1-13. During subsequent discussions with the Company leading to the
3 mutually agreed FY 2021 Gas ISR budget, the Company took a second look at the “low”
4 scenario and agreed that it could defer \$725,000 of the boil-off compressor installation
5 work until FY 2022. The Company represented that deferring this work would not
6 contribute to the risk of system failure. As a result, the Company reduced the Initial ISR
7 Plan budget by \$725,000 to \$6.433 million.

8
9 **Q. PLEASE DISCUSS THE ADJUSTMENTS THAT THE COMPANY AND THE**
10 **DIVISION MADE TO THE PROPOSED PAVING BUDGET.**

11 A. The Company’s original submission in the Initial ISR Plan included \$29,079,748 million
12 for incremental paving costs associated with the Rhode Island Utility Fair Share Roadway
13 Repair Act, G.L. § 39-2.2-1, *et seq.* (the “Act”), that was signed into law in 2019. The
14 budgeted amount consists of three cost categories of paving work: Main Installation -
15 \$9,663,570; Patches - \$16,802,100; and the Southern RI Gas Expansion Project -
16 \$2,614,078. It is the Division’s understanding from discussions with the Company that
17 since the Act had only been in effect since July 1, 2019, the \$29.08 million figure
18 represented a placeholder for the incremental paving budget in the Initial Plan.
19 Accordingly, the Division and the Company held several meetings to discuss possible
20 revisions to the budgeted amounts for each of the aforementioned cost categories. Based
21 on those discussions, the Division and the Company mutually agreed to budgets for the
22 three cost categories as follows:

1 Main Installation

2 For FY 2021, the Company had originally estimated that 63 miles of main
3 installation would require curb to curb paving. After further review, the Company
4 determined that, excluding Public Works projects and only accounting for installed
5 miles, not abandoned miles, only 42.3 miles would require curb to curb paving. The
6 result was a reduction to the original cost estimate by about 42%. The Company
7 also reduced the budget for Main Installation by an additional 14%, noting that curb
8 to curb paving had been previously required in certain city/towns, and therefore, had
9 already been included in the original project estimates. In sum, the Company
10 decreased the Main Installation incremental paving budget from \$9,663,570 to
11 \$5,596,000.

12
13 Patches

14 For FY 2021, the Company had originally estimated that 3,429 patches would
15 require curb to curb paving. The Company estimated the incremental cost of these
16 patches at \$16,802,100 or \$4,900 per patch. The Company's estimate was premised
17 on a 100% adoption of curb to curb paving by cities and towns in FY 2021. The
18 Division believed that a 100% adoption rate for FY 2021 was, in all probability,
19 excessive and that a 50% adoption rate would be more reasonable. Moreover,
20 throughout the fall of 2019, the Company had gained limited experience regarding
21 the extent to which cities and towns may require curb to curb paving for patches in
22 FY 2021. In many cases, cities and towns were only requiring curb to center-line

1 and, in some cases, standard patches as previously required. Based on this
2 experience and discussions of the parties, the Company agreed to decrease the
3 incremental cost estimate from \$4,900 to \$1,400 per patch. If the 50% adoption rate
4 proves too conservative/aggressive, any over or under collection will be reconciled
5 in the next ISR reconciliation filing. The incremental paving cost for patches in the
6 FY 2021 Gas ISR budget decreased from \$16,802,100 to \$4,801,000.

7
8 Southern RI Gas Expansion Project - Paving

9 The Division and the Company agreed the Company's original budget for
10 incremental paving costs for the Southern RI Gas Expansion Project would remain
11 at \$2,614,000. The Company explained that the adjustments that the Company had
12 made to the Main Installation category for paving were not applicable to this project.

13
14 Lastly, the Division and the Company have agreed that the Company will track incremental
15 paving costs for each cost category separately from the Gas ISR budget and will include
16 these costs in its quarterly ISR updates.

17
18 In total, the Company reduced initial incremental paving costs in its FY 2021 Gas ISR plan
19 from \$29,079,748 to \$13,011,000, a reduction of \$16,068,748.

20
21 **Q. WHAT ARE THE DIVISION'S OBSERVATIONS REGARDING THE**
22 **COMPANY'S PROPOSED BUDGET FOR PE STAMP COSTS?**

1 A. The Division and the Company first discussed the cost that the new requirement imposed
2 by G.L. § 5-8-21(5) – namely that “all plans for natural gas infrastructure . . . shall be built
3 in accordance with design plans and specifications approved by a Rhode Island
4 professional engineer when the work could pose a material risk to safety” – during the
5 Walkthrough of the Initial ISR Plan. The Company informed the Division that it estimated
6 a FY 2021 incremental cost amount resulting from this requirement of approximately \$2.0
7 million. This estimate had not been included in the Initial ISR Plan as the Company had
8 not yet arrived at the estimate when the initial plan was filed. Thus, the \$2.0 million
9 estimate was characterized as a placeholder budget figure when it was discussed during the
10 Walkthrough. Since that time, the Company has revised its original estimate for
11 incremental PE Stamp costs, reducing the placeholder amount to \$1.515 million. The
12 Company has provided support for the revised estimate in its response to Div 1-9. Based
13 on that response, the Division believes that the revised figure represents a reasonable
14 estimate of the PE Stamp costs that are likely to be incurred by the Company in FY 2021.
15 The Company also agreed to track these costs separately and include them in its quarterly
16 ISR updates.

17
18 **Q. WHAT ARE THE DIVISION’S OBSERVATIONS REGARDING THE AMOUNT**
19 **THE COMPANY PROPOSES TO SPEND IN FY 2021 ON THE SOUTHERN RI**
20 **GAS EXPANSION PROJECT?**

21 A. The Southern RI Gas Expansion Project includes 26,625 feet of 20-inch main that will be
22 installed in three phases over a three-year period. In March of 2020, the Company

1 advertised the main installation contract which included all three phases over a three-year
2 period. Advertising all three phases under one bid contract resulted in more favorable
3 pricing from contractors. As a result, the Company awarded all three phases to the same
4 contractor. As illustrated in the Company's high, medium, and low case scenarios, the
5 Company proposed reducing the original FY 2021 budget from \$40.46 million to \$38.96
6 million under the medium case scenario and from \$40.46 million to \$33.568 million under
7 the low case scenario. These reductions would be realized by deferring a portion of the
8 main replacement from FY 2021 to FY 2022 and purchasing long lead materials in FY
9 2020. While these options would have reduced the FY 2021 budget by approximately \$7.0
10 million, the Division and the Company believe it would, in all likelihood, increase overall
11 project costs by changing the scope of work in FY 2021. Therefore, the Company and the
12 Division agreed that the budget for the Southern RI Gas Expansion Project should remain
13 at \$40.46 million for FY 2021.

1 **V. CONCLUSION**

2

3 **Q. DOES THE DIVISION SUPPORT NGRID-GAS'S FY 2021 GAS ISR PLAN AND**
4 **BUDGET?**

5 A. Yes. The Company's initial Gas ISR budget of \$221,046,000 (including \$2 million costs
6 for incremental PE Stamp and Paving) has been reduced by \$22,434,000 to \$198,612,000⁶
7 through considerable review, discussions and negotiations between the Company and the
8 Division. The Division believes that this proposed budget is reasonable and in the best
9 interest of ratepayers. Subject to the recommendations of RW&AC, the parties' agreement
10 regarding the withdrawal of the proposed Heat Decarbonization program, the parties'
11 agreement to track and report of all paving cost categories and PE Stamp costs separately
12 as set forth in this testimony, and the Division's review of the Supplemental Direct
13 Testimony of Melissa A. Little, the Division supports the Company's FY 2021 Gas ISR
14 Plan and proposed budget of \$198,612,000.

15

16 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

17 A. Yes.

⁶ This figure includes a reduction in the ISR Plan budget to account for the withdrawal of the Heat Decarbonization program.

EXHIBIT A

Agenda for ISR Walkthrough with Division 10/7 and 10/8		Team	Monday	Tuesday	
Intro	Introductions	All in attendance	9:30-9:45		
Incremental Paving & PE	ISR Overview and Incremental Paving & PE Costs	Amy Smith	9:45-10:05		
Public Works	CSC/Public Works - Non-reimbursable	Michelle Roche & RI PW Engineer	10:05-10:30		
Public Works	CSC/Public Works - reimbursable	Michelle Roche & RI PW Engineer	10:05-10:30		
Public Works	CSC/Public Works - reimbursements	Michelle Roche & RI PW Engineer	10:05-10:30		
Break	Break	All in attendance	10:30-10:40		
Heat Decarbonization	Heat Decarbonization Total	Multiple People Lee Gresham McKenzie Schwartz Kate Grant - maybe Owen Brady and Tony LaRusso (Hydrogen)	10:40-11:20		
Proactive Main Replacement	Main Replacement (Proactive) - Leak Prone Pipe	Saadat Khan Pradheep Kileti	11:20-11:45		
Proactive Main Replacement	Atwells Avenue	Saadat Khan Pradheep Kileti	11:45-12:00		
Lunch	Lunch	All in attendance	12:00-1:00		
Proactive Main Replacement	Main Replacement (Proactive) - Large Diameter LPCI Program	Saadat Khan Pradheep Kileti	1:00-1:15		
Proactive Service Replacement	Proactive Service Replacement	Saadat Khan Pradheep Kileti	1:15-1:30		
Mandated	Service Replacements (Reactive) - Non-Leaks/Other	Saadat Khan Pradheep Kileti	1:30-1:45		
Mandated	Reactive Leaks (CI Joint Encapsulation/Service Replacement)	Saadat Khan Pradheep Kileti	1:45-2:30		
Mandated	Main Replacement (Reactive) - Maintenance (incl Water Intrusion)	Saadat Khan Pradheep Kileti	2:30-2:45		
Break	Break	All in attendance	2:45-2:55		
Reliability	Replace Pipe on Bridges	Saadat Khan Pradheep Kileti	2:55-3:10		
Damage / Failure (Reactive)	Damage / Failure	Saadat Khan Pradheep Kileti	3:10-3:15		
Reliability	Access Protection Remediation	Saadat Khan Pradheep Kileti	3:15-3:30		
Mandated	Purchase Meter (Replacements)	Saadat Khan	3:30-3:45		
Reliability	Valve Installation/Replacement (incl Storm Hardening & Middletown Newport)	Michael Avery Tony Taddeo (can dial in) Steve Caliri (attend)	3:45-4:15		
Reliability	Gas System Reliability - Gas Planning	Tony Taddeo (can dial in) Steve Caliri (attend)	4:15-5:00		
End of Day 1	End of Day 1		5:00		
Intro	Introductions	All in attendance		9:00-9:10	
SRIGEP	Southern RI Gas Expansion Project	Faye Brown Dan Glenning Andrew Hogan		9:10-9:40	
Mandated	Transmission Station Integrity	Stephen Greco Alexander Day		9:40-12:00	
Reliability	System Automation	Stephen Greco Justin Zaccari			
Reliability	Heater Program	Stephen Greco Justin Zaccari			
Reliability	Pressure Regulating Facilities	Stephen Greco Justin Zaccari			
Reliability	Allens Ave Multi Station Rebuild	Stephen Greco Justin Zaccari			
Reliability	Take Stations Rebuild	Stephen Greco Justin Zaccari			
Reliability	Distribution Station Over Pressure Protection	Stephen Greco Alexander Day			
Reliability	LNG	Stephen Greco Tom Smith?			
End of Day 2	End of Day 2				12:00
	10 9 Field Visits 10 10 Northboro	Obi			
Reliability	Gas System Control	Richard Delaney (Dial or attend)		During Visit	
	10 4 Prep Call for the Group Meetings - 30 min for expectation setting				
Items not scheduled					
Mandated	Corrosion	VanPelt, Donald			
Reliability	I&R - Reactive	John Barrett - Will not present, but we can accept questions and respond later		N/A	
Reliability	Tools & Equipment	Joe Curley - Will not present. Don't anticipate questions coming up		N/A	

EXHIBIT B-1

Wold, Leo (DPUC)

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Wednesday, November 6, 2019 3:42 PM
To: Rod Walker; Mancini, Al (DPUC)
Cc: Wold, Leo (DPUC); Smith, Amy S.
Subject: [EXTERNAL] : RE: Gas ISR

Hi Rod and Al,

I forwarded your questions to Saadat and received the following responses.

Please let me know a couple of things:

1. Do these responses provide a sufficient response to your questions?
2. If you have any additional follow-up questions, we can receive them now, but please let me know if you'd like them responded to during the 11/14 discussion or responded to in writing beforehand.

Here are Saadat's responses:

1. How is the report generated i.e. just leaking mains are included in the 206.34 miles? In other words what is the criteria used to generate the report and what is the source i.e. GIS, manually compiled?

A main segment is analyzed, and job scope is created around that and added to the list for one of the following reasons:

1. For cast iron mains, broken main triggers the analysis and added to the list.
2. For steel mains, corrosion leak on the main triggers the analysis. Annually, a GIS extract is run of all corrosion related leaks which occurred over the past year.
3. Field Requests. If a field supervisor requests a replacement of a main segment based on condition found when repairing a leak, it will be analyzed and added to the list.
4. Paving Conflict. If a municipality plans to pave a street and we plan to replace ahead of their paving, we will analyze the segment and add it to our project lists.

2. How does this report compare to the same report prepared 3/18 Al sent you? Same group of mains? Different set?

This report contains additional segments/projects which were identified using the methodology explained above between when that report was created and the present. Any segments/projects which were abandoned since then would no longer be included in the totals.

3. Since National Grid has ~1000 miles of leak prone aging infrastructure, how does the Company manage the risk continuously of the other ~800 miles that are not included in the report?

All analysis is done manually. Since broken mains (for cast iron) and corrosion main leaks (for steel) are the factors weighted most heavily in the algorithm for driving up the prioritization score, those are the segments focused on for analysis. Company is rolling out a DNV-GL solution this year which will analyze the entire network for main replacement prioritization, hoping to have CY2021 replacements based on this algorithm.

Thank You,
Nathan Kocon
4014658081

EXHIBIT B-2

Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Rod Walker <rwalker@rwalkerconsultancy.com>; Smith, Amy S. <Amy.Smith@nationalgrid.com>

Subject: RE: Gas ISR

Al,

Re: #1 from your list today (#3 in my master).

- Spreadsheet is attached.

I'm going to try calling you now at 401-780-2125 to talk through the 11/14 meeting. I want to make sure we're structuring the meeting materials the way you're envisioning.

Thanks

From: Mancini, Al (DPUC) <Al.Mancini@dpuc.ri.gov>

Sent: Tuesday, November 05, 2019 10:39 AM

To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>

Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Rod Walker <rwalker@rwalkerconsultancy.com>

Subject: EXT || RE: [EXTERNAL] : RE: Gas ISR

Nathan,

Per our conversation, I would like to clarify what information the Division requests prior to our scheduled Nov. 14 WebEx.

1. Attached is last year's analyzed main inventory by city or town (item #3 below) that the Division requested to be updated as far as mains being abandoned this year and additional mains rising on the priority list that were not included last year.
2. Attached is a table with leak receipts for Jan. 2019 through May 2019 that the Division requested to be updated (item #7).
3. Provide High, Medium, Low FY21 ISR Budget proposals (item #13).

These requests are essential in the Division review of the proposed plan so receiving them prior to the WebEx would be helpful.

Thanks

Al

The Division requests that this information be provided prior to our scheduled Nov. 14 WebEx.

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>

Sent: Friday, November 01, 2019 4:44 PM

To: Mancini, Al (DPUC) <Al.Mancini@dpuc.ri.gov>

Cc: Smith, Amy S. <Amy.Smith@nationalgrid.com>

Subject: [EXTERNAL] : RE: Gas ISR

Wold, Leo (DPUC)

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Thursday, November 7, 2019 9:03 AM
To: Mancini, AI (DPUC)
Cc: Wold, Leo (DPUC); Rod Walker; Smith, Amy S.
Subject: [EXTERNAL] : RE: Gas ISR

Good Morning AI,

In response to #7, below (and a follow-up to an initial request on 6/11/19). Here are the leak receipts through October 2019 (previously the chart was current through May 2019).

If the charts don't come through clearly, please let me know, I can send in a different format.

Request:

- A. Provide total leak receipts (excluding damages) for 2018 detailing Type 1, 2, or 3 and separate main leaks from service leaks.
- B. Provide leak receipts by month for January through Oct 2019.

Response:

A. The table below provides the 2018 Leak Receipts (excluding damages) by leak type and by month. Please note that leak receipts cannot be attributed to an asset (main/service) until the leak has been repaired.

2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Jan-Oct
Grade 1	195	139	54	34	69	48	42	51	37	74	40	34	817	743
Grade 2	56	72	60	52	120	61	50	61	52	37	25	33	679	621
Grade 3	34	22	42	42	95	82	82	58	75	45	13	2	592	577
Total	285	233	156	128	284	191	174	170	164	156	78	69	2,088	1,941

B. The table below provides the 2019 leak receipts by type and by month.

2019	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct			Total
Grade 1	105	114	87	73	57	44	46	99	80	58			763
Grade 2	103	81	59	78	70	49	41	51	61	48			641
Grade 3	57	32	22	75	69	51	20	84	67	48			525
Total	265	227	168	226	196	144	107	234	208	154			1,929

From: Kocon, Nathan
Sent: Tuesday, November 05, 2019 2:46 PM
To: Mancini, AI (DPUC) <AI.Mancini@dpuc.ri.gov>

MRP RI Analyzed Main Inventory - As of 10/9/2019
Mileage in Priority Tiers by Town

Town	Mileage in Priority Score Tiers			Total
	High Pr > 15	Medium 15 ≥ Pr ≥ 8	Low 8 > Pr	
Barrington	0.00	0.07	1.48	1.55
Bristol	1.58	0.66	0.72	2.96
Central Falls	0.00	1.65	1.10	2.75
Coventry	0.00	0.00	0.19	0.19
Cranston	5.57	8.28	2.69	16.54
Cumberland	0.00	0.55	1.01	1.56
East Greenwich	0.00	0.00	0.66	0.66
East Providence	3.71	5.98	3.85	13.54
Exeter	0.00	0.00	0.44	0.44
Hopkinton	0.00	0.00	0.04	0.04
Johnston	2.27	1.97	2.93	7.17
Lincoln	0.22	2.50	1.00	3.72
Middletown	0.71	0.58	1.77	3.06
Newport	1.06	1.16	1.83	4.05
North Kingstown	0.00	0.00	6.62	6.62
North Providence	3.63	5.77	2.17	11.57
North Smithfield	0.98	1.54	0.00	2.52
Pawtucket	7.92	10.20	4.87	22.99
Providence	30.16	18.72	5.57	54.45
Smithfield	0.86	0.00	1.80	2.66
South Kingston	0.00	0.00	3.30	3.30
Warren	0.00	0.10	0.06	0.16
Warwick	3.50	12.75	7.97	24.22
West Warwick	0.00	0.34	0.78	1.12
Westerly	1.80	2.21	2.41	6.42
Woonsocket	5.94	1.70	4.44	12.08
Total	69.91	76.73	59.70	206.34

EXHIBIT B-3

Wold, Leo (DPUC)

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Thursday, November 7, 2019 3:57 PM
To: Rod Walker; Mancini, Al (DPUC)
Cc: Wold, Leo (DPUC); Smith, Amy S.
Subject: [EXTERNAL] : RE: Gas ISR

Rod,
Here's additional responses to questions 1 & 2 below.
For #3, it sounds like the file is quite large (person who manages the file is gone for the evening). Could we send you a slice that covers a specific area, like Cranston?

Here's info on 1&2.

1. A main segment would be defined as a piece of leak prone main within the system that is displaying leak activity. In order to get the prioritization score, we consider all the leaks that are clustered together on a stretch of main of similar material. From there, we create a logical job scope around the piece of main using engineering judgement designed to take the piece of main being analyzed out of service. In other words, we are not just relaying short 300 foot segments throughout the system. We'll expand work scopes out so that we are relaying entire streets/neighborhoods, not leaving behind small pockets of LPP in neighborhoods that are otherwise plastic, minimize connections to save money, etc.

2. Once a project is analyzed, it remains in our analyzed inventory until it is abandoned. If a project remains in the inventory for more than a year and is not planned to be executed in the current year, we will refresh the leak data associated with the project to keep the Pr score up-to-date and ensure we aren't overlooking it. Each year, new leaks/field requests/paving plans come in, so the inventory grows. It also declines as we replace abandon the planned abandonment total each year.

Please let us know if you had additional questions regarding 1 & 2. And whether a subset of data for #3 would be OK.
Thanks,
Nathan

From: Rod Walker <rwalker@rwalkerconsultancy.com>
Sent: Thursday, November 07, 2019 2:04 PM
To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>; Mancini, Al (DPUC) <Al.Mancini@dpuc.ri.gov>
Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Smith, Amy S. <Amy.Smith@nationalgrid.com>
Subject: RE: EXT || RE: Gas ISR

Thanks, Nathan.

Rod Walker
CEO & President
Rod Walker & Associates Consultancy
rwalker@rwalkerconsultancy.com
706-244-0894
www.rwalkerconsultancy.com

From: [Kocon, Nathan](#)
Sent: Thursday, November 7, 2019 1:55 PM
To: [Rod Walker](#); [Mancini, Al \(DPUC\)](#)
Cc: [Wold, Leo \(DPUC\)](#); [Smith, Amy S.](#)
Subject: RE: EXT || RE: Gas ISR

EXHIBIT B-4

Wold, Leo (DPUC)

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Friday, November 8, 2019 10:41 AM
To: Rod Walker; Mancini, Al (DPUC)
Cc: Wold, Leo (DPUC); Smith, Amy S.
Subject: [EXTERNAL] : RE: EXT || RE: Gas ISR
Attachments: Cranston Projects of Interest.xlsx

Rod and Al,

Attached are analyses for Cranston segments, which Saadat is planning to walk through on 11/14. This is his teams response to your email question #3, which I'll copy below. I understand it to be an analysis of several segments. It's quite detailed. My recommendation leading into our 11/14 meeting is that you review the content now, then draft questions, which we can accept now (if you think we'll need to pull more info to answer your questions) or you can hold them until 11/14. But have 11/14 be the time that we'd answer the questions. If it's something quick, I can try getting you in contact with someone sooner too.

Please let me know if this approach is OK.

Thanks,
Nathan

From: Rod Walker <rwalker@rwalkerconsultancy.com>
Sent: Thursday, November 07, 2019 5:22 PM
To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>; Mancini, Al (DPUC) <Al.Mancini@dpuc.ri.gov>
Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Smith, Amy S. <Amy.Smith@nationalgrid.com>
Subject: EXT || RE: Gas ISR

Nathan-

Thanks. That sounds like a good plan for #3. Look forward to hearing more about the process to knit #1, 2 and 3 together.

Thanks for your efforts to pull this information together.

Rod Walker
CEO & President
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rwalker@rwalkerconsultancy.com
706-244-0894
www.rwalkerconsultancy.com

From: [Kocon, Nathan](#)
Sent: Thursday, November 7, 2019 3:57 PM
To: [Rod Walker](#); [Mancini, Al \(DPUC\)](#)
Cc: [Wold, Leo \(DPUC\)](#); [Smith, Amy S.](#)
Subject: RE: Gas ISR

Rod,

Here's additional responses to questions 1 & 2 below.

For #3, it sounds like the file is quite large (person who manages the file is gone for the evening). Could we send you a slice that covers a specific area, like Cranston?

Here's info on 1&2.

1. A main segment would be defined as a piece of leak prone main within the system that is displaying leak activity. In order to get the prioritization score, we consider all the leaks that are clustered together on a stretch of main of similar material. From there, we create a logical job scope around the piece of main using engineering judgement designed to take the piece of main being analyzed out of service. In other words, we are not just relaying short 300 foot segments throughout the system. We'll expand work scopes out so that we are relaying entire streets/neighborhoods, not leaving behind small pockets of LPP in neighborhoods that are otherwise plastic, minimize connections to save money, etc.

2. Once a project is analyzed, it remains in our analyzed inventory until it is abandoned. If a project remains in the inventory for more than a year and is not planned to be executed in the current year, we will refresh the leak data associated with the project to keep the Pr score up-to-date and ensure we aren't overlooking it. Each year, new leaks/field requests/paving plans come in, so the inventory grows. It also declines as we replace abandon the planned abandonment total each year.

Please let us know if you had additional questions regarding 1 & 2. And whether a subset of data for #3 would be OK.

Thanks,
Nathan

From: Rod Walker <rwalker@rwalkerconsultancy.com>

Sent: Thursday, November 07, 2019 2:04 PM

To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>; Mancini, Al (DPUC) <Al.Mancini@dpuc.ri.gov>

Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Smith, Amy S. <Amy.Smith@nationalgrid.com>

Subject: RE: EXT || RE: Gas ISR

Thanks, Nathan.

Rod Walker

CEO & President

Rod Walker & Associates Consultancy

rwalker@rwalkerconsultancy.com

706-244-0894

www.rwalkerconsultancy.com

From: [Kocon, Nathan](#)

Sent: Thursday, November 7, 2019 1:55 PM

To: [Rod Walker](#); [Mancini, Al \(DPUC\)](#)

Cc: [Wold, Leo \(DPUC\)](#); [Smith, Amy S.](#)

Subject: RE: EXT || RE: Gas ISR

Rod,

I'll follow-up with Saadat and his team to work on responses to your questions.

From: Rod Walker <rwalker@rwalkerconsultancy.com>

Sent: Thursday, November 07, 2019 10:58 AM

To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>; Mancini, Al (DPUC) <Al.Mancini@dpuc.ri.gov>

Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Smith, Amy S. <Amy.Smith@nationalgrid.com>

Subject: EXT || RE: Gas ISR

EXHIBIT B-5

Wold, Leo (DPUC)

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Friday, November 8, 2019 1:50 PM
To: Rod Walker; Mancini, Al (DPUC)
Cc: Wold, Leo (DPUC); Smith, Amy S.
Subject: [EXTERNAL] : RE: EXT || RE: Gas ISR

Rod,
Here is the main data you requested:

Main Leaks by Grade	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
Grade 1	40	19	28	68	81	70	67	41
Grade 2	36	30	75	21	57	65	78	64
Grade 3	1	0	2	15	15	6	7	17
Total	77	49	105	104	153	141	152	122

From: Rod Walker <rwalker@rwalkerconsultancy.com>
Sent: Friday, November 08, 2019 11:36 AM
To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>; Mancini, Al (DPUC) <Al.Mancini@dpuc.ri.gov>
Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Smith, Amy S. <Amy.Smith@nationalgrid.com>
Subject: RE: EXT || RE: Gas ISR

Nathan-

OK thanks for the explanation. Then it would be good to have the corresponding set of leak data for mains to correlate with the same timeframe you gave us for service leaks. Make sense? Thanks for your help!

Rod Walker
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Rod Walker & Associates Consultancy
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From: [Kocon, Nathan](#)
Sent: Friday, November 8, 2019 11:25 AM
To: [Rod Walker](#); [Mancini, Al \(DPUC\)](#)
Cc: [Wold, Leo \(DPUC\)](#); [Smith, Amy S.](#)
Subject: RE: EXT || RE: Gas ISR

Rod, I believe those are two different data sets.
The data from the 11/7 9:03AM EST email was leak receipts (combined potential mains/services and can't be split)
The data from the 11/8 10:29AM EST email was leak repairs on services. From a Grade 1 perspective, you could probably do that general subtraction to get you in the ballpark, but there are some limited situations where a Grade 1 leak receipt doesn't immediately result in a full leak repair (though I think those leaks would be mitigated in such a way that they'd come out of the Grade 1 category).

The reason I say not to use that subtractor logic on the Grade 2's and 3's is that a leak receipt does not always result in a corresponding/immediate repair on that leak. We may monitor it.

I believe I'm explaining the leak responses correctly, I checked in with a leak/construction supervisor.

From: Rod Walker <rwalker@rwalkerconsultancy.com>
Sent: Friday, November 08, 2019 11:05 AM
To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>; Mancini, AI (DPUC) <AI.Mancini@dpuc.ri.gov>
Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Smith, Amy S. <Amy.Smith@nationalgrid.com>
Subject: EXT || RE: Gas ISR

Nathan-

Thanks for sending this data over. So to make sure we're thinking right, to get the corresponding breakdown for main leaks, just subtract the service totals you provided from the totals for leaks previously provided?

Thanks.

Rod Walker
CEO & President
Rod Walker & Associates Consultancy
rwalker@rwalkerconsultancy.com
706-244-0894
www.rwalkerconsultancy.com

From: [Kocon, Nathan](#)
Sent: Friday, November 8, 2019 10:29 AM
To: [Mancini, AI \(DPUC\)](#)
Cc: [Wold, Leo \(DPUC\)](#); [Rod Walker](#); [Smith, Amy S.](#)
Subject: RE: Gas ISR

AI,
Here is additional data that will tie into the 2019 System Integrity Report when it gets released at some point in 2020. I had them pull the data for a full 12 month period (even though 2 months will have overlap to 2018) so you can do a year over year type comparison.

Here is a table summarizing the service leak repairs by grade from October 2018 - October 2019:

Service Leaks by Grade	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19
Grade 1	39	37	18	31	24	17	19	17	6	17
Grade 2	21	20	29	8	11	11	12	8	12	12
Grade 3	1	0	0	4	3	2	1	10	3	1
Total	61	57	47	43	38	30	32	35	21	30

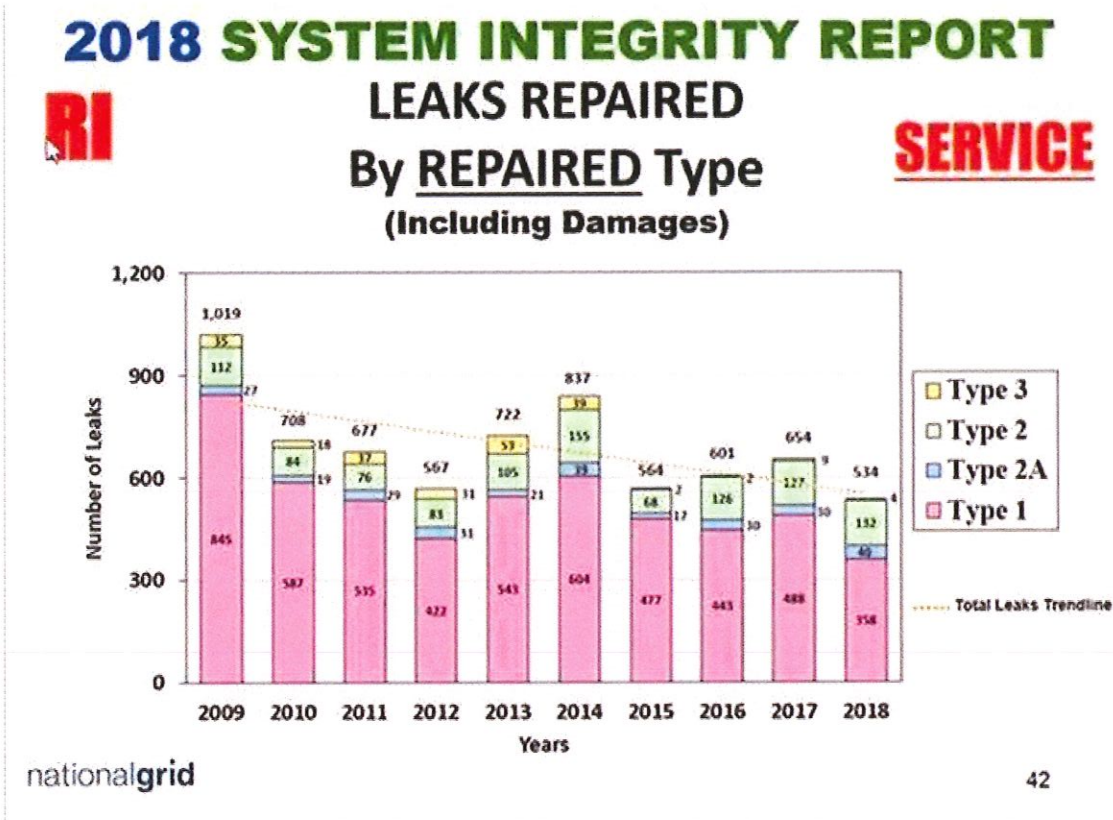
From: Mancini, AI (DPUC) <AI.Mancini@dpuc.ri.gov>
Sent: Thursday, November 07, 2019 4:26 PM
To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Subject: RE: EXT || RE: [EXTERNAL] : RE: Gas ISR

Yes. I forgot that was in the System Integrity Report. I was looking for 2019 to date if possible.

Thanks

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Thursday, November 07, 2019 3:51 PM
To: Mancini, AI (DPUC) <AI.Mancini@dpuc.ri.gov>
Subject: RE: EXT || RE: [EXTERNAL] : RE: Gas ISR

Does this chart from the System Integrity Report get you what you're looking for?
Shows Service Leaks Repaired, year over year.



From: Mancini, AI (DPUC) <AI.Mancini@dpuc.ri.gov>
Sent: Thursday, November 07, 2019 2:05 PM
To: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Subject: RE: EXT || RE: [EXTERNAL] : RE: Gas ISR

I'm looking at service leak rates. Could we just get total services replaced due to a leak?

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Thursday, November 07, 2019 1:34 PM
To: Mancini, AI (DPUC) <AI.Mancini@dpuc.ri.gov>
Cc: Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Rod Walker <rwalker@rwalkerconsultancy.com>; Smith, Amy S. <Amy.Smith@nationalgrid.com>
Subject: RE: EXT || RE: [EXTERNAL] : RE: Gas ISR

Hi AI,

EXHIBIT B-6

Wold, Leo (DPUC)

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Monday, November 25, 2019 2:41 PM
To: Mancini, AI (DPUC)
Cc: Wold, Leo (DPUC); Rod Walker; Smith, Amy S.
Subject: [EXTERNAL] : RE: EXT || National Grid Gas ISR

Hi AI,

Regarding the Tools & Equipment budget of \$610K. I heard back from our Construction group.

Here are some examples that they provided of some items that would be captured on the Capital Tools and Equipment budget with a rough estimated cost per item:

Fusion Equipment- \$16k-\$30k based on size
Hole Hogs- \$5k
Road Saws- \$3.5k
Pipe Locating Equipment- \$2.8k
Power Brooms- \$1k
Hot Tapping Equipment- \$3k
Large Plastic Squeeze- \$2k
Jumping Jacks- \$2.4k

From: Mancini, AI (DPUC) <AI.Mancini@dpuc.ri.gov>
Sent: Tuesday, November 19, 2019 4:14 PM
To: Smith, Amy S. <Amy.Smith@nationalgrid.com>
Cc: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>; Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Rod Walker <rwalker@rwalkerconsultancy.com>
Subject: EXT || National Grid Gas ISR

Hi Amy,

I just had a few more questions that I wanted to ask informally. Some relate to the FY 2020 2nd quarter update and how it may affect the FY2021 budget.

1. Explain why the Large diameter LPCI Program in FY 2020 has a projected (\$3.294 million) under-spend and will this affect the FY2021 Plan in any way.
2. The FY2020 2nd Quarter report explains that Pressure Regulating Facility replacement projects in Providence and Pawtucket will be deferred until FY2021 resulting in a (\$3,036 million) under-spend. Have these projects been included in the proposed FY2021 budget of \$9.349 million for Pressure Regulating Facilities? Also, which Pressure regulating station would be deferred to FY2022 if the low scenario in Division 1-13 is approved?
3. The FY2020 2nd Quarter report explains that potential work in the Take Station Category may not be completed until FY2021 resulting in a (\$923,000) under-spend. Has this work been included in the FY2021 budget for Take Stations?
4. Please provide a description of work to be performed regarding the Valve Installation/Replacement Program.

5. Please provide a list of capital tools and equipment required to support the Capital Tools and Equipment budget of \$610,000.

Thanks

AI

Alberico Mancini
Public Utilities Analyst V
Division of Public Utilities and Carriers
89 Jefferson Blvd.
Warwick, Rhode Island 02888
(401) 780-2125 (Phone)
(401) 941-9248 (fax)

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EXHIBIT B-7

Wold, Leo (DPUC)

From: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>
Sent: Wednesday, December 4, 2019 10:34 AM
To: Mancini, Al (DPUC)
Cc: Wold, Leo (DPUC); Rod Walker; Smith, Amy S.; Webster, Raquel
Subject: [EXTERNAL] : RE: EXT || Atwells Ave. Project
Attachments: AtwellsAvenueSummary_12042019.pdf

Good Morning Al,
Attached is updated cost estimate for the Atwells Avenue Project. The current projected total is coming to \$11.94M. The summary also includes explanations on why the FY 2021 budget went through changes.

If you'd like a walk through, please feel free to give me a call at 401-465-8081 or we can set up a group call.

Thanks,
Nathan

From: Mancini, Al (DPUC) <Al.Mancini@dpuc.ri.gov>
Sent: Wednesday, November 27, 2019 11:19 AM
To: Smith, Amy S. <Amy.Smith@nationalgrid.com>
Cc: Kocon, Nathan <Nathan.Kocon@nationalgrid.com>; Wold, Leo (DPUC) <Leo.Wold@dpuc.ri.gov>; Rod Walker <rwalker@rwalkerconsultancy.com>
Subject: EXT || Atwells Ave. Project

Hi Amy,

During our Gas ISR meeting yesterday, the Division requested an updated cost estimate for the Atwells Ave project. Could you please have Saadat and his team provide us a detailed cost estimate and explain how they arrived at the \$14 million estimate?

Thanks
Have a nice Thanksgiving!

Al

Alberico Mancini
Public Utilities Analyst V
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(401) 941-9248 (fax)

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12/4/2019

Explanation of cost variances between original Atwells Avenue project cost estimates vs current cost estimates.

Per FY 2019 - Used for FY 2020 ISR Planning			
Fiscal Year	Planned Work	Estimated Costs (millions)	Estimated Feet
2019	Design Segment 2	\$0.06	0
2020	Complete Segment 2; Design Segment 1A & 1B	\$1.28	965
2021	Complete Segment 1A; Design Segment 3	\$2.26	1,615
2022	Complete Segment 1B; Complete Segment 3	\$4.00	2,925
	Total	\$7.60	5,505

Current Estimate - Used for Revised FY 2021 ISR Planning			
Fiscal Year	Planned Work	Estimated Costs (millions)	Estimated Feet
2019	Design Segment 2	\$0.08	0
2020	Complete Segment 2; Finalize Design Segments 1A & 1B	\$1.28	965
2021	Complete Segment 1A; Complete Segment 1B; Finalize Design Segment 3	\$7.08	3,130
2022	Complete Segment 3	\$3.50	1,410
	Total	\$11.94	5,505

Segment Schedule Notes: Approved FY 2020 ISR Plan called for field work on Segment 2 only. Due to the volume of leaks/ main breaks on Segment 1A between the Winter 2018/2019 and Spring 2019 periods, the Company was attempting to pull that work forward into FY 2020, but was unable to do so, due to the Providence Permitting Issue which delayed the start of FY 2020 field work. Funding for the Segment 1A work would have been included in the FY 2020 ISR spend, however, it was not included in the original budget.

FY 2021 Proposed ISR Budget Change Notes:

9/27/19 ISR Budget Proposal - During the FY 2021 ISR development process, the pre-existing FY 2021 estimate (from FY 2020 ISR Planning) of \$2.26M was used for the costs of Segment 1B and Final Design of Segment 3. However, this figure should have been updated to \$3.681M to reflect updated cost estimates (Segment 1B - \$3.4M; Final Design of Segment 3 - \$0.281). The assumption at that time was that Segment 1A would be completed in FY 2020 and therefore was not included in the FY 2021 proposed budget.

11/26/19 ISR Budget Proposal Update - Based on start date of FY 2020 field work, it was determined that Segment 1A would not be completed in FY 2020 and therefore the estimated costs needed to be added to the FY 2021 ISR Budget Proposal (Segment 1A - \$3.4M). It was during the process of pulling the Segment 1A costs into the FY 2021 ISR Budget that the Company realized that the existing \$2.26M figure (Segment 1B and Final Design of Segment 3) should also be updated to \$3.681 for a FY 2021 budget total of \$7.081M. The current estimated cost of Segment 3 is \$3.50M, although that estimate is subject to change during the Final Design process in FY 2021.

Factors that increased the costs estimates for Segments 1A, 1B, and 3: Cost of Curb to Curb paving (excluded from Incremental Paving Calculations); Higher labor costs to restore pavers in roadway and/or sidewalks; High density population of businesses along the segments are assumed to impact working hours (available work hours, setup and breakdown time) along with restrictions enforced by the City of Providence; Intersections with complex makeup of existing/historical utilities already in the ground.

EXHIBIT B-8

Division Informal Questions – Received on January 8, 2020

Question 1:

The Company plans to spend \$7.849 million on upgrading eight pressure regulating stations and installing a second bypass valve at nine other pressure regulating stations. Please provide the following:

- A. Identify each of the eight stations to be upgraded by location and station number;
- B. Identify each of the nine stations by location and station number in which a second bypass valve is to be installed;
- C. A description of work to be performed at each station;
- D. Age of the existing stations

Response 1:

The stations in Table 1 and Table 2 have been identified for upgrades in Fiscal Year (FY) 2021 which includes full station replacements, station abandonments, or the installation of a second bypass valve at the station. The company plans to spend \$7.849 million next fiscal year to completely replace six stations, abandon two stations, and install a second bypass valve at nine stations in various Rhode Island cities and towns. Table 1 contains the list of stations in response to question 1A (replacement and/or abandonment), along with the detail of 1C and 1D. Table 2 contains the list of stations in response to question 1B (second bypass valve), along with the detail of 1C and 1D.

- A. Table 1, below, lists six stations to be replaced and the two stations to be abandoned. The decision to completely replace the first six stations was based on assessments of the stations that showed the stations were in below-average condition while approaching the end of their useful lives. The decision to abandon the last two stations was based on both conditional assessment data and the effect of Mains and Services upgrades in Warwick and West Warwick. It was determined that the upgrades would allow the system to operate at its desired pressure without these stations in operation and therefore would be inefficient to continue to operate, maintain, or replace these stations based on their current conditional states. The ages of these stations where replacement and/or abandonment is planned ranges from 35 to 50 years old.

Additionally, the two stations at Wellington Avenue @ Thames Street in Newport, station numbers RIS-N213H and RIS-N213L, are being replaced based on several factors including the results of the Company's condition-based risk assessments and input from Operations. These stations were installed 38 years ago and are approaching the end of their useful lives. Other factors contributing to the decision to replace the stations are the configurations of the control lines, the single valve bypass designs, the presence of only two layers of Over Pressure Protection (OPP), the lack of redundant regulator runs, and the risk of vehicular collision with the traffic box.

Table 1: List of Stations to be Replaced or Abandoned

Station Number	Station Name	Town	Work Performed	Year Installed (Age)
RIS-086	Fountain Street @ Eddy Street	Providence	Full Station Replacement	1971
RIS-N213H	Wellington Avenue @ Thames Street 35 PSIG	Newport	Full Station Replacement	1981
RIS-N213LP	Wellington Avenue @ Thames Street Low Pressure	Newport	Full Station Replacement	1981
RIN-C040	Sanford Street @ Myrtle Street	Pawtucket	Full Station Replacement	1978
RIS-071	Willet Avenue @ Forbes Street 5 PSIG	East Providence	Full Station Replacement	1969
RIS-089	Willet Avenue @ Forbes Street 25 PSIG	East Providence	Full Station Replacement	1969
RIS-037	122 Pettaconsett Avenue	Warwick	Station Abandonment	1972
RIS-104	East Greenwich Street @ Quaker Lane	West Warwick	Station Abandonment	1984

B. Table 2, below, lists the nine stations on which a second bypass valve will be installed in FY 2021. The company plans to install secondary bypass valves on all LP stations with a single bypass valve that are not pending replacement in the next two years; 9 in FY 2021 and the remaining 14 in FY 2022. The decision to install the second bypass valves was based on the risk of over pressurization associated with certain outdated station design types. The ages of these stations range from 25 to 46 years old.

Table 2: List of Stations to install a Second Bypass Valve

Station Number	Station Name	Town	Work Performed	Year Installed (Age)
RIS-017	Station Street @ Pond Street	Cranston	Second Bypass Valve Installation	1992
RIS-047	747 Bullocks Point Avenue	East Providence	Second Bypass Valve Installation	1994
RIS-078	Ives Street @ Trenton Street	Providence	Second Bypass Valve Installation	1980
RIS-113	Depot Avenue @ Cranston Street	Cranston	Second Bypass Valve Installation	1988
RIS-N219	Carroll Avenue @ Ocean Drive	Newport	Second Bypass Valve Installation	1992
RIS-036	Post Road @ Byron Boulevard	Warwick	Second Bypass Valve Installation	1991
RIS-082	Farnum Pike @ Whitman Street	North Providence	Second Bypass Valve Installation	1973
RIS-057	915 Atwood Avenue @ Plainfield Street (St. Rocco's)	Johnston	Second Bypass Valve Installation	1975
RIS-110	Smith Street @ Sunset Avenue	North Providence	Second Bypass Valve Installation	1986

Question 2:

Please provide a detailed cost estimate and description for each phase of the Atwells Avenue Main Replacement Project.

Response 2:

Response In Process

Question 3:

Please provide total leak receipts by month (excluding damages) for CY2019 detailing Type 1,2, or 3 and separate main leaks from service leaks.

Response 3:

3A. The table below provides the 2018 Leak Receipts (excluding damages) by leak type and by month. Please note that leak receipts cannot be attributed to an asset (main/service) until the leak has been repaired.

2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Grade 1	195	139	54	34	69	48	42	51	37	74	40	34	817
Grade 2	56	72	60	52	120	61	50	61	52	37	25	33	679
Grade 3	34	22	42	42	95	82	82	58	75	45	13	2	592
Total	285	233	156	128	284	191	174	170	164	156	78	69	2,088

3B. The table below provides the 2019 leak receipts by type and by month.

2019	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Grade 1	105	114	87	73	57	44	46	99	80	58	35	27	825
Grade 2	103	81	59	78	70	49	41	51	61	48	35	62	738
Grade 3	57	32	22	75	69	51	20	84	67	48	43	55	623
Total	265	227	168	226	196	144	107	234	208	154	113	144	2,186

Question 4:

Please provide a current status report of the FY 2020 main replacement workplan.

Response 3:

See attachment "3_FY20 ISR Workplan Status_AsOf01152020"

The attachment provides a status update, by project, for the FY 2020 main replacement workplan. This is an internal working document we use to track project status and the status of a project may change subsequently based on information provided from the field. As requested, the spreadsheet is color coded for the following statuses.

Internal Status	Definition
COMP	Main Installed, Abandonment Complete, Final restoration may be completed or in the case of CSC not needed
FCOMP	Main Installed, Abandonment Complete, Project may incur additional expenses such as final restoration
INPRG	Project has begun incurring costs but old main has not been abandoned
WSTOP	Work was started and stopped for some reason. Examples: can't find a run line, redesign due to site conditions, shift in priorities

EXHIBIT C

Narragansett Gas
FY 2021 - DRAFT ISR Proposal Comparisons as of 12/10/2019
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Categories	Proposed Plan (High) 9/27/19	Proposed As of 12/5/19	Proposed As of 12/10/19	Abandonment Miles As of 12/6/19	Install Miles As of 12/6/19	Notes
NON-DISCRETIONARY						
Public Works						
CSC/Public Works - Non-Reimbursable	\$ 17,368	\$ 17,368	\$ 17,368			
CSC/Public Works - Reimbursable	\$ 1,403	\$ 1,403	\$ 1,403			
CSC/Public Works - Reimbursements	\$ (1,402)	\$ (1,403)	\$ (1,403)			
Public Works Total	\$ 17,368	\$ 17,368	\$ 17,368	13.00	13.00	
Mandated Programs						
Corrosion	\$ 1,185	\$ 1,166	\$ 1,166			
Purchase Meters (Replacements)	\$ 4,851	\$ 4,851	\$ 4,852			
Reactive Leaks (CI Joint Encapsulation/Service Replacement)	\$ 12,280	\$ 12,280	\$ 12,280			
Service Replacements (Reactive) - Non-Leaks/Other	\$ 2,096	\$ 2,096	\$ 2,096			
Main Replacement (Reactive) - Maintenance (incl Water Intrusion)	\$ 680	\$ 680	\$ 680			
Transmission Station Integrity	\$ 610	\$ 610	\$ 610			
Mandated Total	\$ 21,702	\$ 21,684	\$ 21,684			
Damage / Failure (Reactive)						
Damage / Failure (Reactive)	\$ 249	\$ 249	\$ 249			
NON-DISCRETIONARY TOTAL	\$ 39,319	\$ 39,300	\$ 39,301			
DISCRETIONARY						
Proactive Main Replacement						
Main Replacement (Proactive) - Leak Prone Pipe	\$ 61,794	\$ 61,250	\$ 59,250	46.42	42.92	
Main Replacement (Proactive) - Large Diameter LPCI Program	\$ 4,398	\$ 4,398	\$ 3,398			Decreased CI Lining from \$3.153M to \$2.153M. Through efficiencies, assume will still line 2,600 ft. CISBOT = \$1.244M, seal 2,500 ft
Atwells Avenue	\$ 2,250	\$ 7,081	\$ 5,081	0.58	0.58	Scope is 1A, 1B, Final Design Segment 3. Reduced budget by \$2M assuming Segment 1A & 1B final restoration costs in FY22, not FY21. Segment 1A: \$2.518M; Segment 1B: \$2.518M; Final Design Segment 3: \$0.045M.
Proactive Main Replacement Total	\$ 68,441	\$ 72,729	\$ 67,729	47.00	43.50	
Proactive Service Replacement						
Proactive Service Replacement Total	\$ 350	\$ 350	\$ 350			
Heat Transformation						
Heat Decarbonization Total	\$ 1,000	\$ 1,000	\$ 1,000			
Reliability						
Gas System Control	\$ 118	\$ 118	\$ 118			
System Automation	\$ 1,252	\$ 1,252	\$ 1,252			
Heater Installation Program	\$ 2,961	\$ 2,961	\$ 2,961			
Pressure Regulating Facilities	\$ 9,349	\$ 7,849	\$ 7,849			Budget Reduction - Deferred 1 replacement. Confirmed: unable to reduce FY21 budget further (i.e. pre-purchase of materials in FY20 and/or defer additional FY21 work)
Allens Ave Multi Station Rebuild	\$ 7,500	\$ 7,500	\$ 6,200			Assume \$1.3M of FY21 work can be pulled forward into FY20
Take Station Refurbishment	\$ 995	\$ 995	\$ 995			
Valve Installation/Replacement (incl Storm Hardening & Middletown/Newport)	\$ 676	\$ 676	\$ 676			
Gas System Reliability	\$ 2,986	\$ 2,371	\$ 2,371			Subtract FY20 Wood @ Woodlawn costs; assumed to be \$615K
I&R - Reactive	\$ 1,392	\$ 1,392	\$ 1,392			Confirmed: leave in funding for Scott Rd.
Distribution Station Over Pressure Protection	\$ 3,636	\$ 3,636	\$ 3,636			
LNG	\$ 7,158	\$ 6,433	\$ 6,433			
Replace Pipe on Bridges	\$ 1,500	\$ 1,500	\$ 1,500			
Access Protection Remediation	\$ 260	\$ 260	\$ 260			
Tools & Equipment	\$ 612	\$ 603	\$ 603			
Reliability Total	\$ 40,396	\$ 37,547	\$ 36,246			
SUBTOTAL DISCRETIONARY (Without Gas Expansion)	\$ 110,187	\$ 111,625	\$ 105,325			
Southern RI Gas Expansion Project	\$ 40,460	\$ 40,460	\$ 40,460			
DISCRETIONARY TOTAL (With Gas Expansion)	\$ 150,647	\$ 152,085	\$ 145,785			
Gas ISR TOTAL (Base)	\$ 149,506	\$ 150,926	\$ 144,626			
GAS ISR TOTAL (With Gas Expansion)						
AMOUNT DOES NOT INCLUDE INCREMENTAL PAVING ASSOCIATED WITH NEW RI PAVING LAW OR PE STAMPS						
	\$ 189,966	\$ 191,386	\$ 185,086	60.00	56.50	
Add PE Stamps		\$ 1,515	\$ 1,515			Add PE Stamps
Incremental Paving - Main Installation	\$ 9,664	\$ 5,793	\$ 5,596		42.92	Main Installation - All 42.92 Miles paved curb to curb (No final restoration for Public Works) and assume 15% of miles already being paved curb to curb in baseline costs
Incremental Paving - Patches	\$ 16,802	\$ 4,801	\$ 4,801			Patches - 3,429
Incremental Paving - Southern RI Gas Expansion	\$ 2,614	\$ 2,614	\$ 2,614			Assume 50% adoption rate - Now mix of curb to curb and curb to center
						Keep Existing Estimate
Total ISR Total (with Gas Expansion, PE Stamps, and Incremental Paving)	\$ 219,046	\$ 206,108	\$ 199,612	60.00	56.50	

*Total miles of abandonment will be 61 miles. 1 mile will come from Reinforcement work.