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February 8, 2023

**VIA HAND DELIVERY & ELECTRONIC MAIL**

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

**RE: Docket No. 22-54-NG – The Narragansett Electric Company  
Proposed Fiscal Year 2024 Gas Infrastructure, Safety, and Reliability Plan  
Responses to PUC Data Requests – PUC Set 1 (Complete Set)**

Dear Ms. Massaro:

I have enclosed an electronic version of Rhode Island Energy's<sup>1</sup> complete set of responses to the Public Utilities Commission's First Set of Data Requests in the above-referenced matter.<sup>2</sup>

Thank you for your attention to this matter. If you have any questions, please contact me at 401-316-7429.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Jennifer Brooks Hutchinson", with a long horizontal flourish extending to the right.

Jennifer Brooks Hutchinson

Enclosure

cc: Docket 22-54-NG Service List  
Leo Wold, Esq.  
John Bell, Division  
Al Mancini, Division

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<sup>1</sup> The Narragansett Electric Company d/b/a Rhode Island Energy ("Rhode Island Energy" or the "Company").

<sup>2</sup> Per communication from Commission counsel on October 4, 2021, the Company is submitting an electronic version of this filing followed by six (6) hard copies filed with the Clerk within 24 hours of the electronic filing.

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate were 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.

Heidi J. Seddon

February 8, 2023

Date

**No. 22-54-NG- RI Energy’s Gas Infrastructure, Safety and Reliability (ISR) Plan 2024 - Service List 2/6/2023**

Name/Address	E-mail Distribution	Phone
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PUC 1-1  
**Meters (Asked in AMF Docket)**

Request:

In the Gas Infrastructure, Safety and Reliability Docket No. 22-54-NG, Section 2 of the Gas Capital Investment Plan (Bates page 50) states that Company will purchasing over 34,000 new gas meters (14,820 in CY 2023 and 19,759 in CY 2024) at a total cost of \$13.47 million (\$5.91 in CY 2023 and \$7.56 million in CY 2024). The filing also states on the same page: "These purchasing volumes reflect the Company's efforts to compensate for ongoing meter supply chain issues by increasing our baseline inventory."

Further, in the same filing at Table 2 (Bates page 82) there is a projected budget line item of \$2,250,000 in FY 2025 and \$750,000 for FY 2026, labeled as "Smart Gas Meter – IS Integration."

- (a) Please explain why the Company plans on spending \$13.47 million to increase inventory of old version gas meters when there appears to be a significant likelihood that the Company will commence an accelerated deployment of new Ultrasonic Gas smart meters in 2025 (See Bates page 36, 51, 57, and 227 of the Business Case).
- (b) Please describe the Smart Gas Meter – IS Integration.
- (c) If the purchase of the meters is driven by the mandatory nature of some meter replacements, is there any reason why the Company should not or could not seek a waiver from the Commission for at least a portion of the meter replacement mandate in 2025 in order to avoid purchasing gas meters that are reasonably likely to be replaced?

Response:

- (a) The Company anticipates that electric meter upgrades will occur before gas meter technology upgrades. If the Commission approves the Company's proposed AMF Business Case, the processes and support of old electric meter technology will be transitioned accordingly. Assuming that the Commission's pending Future of Gas docket (Docket No. 22-01-NG) to investigate the future of the gas distribution business within the context of the Act on Climate supports gas meter and sensing upgrades, then the Company will begin pursuing gas meter technology upgrades, outside of the Future of Gas docket, after the electric AMF deployment. Until any gas meter technology upgrades are approved (or pending approval), the Company is maintaining a business-as-usual approach to its meter exchange program. The Company is open to modifying the

PUC 1-1, page 2

existing gas meter exchange program to better align with any future technology deployments.

- (b) The Smart Gas Meter – IS Integration is anticipated capital for software development needed to have the functionality available to integrate advanced gas metering technology into other systems. This integration would need to be largely completed before gas meters can be exchanged. The capital investment is anticipated in 2025 and 2026 and identified for transparency, though not currently included in the Company's FY 2024 Gas ISR Plan proposal before the Commission in Docket No. 22-54-NG.
- (c) In the future, if and when there is reasonable certainty that the gas meter technology will be upgraded, the Company would likely transition its purchasing strategy, at which time it may be reasonable to seek waivers from the Commission for at least a portion of the meter replacement mandate to avoid purchasing gas meters that are reasonably likely to be replaced with new gas metering technology.

(This response is identical to the Company's response to PUC 3-36 in the AMF Docket No. 22-49-EL.)

The Narragansett Electric Company  
d/b/a Rhode Island Energy  
RIPUC Docket No. 22-54-NG  
In Re: Proposed FY 2024 Gas Infrastructure, Safety and Reliability Plan  
Responses to the Commission's First Set of Data Requests  
Issued on January 13, 2023

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PUC 1-2  
**Rates Based on 9-Month Revenue Requirement**

Request:

Please re-create an alternative Section 4 of the filing which illustrates the proposed rates designed solely upon the 9-month revenue requirement associated with CY 2023.

Response:

Please refer to the Company's response to DIV 2-1 in the instant proceeding. In particular, please see Attachment DIV 2-1-1.

Please also refer to the Company's supplemental filing of Section 4 that it simultaneously submitted on February 3, 2023 pursuant to the Public Utilities Commission's ruling at its Open Meeting on January 20, 2023. This supplemental filing illustrates the proposed revised rates designed upon a twelve-month revenue requirement for the period of April 1, 2023 through March 31, 2024.

PUC 1-3

Request:

**Budget Increase for Reliability**

Referring to Tables 2 and 3 in Section 2 (Bates pages 82-83), please explain why the Company believes it is necessary and reasonable to increase spending for Discretionary Reliability for the 9-month period of CY 2023 by an amount that is (i) \$6 million higher than the FY 2023 proposed budget in Docket No. 5210, (ii) \$17.9 million higher than actual spending from FY 2022, and (ii) even higher than the average historical annual actual spend of the Company going back to FY 2017 as shown on Table 3.

Response:

In light of the Public Utilities Commission's ("PUC") ruling at its January 20, 2023 Open Meeting and the Company's supplemental fiscal year ("FY") 2024 Gas Infrastructure, Safety, and Reliability ("ISR") Plan budget for the 12-month period April 1, 2023, through March 31, 2024, that it filed with the PUC on January 27, 2023, the Company has replaced "CY 2023 9-Month Budget" referenced in the question with "FY 2024 12-Month Proposed Budget" for purposes of this response.

(i) The FY 2024 12-Month Proposed Budget for the Reliability section is \$47.52 million, which is an increase of \$7.15 million compared to the FY 2023 budget of \$40.36 million. (ii) The FY 2024 Reliability section is \$18.63 million higher than the FY 2022 Reliability actual spend and higher than the average historical spending going back to FY 2017.

From the FY 2017 fiscal year through the FY 2024 proposal, the Company has expanded the volume of work (and resulting budgets and actual spending) in the Reliability section to upgrade and enhance Gas Infrastructure, Safety, and Reliability for Rhode Island ("RI") gas customers. Several events in the gas industry and on the Company's system have prompted the Company, other gas distribution companies, and the overall gas utility industry to take a more proactive approach to addressing the type of assets that are included within the Reliability section. Examples of those events include the Columbia Gas Overpressure Event in 2018, along with events that impacted the Rhode Island Gas system, such as an overpressurization event at the Dey Street Take Station (upstream pressure regulation was owned by Enbridge) in 2017, an overpressurization event at the Wampanoag Trail Take Station (pressure regulation was owned by Enbridge) in 2019, and the Aquidneck Island Gas Service Interruption in 2019. Within the industry and the Company, assessing those events, issuing recommendations, and then beginning to implement changes/improvements takes time and the implementation of those changes is

PUC 1-3, Page 2

being reflected in the amount of work occurring within the Reliability section over the past several years and in the Company's FY 2024 Gas ISR Plan .

At the same time, the Company's gas system has continued to age, and many assets have reached or approached the end of their useful life. The age of the assets coupled with declining condition and performance is prompting the need to replace the assets. There have also been advances in technology that can provide the Company with system benefits such as enhanced monitoring, control, and alerts for things like gas temperature and pressure. Before the Company makes a decision to upgrade or replace certain components of a pressure reducing "station" (i.e., regulator station), it evaluates the condition and performance of the overall station, individual assets within the station, as well as associated piping to develop an overall strategy to manage the asset efficiently. Based on the updates that are necessary, or are likely to become necessary, in the coming years, certain larger scope replacement projects are developed. These larger projects are intended to improve overall system safety and reliability consistent with the long-term interest of the gas system and the customers it serves. Undertaking these projects is more efficient than piecemeal replacement of individual aging components of the distribution system.

In addition, Liquefied Natural Gas ("LNG") facilities that are strategically located throughout the service territory are one of the tools available to the Company to help meet the gas demands of Rhode Island customers on a system design day. LNG facilities and equipment provide cost-effective scalable solutions capable of adapting the gas distribution system to various demand changes, which may result from operational issues, weather fluctuations, or regulatory and policy changes. One of, if not the, most important aspects of the LNG facilities is that they are fully operational when you need them, like an insurance policy. The Company's LNG facilities have and will continue to require capital investments, through the Gas ISR program, to ensure that on system LNG infrastructure is safe and reliable. The Exeter LNG facility is now 50 years old and certain critical components have required upgrades and/or modernizations. The Company is also making strategically flexible investments in infrastructure and portable LNG equipment for Cumberland and Old Mill Lane.

The narrative below provides a brief explanation of the Company's proposed increases in the annual investment of specific ISR categories within the Discretionary Reliability category.

**Heater Installation Program** – Heaters have an expected useful life of approximately 25 years and the heaters across the system are reaching or approaching the end of their useful life at approximately the same time. This has prompted the Company to make a series of investments to replace heaters at multiple locations, especially in instances where the aged heaters are not meeting performance standards.



PUC 1-3, Page 3

**Pressure Regulating Facilities** – Stations across the gas system are reaching the end of their useful life and it has been necessary to address more stations per year to keep pace with the average station age. Design standards have been updated to improve safety and reliability, but those improvements have increased the costs of the stations. Industry incidents have highlighted the need to prioritize distribution pressure regulation stations. The Company's improved planning in the engineering and procurement of these stations enables the Company to meet the increase in need for station replacements occurring year-over-year.

**Take Station Refurbishment** – This category was added to the Gas ISR portfolio after the overpressurization events at Dey Street Take Station in 2017 and an overpressurization event at the Wampanoag Trail Take Station in 2019. This resulted in the Company adding a requirement for a third layer of pressure protection at take stations.

**Distribution Station Over Pressure Protection** – This program was added to the Gas ISR portfolio after the Columbia Gas Overpressure Event in 2018 to help improve overpressure protection, which includes relief valves at above ground stations and control line headers where existing control lines are vulnerable to third party damage.

**Valve Installation** – Increases in this budget over the past few years have been for the installation of isolation valves in Newport and Middletown, in order to have isolation zones in place. These valves are being installed as a result of the Aquidneck Island Gas Service Interruption in 2019. This annual budget contains a reactionary budget of approximately \$0.11 million for FY 2024 which is relatively consistent year-over-year.

**Gas System Reliability** – The budget and execution of this budget line has fluctuated over the past few years based upon how much reinforcement work (not funded by Gas ISR) has been in the Company's Capital Workplan. Typically, if there was more Reinforcement work, there would be fewer Gas System Reliability projects and vice versa. However, more recently the Company has and will continue to place a higher priority on this category to address some vulnerable areas on the gas system that would impact a large number of customers if a service interruption were to occur.

**LNG** – Spending in this category has increased over the past several years to address aged infrastructure and to address system demands. Large improvement projects for reliability and/or safety have been completed or are in progress to modernize the Exeter LNG facility to current industry standards. Most of the original equipment at the facility is now 50 years old and does not possess many of the safety features that are standard in new equipment. Redundancy is being incorporated into projects for critical pieces of equipment to ensure seamless operation in the event of equipment trouble. Employee safety is being enhanced by the construction of a new

PUC 1-3, Page 4

control room that does not house operators behind the plant's electrical motor control center. The configuration of the existing control room does not have appropriate arc flash protection and does not have the space to construct the required protection to keep Company operators safe.

The Company began the annual portable LNG staging at Old Mill Lane following the Aquidneck Island Gas Service Interruption in 2019. For the Cumberland and Old Mill Lane sites, the Company is seeking to eliminate costly contractor services that provide portable LNG equipment and operation. The Company can purchase and operate the equipment with lower annual costs while providing additional capacity and reliability to RI gas customers. These portable LNG operations are scalable or could even be sold off in the future if portable LNG is no longer needed to ensure reliable satisfaction of customer demand on Aquidneck Island.

**Replace Pipe on Bridges** – This category was added to the Gas ISR portfolio in FY 2019 and began to incur project costs in FY 2020. Prior to that time, a specific pipe on bridge replacement was funded by the Proactive Main Replacement Program – Leak Prone Pipe or it was replaced as part of a Rhode Island Department of Transportation (“RIDOT”) project. The Replace Pipe on Bridges category was created to have its own budget to provide more visibility and oversight as these types of projects can require special permits (i.e. railroad crossings) that could delay the project if it was bundled with a Proactive Main Replacement – Leak Prone Pipe project.

**Tools & Equipment** – Please refer to PUC 1-11 for additional details.

**Weld Shop** – Please refer to PUC 1-5 for additional details.

PUC 1-4  
**Budget to Spend Comparisons**

Request:

Referring to Table 1 in Section 2 (Bates page 81), please provide a similar table which breaks out all the same categories of spending, with three columns: "CY 2023 9-Month Budget," "FY 2022 Actual Spend," and "FY 2023 Projected Spend."

Response:

In light of the Public Utilities Commission's ("PUC") ruling at its January 20, 2023 Open Meeting and the Company's supplemental fiscal year ("FY") 2024 Gas Infrastructure, Safety, and Reliability ("ISR") Plan budget for the 12-month period April 1, 2023, through March 31, 2024, that it filed with the PUC on January 27, 2023, the Company has replaced "CY 2023 9-Month Budget" referenced in the question with "FY 2024 12-Month Proposed Budget" for purposes of this response.

Please see the table, below, that breaks out the Gas ISR Plan categories of spending shown in Table 1a – Supplemental with a column for "FY 2022 Actual Spend," "FY 2023 Forecasted Spend," and the "FY 2024 12-Month Proposed Budget."

The Narragansett Electric Company  
d/b/a Rhode Island Energy  
RIPUC Docket No. 22-54-NG  
In Re: Proposed FY 2024 Gas Infrastructure, Safety and Reliability Plan  
Attachment PUC 1-4  
Page 1 of 1

Gas ISR Plan	FY 2022	FY 2023	FY 2024
Categories	Actual Spend	Forecasted Spend	Proposed Budget
<b>NON-DISCRETIONARY</b>			
<b>Public Works</b>			
<i>CSC/Public Works - Non-Reimbursable</i>	\$18,948	\$14,362	\$23,625
<i>CSC/Public Works - Reimbursable</i>	\$3,903	\$1,937	\$1,372
<i>CSC/Public Works - Reimbursements</i>	(\$595)	(\$4,300)	(\$1,070)
<b>Public Works Total</b>	<b>\$22,257</b>	<b>\$11,999</b>	<b>\$23,927</b>
<b>Mandated Programs</b>			
<i>Corrosion</i>	\$2,284	\$1,305	\$1,534
<i>Purchase Meter (Replacement)</i>	\$3,265	\$3,935	\$7,095
<i>Reactive Leaks (CI Joint Encapsulation/Service Replacement)</i>	\$9,006	\$7,600	\$8,000
<i>Service Replacement (Reactive) - Non-Leaks/Other</i>	\$1,145	\$2,447	\$1,748
<i>Main Replacement (Reactive) - Maintenance (incl Water Intrusion)</i>	\$1,550	\$1,000	\$1,167
<i>Low Pressure System Elimination (Proactive)</i>	\$652	\$390	\$1,300
<i>Transmission Station Integrity</i>	\$257	\$180	\$4,201
<i>Pipeline Integrity - IVP - Wampanoag Trail Pipeline Replacement</i>	\$0	\$80	\$575
<b>Mandated Total</b>	<b>\$18,160</b>	<b>\$16,937</b>	<b>\$25,620</b>
<b>Damage / Failure (Reactive)</b>			
<b>Damage / Failure (Reactive)</b>	<b>\$0</b>	<b>\$12</b>	<b>\$25</b>
<b>NON-DISCRETIONARY TOTAL</b>	<b>\$40,417</b>	<b>\$28,948</b>	<b>\$49,572</b>
<b>DISCRETIONARY</b>			
<b>Proactive Main Replacement</b>			
<i>Main Replacement (Proactive) - Leak Prone Pipe</i>	\$72,261	\$81,083	\$81,010
<i>Main Replacement (Proactive) - Large Diameter LPCI Program</i>	\$3,265	\$3,868	\$3,009
<i>Atwells Avenue</i>	\$1,240	\$3,085	\$1,100
<b>Proactive Main Replacement Total</b>	<b>\$76,766</b>	<b>\$88,036</b>	<b>\$85,119</b>
<b>Proactive Service Replacement</b>			
<b>Proactive Service Replacement Total</b>	<b>\$396</b>	<b>\$158</b>	<b>\$559</b>
<b>Reliability</b>			
<i>System Automation</i>	\$1,058	\$800	\$792
<i>Heater Installation Program</i>	\$869	\$953	\$5,006
<i>Heater Installation Program - Wampanoag Trail Heaters Replacement and Ownership Transfer</i>	\$980	\$5,135	\$0
<i>Pressure Regulating Facilities</i>	\$7,510	\$6,035	\$5,200
<i>Allens Ave Multi Station Rebuild</i>	\$4,522	\$1,085	\$0
<i>Take Station Refurbishment</i>	\$722	\$1,159	\$1,164
<i>Take Station Enhancement Program -Tiverton GS Ownership Transfer</i>	\$301	\$5,423	\$190
<i>Valve Installation/Replacement (incl Storm Hardening &amp; Middletown/Newport)</i>	\$47	\$50	\$606
<i>Gas System Reliability</i>	\$413	\$382	\$2,530
<i>I&amp;R - Reactive</i>	\$2,099	\$1,375	\$1,402
<i>Distribution Station Over Pressure Protection</i>	\$2,644	\$2,400	\$2,420
<i>LNG</i>	\$4,920	\$8,716	\$16,313
<i>LNG - Portable Equipment Purchase</i>	\$0	\$7,000	\$6
<i>Replace Pipe on Bridges</i>	\$155	\$200	\$1,350
<i>Access Protection Remediation</i>	\$189	\$172	\$60
<i>Tools &amp; Equipment</i>	\$2,456	\$1,687	\$1,617
<i>Weld Shop</i>	\$0	\$3,000	\$8,860
<b>Reliability Total</b>	<b>\$28,886</b>	<b>\$45,573</b>	<b>\$47,516</b>
<b>SUBTOTAL DISCRETIONARY (Without Gas Expansion)</b>	<b>\$106,048</b>	<b>\$133,767</b>	<b>\$133,194</b>
<b>Southern RI Gas Expansion Project</b>			
<i>Pipeline</i>	\$13,531	\$540	\$0
<i>Other Upgrades/Investments</i>	\$161	\$15	\$0
<i>Regulator Station Investment</i>	\$1,260	\$3,913	\$3,700
<b>Southern RI Gas Expansion Project Total</b>	<b>\$14,952</b>	<b>\$4,468</b>	<b>\$3,700</b>
<b>DISCRETIONARY TOTAL (With Gas Expansion)</b>	<b>\$121,000</b>	<b>\$138,235</b>	<b>\$136,894</b>
<b>CAPITAL ISR TOTAL (Base Capital - Without Gas Expansion)</b>	<b>\$146,464</b>	<b>\$162,714</b>	<b>\$182,766</b>
<b>CAPITAL ISR TOTAL (With Gas Expansion)</b>	<b>\$161,416</b>	<b>\$167,183</b>	<b>\$186,466</b>
<b>Additional Capital Investments (Not currently included in the ISR)</b>			
<i>Aquidneck Island Long Term Capacity Options</i>	\$461	\$39	\$500
<i>LNG - Cumberland Tank Replacement</i>	\$141	\$230	\$500

PUC 1-5  
**Weld Shop Proposal**

Request:

Referring to Bates pages 76-78 of Section 2 which includes the new “Weld Shop” as a “Reliability” project,

- (a) Please explain the basis for the Company's view that the investment in a new building for a welding shop qualifies as infrastructure, safety, and reliability spending for purposes of qualifying as capex eligible for accelerated recovery under the ISR, as opposed to capex with traditional regulatory lag that is recovered under traditional ratemaking in the ordinary course of a distribution rate case.
- (b) If the Commission interprets the ISR rate recovery mechanism as not allowing the Company to seek recovery of investments in new buildings in the ISR (even if related to utility operations) and, instead, recovery of such building investment costs must be sought in the Company's next base distribution rate case under traditional principles of ratemaking, would it still be the Company's intention to move forward with the project in CY 2023 as planned?

Response:

- (a) The primary basis for including the costs for the Weld Shop in the Gas Infrastructure, Safety and Reliability (“ISR”) Plan, as opposed to including it in a distribution rate case, is that the type of work that the Weld Shop will support is more than 99 percent capital work within the Gas ISR Plan. There may be very limited instances in which pre-fabrication for an OPEX related weld will be performed in the Weld Shop and then brought out to the field for final installation. This total dedication to capital work for the gas distribution system differentiates the Weld Shop from other Company facilities, such as the Melrose Street or Dexter Street locations, which support both capital projects and operations.

Additionally, the features of the weld shop, such as the overhead crane and increased indoor space are necessary to complete certain welds that are needed to support the Gas ISR program. These types of welds, which are typically outsourced and included in Gas ISR project costs currently, include welding of larger diameter/ longer length steel pipe and in the future would include the fabrication of regulator station pits.

PUC 1-5, page 2

The Weld Shop will also include the necessary space to conduct required training along with certification and requalification of all the Company's contractor welders every six months; the work these contractors perform for the Company exclusively supports the Gas Capital Portfolio and the Gas ISR workplan. The trainings, certifications, and requalifications of the welders are often conducted at the contractors' facilities, which are dispersed throughout New England. This causes a logistical challenge and inefficiency with the Company having dozens of vendor welders and only one welding supervisor who is needed to provide field oversight, manage field operations, supervise internal welders, and act as a subject matter expert for the Company. Centralizing the training and qualification activities in the Weld Shop will allow the welding supervisor to be more efficient with her time and enhances the consistency of training.

- (b) Yes. Although it is the Company's view that the Gas ISR is the proper recovery mechanism for the costs associated with building and setting up the Weld Shop, the Company intends to move forward with the Weld Shop, as planned, even if the Commission rules that the costs should instead be recovered in the Company's next base distribution rate case.

The Narragansett Electric Company  
d/b/a Rhode Island Energy  
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PUC 1-6

Request:

Referring to the testimony related to the new "Weld Shop" project at Bates page 78 of Section 2,

- (a) What does the Company mean when it says that it "is planning to advance \$2.00 million . . . into FY 2023" and "advance \$1.00 million into FY 2023 for Equipment and Tools?" Please explain what "advancing" means in this context.
- (b) Has the Company already incurred any costs or committed spending on the Weld Shop project in FY 2023, even though budget approval has not yet been obtained? If so, please specify the details and explain why.
- (c) Why does the Company believe it is important "to help accelerate the construction timeline for the Weld Shop and ensure completion before the end of CY 2023?" What is the urgency?
- (d) Will the acceleration of the construction result in an increase in the overall cost of the project compared to a timeline that would occur in normal course of planning and construction of a building? If so, please quantify the additional cost.
- (e) Has anyone from the Company or any contractors created a Gantt Chart or other similar timelines for the project? If so, please provide copies.
- (f) Has the Company already signed any contracts relating to the demolition of the Allens Avenue facility and/or the building of the new Weld Shop. If so, please provide copies.
- (g) Please provide a copy of any diagram available which shows the plans for the new Weld Shop.

Response:

- (a) The term "advancing" as used in the context of the Company's plan to "advance" \$2.00 million . . . into FY 2023" and "advance \$1.00 million into FY 2023 for Equipment and Tools" means that in FY 2023 the Company is going to get a head start on site preparation work and purchase materials ahead of construction because supply chain issues are causing longer than normal lead times on certain items and materials. Additionally, the necessary resources became available to complete certain sitework. With those factors and having a sense of urgency to have the new Weld Shop functional

PUC 1-6, page 2

to support the needs of the Gas ISR portfolio as soon as possible, the Company is moving forward with spending in FY 2023 instead of waiting until FY 2024. The necessary resources became available and the Company saw the opportunity to complete the work at the end of FY 2023 to get a head start on the site work and to purchase materials ahead of construction because supply chain issues are causing longer than normal lead times on certain items and materials.

- (b) The Company has verbally committed to spending of \$0.10 million in FY 2023 related to site work and design, but the final contract has not yet been signed as it's being reviewed by the Company's procurement department. The Company is moving forward with FY 2023 at-risk spending, forecasted to total \$3.00 million, associated with this project because, in the Company's opinion, it is in the best interest of customers to have a Weld Shop in use that meets the needs of the Gas ISR Plan portfolio.
- (c) Engineering, Architect, and Civil Contractor resources became available and the Company wanted to capitalize on the ability to utilize them sooner rather than later in order to mitigate the risk of rising construction costs due to a swiftly changing market. Additionally, construction has the potential for longer than normal lead times due to recent construction industry challenges receiving materials in a timely fashion, along with labor shortages in the construction industry, so the ability to perform certain components of a project as resources become available is part of the reason for the "acceleration." The Company has identified the Weld Shop as the number one facilities need for the Gas division. The need to upgrade and properly facilitate welding resources, along with training and qualifications are critical to the Company's ability to support steel infrastructure within the Gas ISR Plan portfolio.
- (d) There is no associated increased cost for moving forward with the project now (in FY 2023) with readily available resources. Vendors and other resources are not being accelerated for completion of the remainder of the project in FY 2024, so there are no premiums being paid in regard to the project timeline. As pieces of the project are able to be started and completed, the Company is moving forward with starting and completing them.
- (e) There have not been any Gantt Charts or detailed timelines completed for the project yet. The details of a project schedule are expected to be provided once the design is



The Narragansett Electric Company  
d/b/a Rhode Island Energy  
RIPUC Docket No. 22-54-NG  
In Re: Proposed FY 2024 Gas Infrastructure, Safety and Reliability Plan  
Responses to the Commission's First Set of Data Requests  
Issued on January 13, 2023

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PUC 1-6, page 3

completed, but the Company is expecting all construction activities associated with the Weld Shop to be completed by the end of FY 2024.

- (f) No, as stated in part (b) of this response, the Company has a verbal agreement with a vendor, but the final contract has not been signed yet. The Company is working with its internal procurement to acquire authorization of the contracts, and upon approval can be provided under confidential treatment at a later date.
- (g) Please see Attachment PUC 1-6 for a preliminary schematic design, which is not finalized or complete at this time.

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Attachment PUC 1-6

The Company's preliminary schematic design is following.



WINTER STREET ARCHITECTS, INC.

27 Congress Street  
 Salem, MA 01970  
 978-744-7379  
 WSAarchitects.com

**REI | Weld Shop**

642 Alton Ave.  
 Providence, Rhode Island  
 Project Number: 4168.0000

**DRAFT CONCEPTUAL REVIEW**

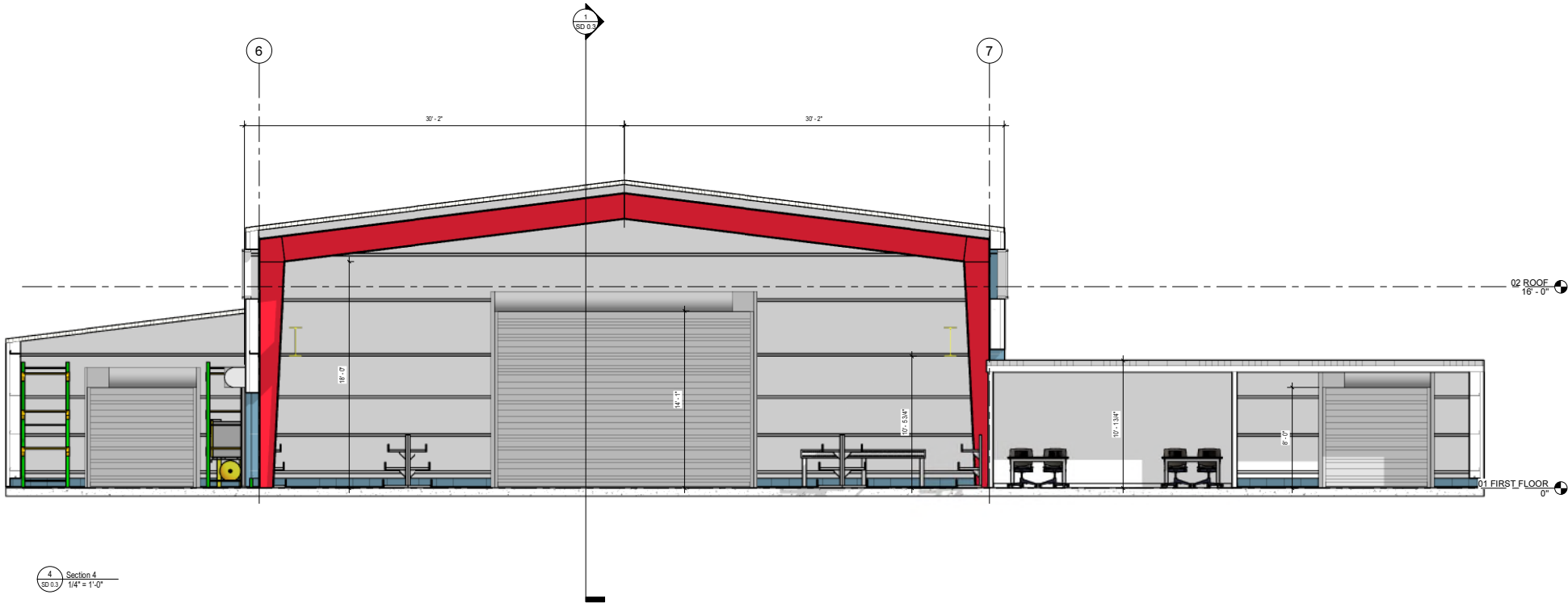
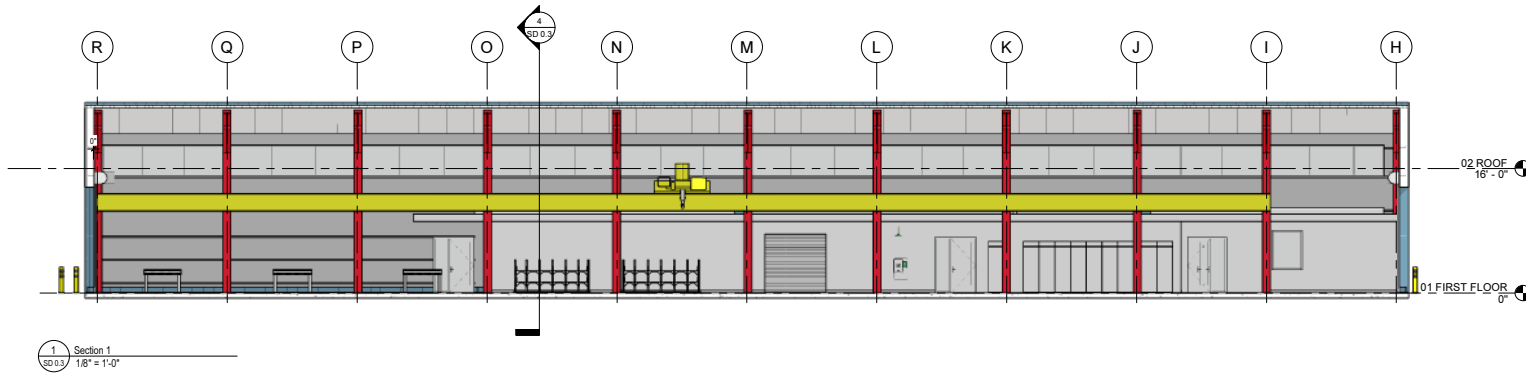
Date Issued:

January 10, 2023

NO.	DESCRIPTION	DATE

**Conceptual Plan**

**SD 0.2**



WINTER STREET ARCHITECTS, INC.

27 Congress Street  
Salmon, MA 01970  
978-744-7379  
WSAarchitects.com

REI | Weld Shop

642 Alena Ave.  
Providence, Rhode Island  
Project Number: 4168.0000

DRAFT CONCEPTUAL  
REVIEW

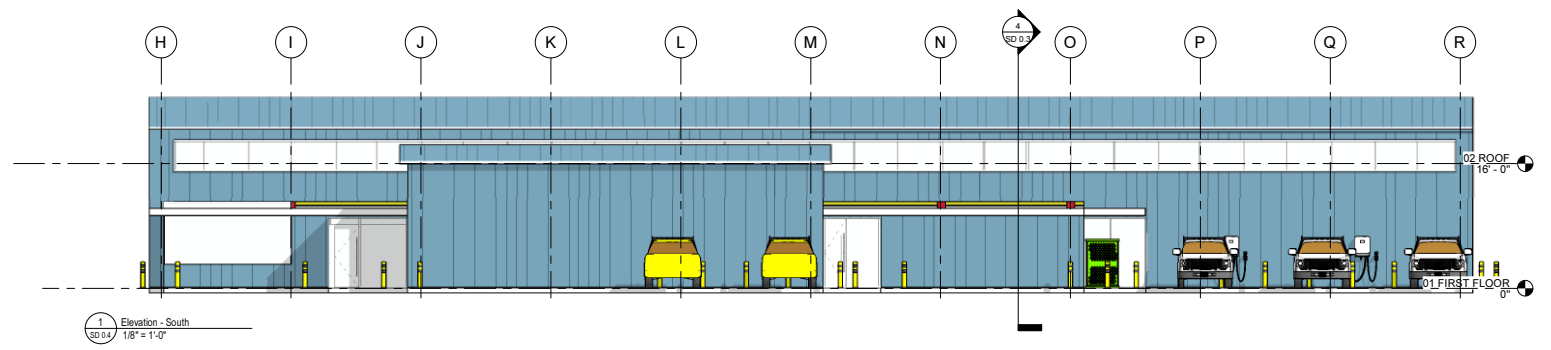
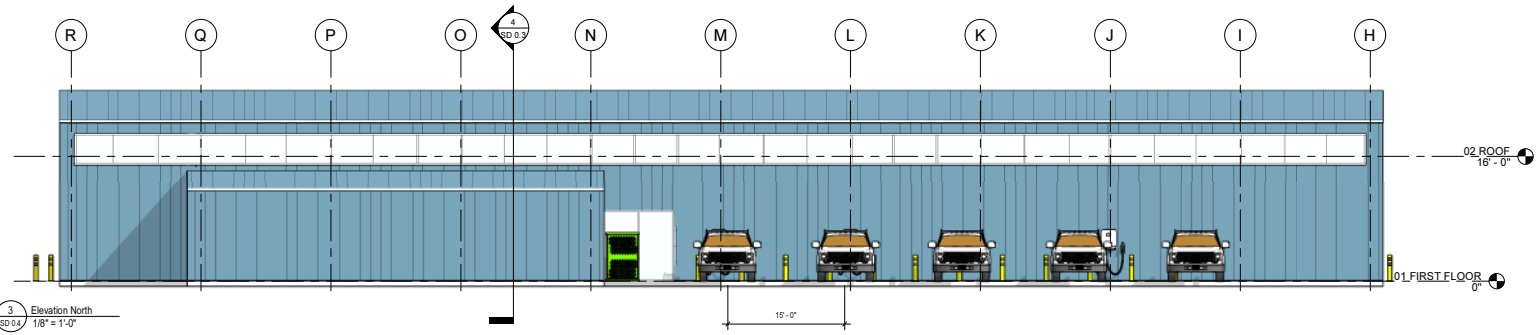
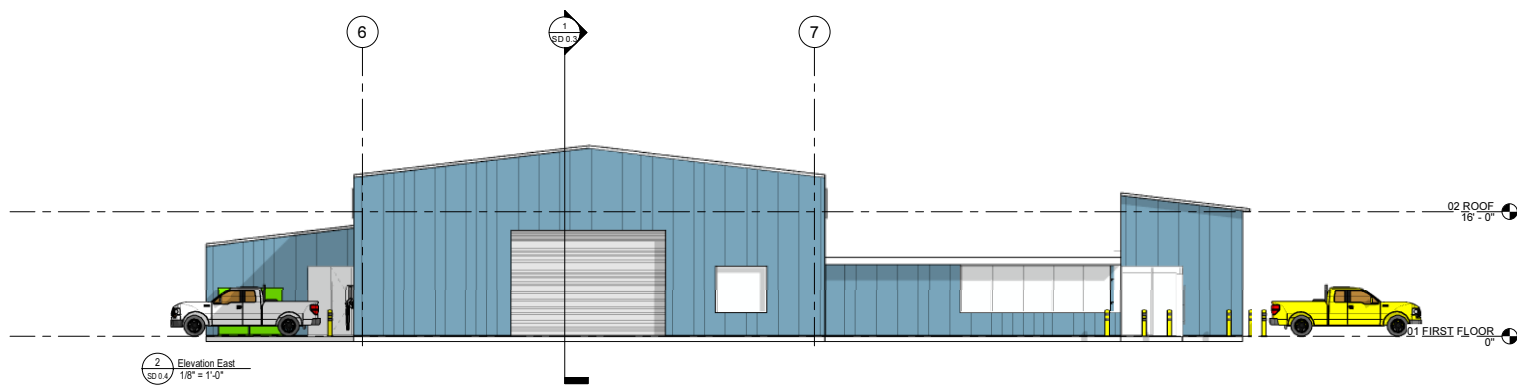
Date Issued:

January 10, 2023

NO.	DESCRIPTION	DATE

Conceptual  
Section

SD 0.3



**WINTER STREET ARCHITECTS, INC.**  
 27 Congress Street  
 Salem, MA 01970  
 978-744-7379  
 WSAarchitects.com

**REI | Weld Shop**  
 642 Alena Ave.  
 Providence, Rhode Island  
 Project Number: 4168.0000

**DRAFT CONCEPTUAL REVIEW**

Date Issued:  
**January 10, 2023**

NO.	DESCRIPTION	DATE

**Conceptual Elevations**

**SD 0.4**

PUC 1-7

Request:

Regarding the costs of the new "Weld Shop" project,

- (a) Does the revenue requirement for CY 2023 and/or CY 2024 include any of the costs of the Weld Shop? If so, please quantify for each year.
- (b) Does the Company have a more granular breakdown of the \$11.86 million in project costs than what was described on Bates pages 77-78? If so, please provide.
- (c) What are the current operations at the Allens Avenue location which will be relocated? Are there any costs associated with relocating the current Allens Avenue operations? If so, please quantify and indicate if the Company will be seeking recovery of those costs in rates.

Response:

- (a) Yes. Under the proposed FY 2024 Gas ISR Plan, the Weld Shop will be a capital addition of \$11.27 million placed into service during FY 2024 (12-month period).
- (b) The breakdown of the \$11.86 million project cost is as follows: \$2.00 million for site preparation, \$8.00 million for the building design and construction costs, \$1.56 million for equipment, \$0.30 million for other tools and machines. The Company does not have a budget breakdown more granular than this at this time.
- (c) The Company will be relocating certain trucking operations from Allens Avenue. The trucking operations include parking and storage of materials for our internal dump truck resources in the Providence area. There are approximately 18 dump trucks currently at Allen's Avenue. The trucking operations sits on a paved area, with no building associated with the operations. The weld shop will require a foundation to be set in order to build the facility. The available space on the Allen's Avenue property for additional structures is where two unused buildings currently sit. The trucking operations require only a paved section of the property to operate on as opposed to a foundation requirement for the weld shop. The area the trucking operations are on has no underground structures to be removed. Therefore the Company deemed it more cost effective to shift the trucking operations onto a paved area over the two removed building foundations and build the weld shop foundation in the currently paved trucking operations area. The projected \$2 million of site preparation costs includes the cost of relocating the current trucking operations in order to make available the most desirable location on the Allens Avenue property for the

The Narragansett Electric Company  
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Issued on January 13, 2023

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PUC 1-7, page 2

Weld Shop; other areas on the site have underground piping that would need to be moved and would increase overall cost of the Weld Shop.

PUC 1-8

Request:

Regarding the Company's decision to build a new "Weld Shop,"

- (a) Did the Company perform an alternatives analysis in which it considered other means of consolidating the welding operations? Please provide a copy of any memoranda, reports, and real estate analyses evaluating the options.
- (b) Did the Company perform a need analysis and/or BCA regarding the decision to consolidate welding operations? If so, please describe and provide a copy.
- (c) Why does the Company believe it is necessary and beneficial to demolish an existing building and build a new one in order to consolidate welding operations?
- (d) What are the problems or deficiencies, if any, with the current operations that have welding operations in Lincoln and at Dexter Street?
- (e) How many "larger welding fabrications" were outsourced by the Company over the last five years? Please also elaborate on the concerns related to outsourcing larger fabrications.

Response:

- (a) The Company did not perform a formal written analysis. The Company started by looking at the current facilities. The current facilities do not allow for the expansion of welding operations due to available space limitations. Combining both the Lincoln and Providence weld spaces has always been the one of the primary goals of the project, to enhance operational and capital investment efficiencies. The next step was to look at current properties the Company already owns to facilitate a new building. The Allens Avenue site was chosen based upon its centralized location for Gas Operations and the opportunity to utilize more of the property. Informal estimates led to the \$2 million budget for site prep at Allens Avenue for the weld shop. A comparison was made on the price per square foot of the desired area on new commercial property versus the budget for the constructing on the Allens Avenue property. The cost to purchase a new commercial property in the desired location, prep that site for the building/foundation, and equip the site with necessary fencing and security estimated to increase the cost of the project exponentially based upon current market prices. There was also a consideration of combining the weld shop with other facilities as opposed to a stand-alone structure, or possible temporary



PUC 1-8, Page 2

- structures, both of which estimated a cost that was the same or more than the budget, but with less capabilities than the current weld shop design. All the above considerations were the deciding factors that went into the current location determination of the weld shop at Allens Avenue.
- (b) The Company performed an informal BCA on consolidating operations by comparing the cost of one facility versus two. Considerations mentioned in part (a) were also used in the BCA discussion. Due to the rising market costs of real estate and construction costs, the comparison of building one larger facility versus two separate smaller ones was transparent. Facility costs associated with utility connections, employee areas, lavatories, and security drive the cost of two smaller buildings well beyond the price of one larger consolidated building.
- (c) The existing building being demolished is not currently in use. The building has not been in use for decades.
- (d) The current deficiencies with the welding operations in Lincoln and Dexter St include:
- 1) Insufficient space for: fabrication of multiple smaller pieces or any large piping, fabrication of new assets for gas infrastructure, storage of steel stock or completed fabrication pieces, training or qualification of both internal and external welding resources.
  - 2) Outdated environmental safety controls. Equipment used for ventilation/filtration needs to be updated. Mechanical means of lifting are limited by space and accessibility.
  - 3) Lincoln welding operations is in a building separate from the main building. This creates a deficiency in production. Employees must travel to the main building in order to use the lavatories or utilize the break room. All steel fittings are stored in the main building, causing additional travel to obtain stock for fabrication.
  - 4) Dexter Street welding operations are in a congested area of the building. Construction and warehouse operations utilize the same common area as the welding operations. The blocking of the welding area from the outside of the building limits the accessibility to the shop. The current welding area set up in the Dexter Street building accommodates three employees and there are four employees in the department, which warrants additional space.

PUC 1-8, Page 3

The Company has a need to build and operate a facility that meets or exceeds modern standards, increases capabilities of welding operations, and provides a designated training area to maintain welder qualifications.

- (e) Examples of larger fabrications include piping that was prefabricated for the Southern Rhode Island Gas Expansion Project. The Company has regulator pits and vaults prefabricated off site utilizing external resources and has these delivered and installed on-site. Multimeter header spools are currently contracted out to vendors leading to higher costs due to shipping/handling and possibility for material wastage due to custom site corrections for each job. The Company anticipates the weld shop will provide in-house resources with a facility that can handle all assets within the gas distribution system, including the examples provided above. Concerns related to outsourcing larger fabrication are, oversight, costs associated with rework, shipping and handling costs, and the Company's ability to have internal welding resources to service these assets in the event of an emergency.

PUC 1-9

Request:

In connection with the new Weld Shop project, did the Company perform any environmental assessment on the Allens Avenue location to determine whether there are any environmental clean-up costs associated with the Allens Avenue site after the ground in this industrial area is disturbed by the demolition and construction activity? If so, please provide a copy of the analysis and an estimate of any environmental remedial costs resulting from the project. If not, explain why an assessment was not performed.

Response:

The Company did not perform any additional environmental assessments involving soil or ground water sampling to support the new Weld Shop project or Building Demolition project. The 642 Allens Avenue property has been the subject of extensive environmental investigations in the past and annual monitoring is on-going. Any earth disturbance associated with building demolition activities or building the weld shop would be performed under the guidelines specified in the 2012 Soil Management Plan ("SMP"), which is attached as Attachment PUC 1-9 and which is on file with the Rhode Island Department of Environmental Management ("RIDEM"). Any areas of the property disturbed during either project will be restored with a RIDEM-compliant engineered cap as detailed in the 2012 SMP. Excess soil generated during construction or demolition activities may be reused on-site, provided the area of soil reuse is completed with a RIDEM-compliant engineered cap.

Costs associated with placement of an engineered cap within any areas of the property that have not been previously subject to completion of the site-wide environmental remedy would be captured as an Environmental Response Cost and recovered through the annual Distribution Adjustment Charge and reported in the gas Annual Environmental Report. This would be limited to the Building Demolition project area. The concrete building slab of the Weld Shop building would be considered an engineered cap, and, therefore, is already accounted for in the overall cost of the Weld Shop project. Areas that have already been completed with an engineered cap as part of the Site-wide environmental remedy would also be restored with a RIDEM-compliant engineered cap and included in the weld shop project cost.

A hazardous building materials assessment related to building demolition activities and abatement of hazardous building materials is currently in progress and the results are not yet available. The results of this assessment can be provided upon completion.



**SOIL MANAGEMENT PLAN  
642 ALLENS AVENUE  
PROVIDENCE, RHODE ISLAND**

**PREPARED FOR:**  
RIDEM  
Providence, Rhode Island

**ON BEHALF OF:**  
National Grid  
Waltham, Massachusetts

**PREPARED BY:**  
GZA GeoEnvironmental, Inc.  
Providence, Rhode Island

September 2012  
File No. 33554.00

**GZA**  
**GeoEnvironmental, Inc.**

*Engineers and  
Scientists*

September 12, 2012  
File No. 03.0033554.00-C

Mr. Joseph Martella  
Rhode Island Department of Environmental Management  
Office of Waste Management  
235 Promenade Street  
Providence, Rhode Island 02908-5767



530 Broadway  
Providence  
Rhode Island  
02909  
401-421-4140  
Fax: 401-751-8613  
<http://www.gza.com>

Re: Soil Management Plan  
642 Allens Avenue  
Providence, Rhode Island

Dear Mr. Martella:

Attached is the most recent version of the *Soil Management Plan* (SMP) for the 642 Allens Avenue Property (Site) in Providence, Rhode Island. The plan was prepared by GZA GeoEnvironmental, Inc., (GZA), on behalf of National Grid, to establish procedures to be followed during the installation of subsurface lines and other construction related activities at the Site that disturbs the subsurface.

Should you have any questions or comments, do not hesitate to call the undersigned at 401-421-4140, or Amy McKinnon, from National Grid, at 781-907-3644.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read 'Margaret S. Kilpatrick'.

Margaret S. Kilpatrick, P.E.  
Senior Project Manager

A handwritten signature in blue ink, appearing to read 'James J. Clark'.

James J. Clark, P.E.  
Principal

MSK/JJC:tja

Attachments: Soil Management Plan

cc: Amy McKinnon, National Grid

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### APPENDICES

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## 1.00 INTRODUCTION



On behalf of the Narragansett Electric Company d/b/a/ National Grid (National Grid), GZA GeoEnvironmental, Inc., (GZA) has prepared this *Soil Management Plan* (SMP). The SMP serves to provide guidance relating to the excavation, storage, and reuse or disposal of soils from the National Grid-owned property located at 642 Allens Avenue in Providence, Rhode Island (the “Site”). This plan also provides guidance related to the handling and management of groundwater. This SMP is subject to the Limitations provided in Appendix A.

The Site is identified on the Providence Tax Assessor’s Map as Assessors Plat (AP), Lots 5, 273, 316, and 317, and as Plat 101, Lot 1. A Site *Locus Plan* is included as Figure 1.

The Site is the location of a former manufactured gas plant (MGP) and prior environmental testing indicated the presence of MGP-related contaminants at concentrations above certain regulatory criteria. The Site is currently occupied by National Grid for use as an active natural gas distribution facility. A tenant Holcim (Canada) Inc., (Holcim), a cement company, occupies the southeastern portion of the Site.

Note that the coastal resource areas of the Site (the Providence River) are subject to regulation by the Coastal Resources Management Council (CRMC), Rhode Island Department of Environmental Management (RIDEM), the U.S. Army Corps of Engineers (ACOE), and the U.S. Coast Guard (USCG). In addition, stormwater management, treatment and discharge may be subject to Narragansett Bay Commission (NBC) or RIDEM Rhode Island Point Discharge Elimination System (RIPDES) jurisdiction. Accordingly, an evaluation of potential regulatory requirements must be evaluated prior to the initiation of projects by National Grid Environmental personnel.

This SMP is based in part on the May 2009 SMP developed by VHB on behalf of National Grid. It has been prepared to establish procedures that will be followed during future construction/maintenance activities at the Site, which require the need to manage soils excavated and groundwater removed from the subsurface.

- Section 1.0 includes this introduction;
- Section 2.0 describes the Site and provides relevant background information;
- Section 3.0 presents a summary of the Site hydrogeologic features;
- Section 4.0 summarizes soil and groundwater quality data;
- Section 5.0 presents soil and groundwater management guidelines; and
- Section 6.0 presents health and safety guidelines.



## 2.00 SITE DESCRIPTION/BACKGROUND

The following provides a brief description and history of the Site and a summary of relevant past operations. For more detailed information, please refer to the April 2003 *Site Investigation Report* (SIR) submitted to RIDEM.



The Site consists of an approximately 42-acre parcel of land and is bound to the west by Allens Avenue, to the east by the Providence River, to the northwest by the Motiva Terminal property, to the northeast by a water lot owned by Motiva, to the southwest by Terminal Road, and to the south and southeast by UNIVAR (a chemical distributor), the former Sun Oil/ProvPort facility, the LeHigh Cement Distribution Company and the New England Petroleum Terminal Corporation. All surrounding properties are industrial in nature and either historically or currently store(d) petroleum and/or hazardous materials and have the potential to impact the Site. (Refer to Figure 2 for a *Site Plan*).

The Site is comprised of three principal areas and associated operations (as shown on Figure 2):

- National Grid's 642 Allens Avenue facility;
- National Grid's 670 Allens Avenue Compressed Natural Gas (CNG) Fueling Station;
- The Liquefied Natural Gas (LNG) facility operated by National Grid LNG; and
- Holcim's Cement facility.

The MGP occupied portions of all three locations described above. The main entrance to the Site is on Allens Avenue, on the west side of the Site. There are also gated entrances to the National Grid LNG site and Holcim facilities off Terminal Road.

From 1910 until 1954, an MGP operated at the Site producing coal gas, carbureted water gas, and high-BTU oil gas. Gas manufacturing by-products were routinely managed through recovery, storage, recycling, reprocessing, and resale of the by-products. Such by-products included coke, coal tar, ammonia, toluene, and benzene. B.P. Clapp operated an ammonia works at the Site beginning in 1910, and managed the recycling and sale of ammonia by-products. The United States Government operated a toluene facility at the Site for a short period of time during 1918.

In 1952, a liquefied petroleum gas distribution plant began operation at the Site. By 1954, coal gasification operations at the Site had ceased. As indicated previously, a LNG facility has operated on the eastern and southeastern portions of the Site since 1972 and Holcim (formerly, St. Lawrence Cement Company) has leased the southeastern section of the Site since 1961.

### 3.00 HYDROGEOLOGIC CONDITIONS



Site stratigraphy generally consists of fill materials, underlain by organic deposits/ materials, underlain by a discontinuous layer of sorted sands (outwash deposits) and underlain by glacial till. In general, the shallow fill consists of sands and gravels with cinders, cinder ash, coal fragments, wood chips and bricks. Bedrock is expected to be more than 100 feet below ground surface (bgs). The organic materials, which occurs at various depths ranging from 16.5 to 19 feet bgs is likely to an original tidal mud deposit. The glacial till is very dense, heterogeneous and poorly sorted.

Groundwater is encountered at depths of approximately 2 to 8 feet below the ground surface across the Site and is inferred to flow to the northeast toward the Providence River and to the north towards the cove area. Groundwater is tidally influenced and the groundwater table is predominantly encountered within the fill materials. Groundwater underlying the Site is classified by RIDEM as “GB” or not suitable for potable use without treatment due to known or presumed degradation.

### 4.00 SUMMARY OF ENVIRONMENTAL IMPACTS

Based on the type of chemical constituents present at the Site, the potential routes of exposure to excavation and/or utility repair workers include inhalation, dermal contact or accidental ingestion of impacted soil and/or groundwater, and the possible introduction of contaminants through broken skin. Utilization of the appropriate personal protective equipment and the general safety guidelines provided herein will serve to minimize the potential for worker exposure to impacted media while performing work.

The following sections present a summary of soil and groundwater quality at the Site. This information was obtained from previous environmental studies of the Site. For further detail, please refer to the following:

- February 1995 *Summary Report Phase 1A Field Characterization Investigations* prepared by Resource Controls (RCA);
- June 1996 *Summary Report Phase 1B Field Characterization Investigations* prepared by RCA; and,
- September 2003 *Site Investigation Report (SIR)* prepared by VHB.

In planning activities that may include disturbance of impacted materials, a qualified environmental consultant<sup>1</sup> shall review this environmental data and develop appropriate project-specific procedures for addressing impacted soil and groundwater disturbance/ management/disposal and worker health and safety consistent with this SMP.

---

<sup>1</sup> For the purpose of this document, this term is consistent with the definition of “Environmental Consultant” contained in RIDEM’s *Rules and Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Material* dated April 2011.

#### 4.10 CONSTITUENTS OF CONCERN

Based on the results of the previous investigations described in the above reports, certain constituents of concern (COCs) were detected in soil and groundwater associated with former operations at concentrations that represent Method 1 exceedances of the *RIDEM Rules and Regulations for the Investigation and Remediation of Hazardous Waste Materials* (Remediation Regulations, DEM-DSR-01-93, as amended). Please refer to the 2003 *SIR* for a complete data set.



For the Site, the following exceedances have been documented:

- **Industrial/Commercial Direct Exposure Criteria (I/C DEC):** arsenic, lead, total petroleum hydrocarbons (TPH), and several polynuclear aromatic hydrocarbons (PAHs);
- **GB Leachability Objectives:** TPH, benzene, toluene, ethylbenzene, and xylene;
- **GB Groundwater Objectives:** benzene and naphthalene;
- **Soil Upper Concentration Limits:** TPH, lead, and naphthalene; and
- **Groundwater Upper Concentration Limits:** light non-aqueous phase liquid (LNAPL) and trace amounts of dense non-aqueous phase liquid (DNAPL).

#### 4.20 EXTENT OF CONTAMINATION

The extent of impacted soil associated with the former MGP usage varies throughout the Site. In addition to MGP impacts, much of the Site and its surroundings are filled land and may contain hazardous materials-impacted soils not associated with the former MGP. Based on the above, soil management guidelines are necessary to ensure soils are managed with consideration to the project remedial goals and the Remediation Regulations.

Areas that have been remediated and capped with approximately 2 feet of cover material include the former Compressor Building No. 1 area and the northwestern and southern portions of the National Grid LNG Site (see Areas 1, 2, and 3 on Figure 3, *Remediated Areas*). The former Materials Handling Area has had approximately 6 inches of clean loam applied and has a grass cover established to stabilize the soils.

Subsurface soil exceedances exist throughout the Site, but there appears to be concentrated areas of exceedances in the general vicinity of the former Gasholders No. 18 and No. 21, the former Purifier Area, and the National Grid Regulator Area.

NAPL has been observed in the subsurface throughout the Site, with both LNAPL and dense non-aqueous phase liquid (DNAPL) occurring. LNAPL occurs in trace amounts proximate to the former Gasholders Nos. 18 and 21, trace amounts proximate to the former propane cradles in the central portion of the Site and in thicknesses ranging from approximately trace amounts to 3 feet thick in the eastern portion of the Site (within the LNG facility). DNAPL occurs in the northern portion of the Site, proximate to the cove, in trace amounts only.

#### 4.30 REMEDIAL ACTIONS

Several remedial actions have been completed at the Site.



In June 1999, Environmental Science Services (ESS) supervised the excavation of surface and subsurface soils in preparation for the construction of a vaporizer pad, located to the south of the offload area on the National Grid LNG portion of the Site. Subsurface piping was removed and recovery wells and groundwater flow barriers were installed to aid in the recovery of LNAPL. Areas that were excavated were capped with approximately 2 feet of clean fill or were covered by structures (the vaporizer pad). The area west of the LNG tank sub-impoundment was also excavated as part of these remedial activities. See Area 1 on Figure 3, for the location of this area.

Additional remedial actions were initiated in May 2002 at the Site and were conducted in accordance with the ESS *Remedial Action Work Plan (RAWP)* (as amended), which was approved in 1998 and a Temporary Remedial Action Permit issued by RIDEM in 2002. See Areas 2 and 3 on Figure 3 for the location of the remediated areas. These remedial actions consisted of the removal of MGP waste and impacted soils from subsurface structures and their surroundings and construction of engineered caps in portions of the Site. VHB supervised some of these remedial actions. The Remedial Objectives (ROs) for this project were divided into three categories: surface soil objectives (0-2 feet bgs); subsurface soil objectives (>2 feet bgs) within 100 feet from the shore; and subsurface soil greater than 100 feet from the shore. These ROs were based on the RIDEM DEC (surface soil) and UCLs (subsurface soil). The ROs from the 1998 ESS RAWP are provided in Appendix B.

Based on the industrial nature of the surrounding properties, the documented releases of petroleum hydrocarbons on all surrounding properties, the continued large-capacity storage of petroleum products, and the excavation of source materials within the Site, it was proposed, in the *Site Investigation Report*, to address groundwater impacts through monitoring and passive recovery of non-aqueous phase liquid (NAPL).

#### **5.00 SOIL AND GROUNDWATER MANAGEMENT GUIDELINES**

This SMP has been prepared to establish procedures that will be followed should future construction/maintenance activities at the Site require the need to manage soils and groundwater during excavation activities. As previously noted, soils have been detected at the Site exceeding the RIDEM-approved Remedial Objectives, as well as RIDEM Industrial/Commercial DEC, GB Leachability Criteria, and UCLs.

Soils generated from an excavation conducted at the Site may be placed back into its original excavation, based on the discretion of the environmental consultant (refer to Section 5.20). However, so as to maintain known exposure scenarios, every attempt shall be made to backfill the excavation so that the corresponding depth and location of the backfilled soil resembles the depth and location at which the soil originally existed. In certain areas where remedial



actions have been completed, this requirement includes the reinstallation of the geosynthetic barrier and the re-placement of the engineered control cap. Excess materials and/or materials deemed unsuitable for use as backfill shall be managed and disposed of in accordance with this SMP. As described previously, the natural groundwater table is encountered at depths ranging from approximately 2 to 8 feet below grade and has been observed to be tidally influenced, with the groundwater table is generally observed within the fill unit. In addition, NAPL has been observed in certain areas of the Site. Projects involving excavation below the water table and/or disturbance of impacted groundwater will require additional controls and Best Management Practices (BMPs) as described below. As part of any construction activities, soils will need to be stockpiled within the Site area. Specifics regarding stockpiling protocol are outlined in the following sub-sections.

#### 5.10 PRELIMINARY ACTIVITIES

- While formal RIDEM approval of planned utility/construction projects is not a requirement, it is recommended that RIDEM be notified prior to commencing these types of activities.
- Before preparing for any planned activities involving the disturbance of materials beneath any of the engineered controls, this SMP shall be reviewed by a qualified environmental consultant. Project-specific plans shall be prepared in consideration of the Site conditions and soil and groundwater impacts described herein, so as to prevent potential human exposures to or migration of hazardous materials.
- Should any project require the need for dewatering and/or disturbance of impacted groundwater in support of excavation/construction, the qualified environmental consultant shall plan to manage, contain, treat (if necessary) and discharge or dispose of impacted groundwater. In addition, all appropriate regulatory approvals related to the removal, handling, treatment and discharge of impacted groundwater shall be in-place prior to the initiation of the project. Such plans shall, at a minimum, include an evaluation of water quality and the potential presence of NAPL, the method by which water will be treated, contained and/or discharged/disposed and the necessary regulatory approvals, permits, *etc.* Impacted, untreated groundwater shall not be discharged directly to the ground surface, collection utilities or neighboring water bodies.
- Prior to the initiation of soil excavation, the selected contractor or any other personnel performing subsurface work at the Site shall contact DIGSAFE<sup>®</sup> and appropriate utility companies to identify and mark the location of below grade utilities.
- Prior to performing the proposed work, the selected contractor and/or responsible party shall obtain all applicable federal, state and local permits. As noted, portions of the Site are located within the jurisdictional limits of the CRMC. A jurisdictional determination of the requirements of the CRMC shall be made prior to the implementation of proposed construction projects. If applicable, CRMC approval shall be obtained prior to conducting the work.



- As described further herein, prior to conducting any earthwork/construction activities that involves disturbance of materials, a qualified environmental consultant shall be consulted to determine the appropriate level of health and safety training required by personnel involved with the work, the personal protection equipment required, and general health and safety guidelines. A project-specific Health and Safety Plan (HASP) shall be prepared by a qualified Certified Industrial Hygienist (CIH) and strictly adhered to during all phases of the work.

## 5.20 SOIL SCREENING/DISPOSAL REQUIREMENTS

- Environmental consultant(s) will be available during earthwork activities to provide guidance regarding the management of potentially impacted soil and groundwater. The environmental consultant will monitor the work areas during soil excavation to conduct observations and for field screening/soil sampling, and will be available on a fulltime or as needed basis. The environmental consultant will summarize all observations and sampling activities in daily field reports that will serve as the Operating Log.
- If unusual observations are made during excavation anywhere in the work area (*e.g.*, NAPL, buried containers, or unusual odors), work in the subject areas shall stop immediately. Workers should not excessively handle the material of interest and will notify the NGRID's construction project supervisor and request further direction. The construction project supervisor will in turn notify NGRID's Environmental Department. Unusual material will be segregated by the contractor and characterized by the environmental consultant per the following bullet.
- The contractors, with guidance from the environmental consultant, will segregate any suspect soil ("suspect soil" includes observations of NAPL or unusual odors) based on visual observations and total volatile organic compounds (TVOC) headspace screening via a photo ionization detector (PID). Any soils which exceed a TVOC concentration of 50 parts per million per volume (ppmv) or which exhibits visual or olfactory evidence of contamination will be segregated for laboratory analysis for comparison to the RIDEM regulatory criteria and disposal parameters. The segregated soil will be stockpiled by placing on two layers of 6 mil polyethylene sheeting, or stored in roll-off type containers or drums. In either case, the material in storage will be covered with secured polyethylene sheeting at the end of each work day, as specified in Section 5.30. All other soil will be considered suitable for reuse on the Site, but must be stockpiled in accordance with Section 5.30. The environmental consultant will sample segregated soil every 1,000 cubic yards for TPH via Method 8100M, semi-volatile organic compounds (SVOCs) via Method 8270, arsenic and lead via Methods 200s/6010/7000s and volatile organic compounds (VOCs) via Method 8260/5035. A determination regarding the potential for such soils to be reused on the Site will be made by comparing the laboratory analytical data to the RIDEM approved surface and subsurface Remedial Objectives per the 1998 RAWP (see Appendix B).





- Should soils with evidence of NAPL be discovered during excavation, these materials and/or soils shall be segregated for disposal at a licensed facility approved by National Grid.
  - Soil disposal documentation for non-hazardous soil will be maintained on file by National Grid.
  - For soil disposed of as a hazardous waste, disposal documentation (*i.e.*, Hazardous Waste Manifests) will be provided to National Grid for distribution to RIDEM.
- Any soil remaining after the completion of construction activities requiring disposal (based on analytical results) at a licensed and National Grid approved facility will be kept on polyethylene sheeting and covered until it is shipped off-Site.
  - **Soils excavated from the Site shall not be re-used at non-permitted locations off-Site.** All excess Non-RCRA Hazardous soils shall be transported to a licensed thermal desorption or other similar type of facility for treatment/recycling. In the event RCRA Hazardous materials are generated, these materials shall be disposed off-Site at a licensed hazardous waste disposal facility. A qualified environmental consultant shall collect samples of the excavated soils (either during excavation or from stockpiles) for laboratory testing. Soil must be sampled at a frequency adequate to support the data requirements of the selected recycling/disposal facility.
  - The National Grid Environmental contact will make arrangements for the disposal of the material and will sign as the generator of these materials on all waste profiles and shipping manifests. Copies of these records shall be provided to National Grid.

### 5.30 SOIL STOCKPILE MANAGEMENT/EROSION CONTROL

- Segregated materials which meet the on-Site re-use requirements, and can be re-used on the Site considering the scope of the active project, will be temporarily stockpiled on 6 mil polyethylene sheeting. Temporary stockpiles may also be created adjacent to excavation areas to accommodate the contractor's work schedule throughout the Site area.
- Excavated materials shall be temporarily staged on two layers of 6-mil polyethylene sheeting in working stockpiles adjacent to excavations. Depending on the volume of material involved in the project, soils shall be either stockpiled on polyethylene sheeting as described herein, or stored in lined roll-off type containers or drums. No excavated materials shall be placed directly on the ground surface. At the end of each work day, all stockpiles shall be covered with 6-mil polyethylene sheeting to control the generation of wind-blown dusts and potential migration of soils with stormwater runoff. Stockpile areas shall be equipped with appropriate controls to limit the loss of the cover and protect against storm water erosion. These controls shall include the installation of hay bales, silt fencing and any other appropriate measures during the



entire duration of the project. Stockpiles shall be inspected daily by site personnel. Should tears or punctures be observed in either the polyethylene sheeting covering or underlying the piles, repairs shall be made immediately. Daily shutdown procedures shall include the covering and securing of all stockpiled material area with polyethylene sheeting and appropriately sized materials to secure the polyethylene sheeting in place.

- All catch basins/storm drains proximate to work areas will also be protected from excessive sediment discharge by placing staked haybales or similar protective devices around its perimeter. All catch basins/storm drains will be protected and inspected daily during the course of the entire project to ensure haybale placement and integrity.
- Stockpiled soils shall be staged and temporarily stored in a designated area of the Site for no more than 90 days. To the extent practical, the storage location shall be selected to limit the unauthorized access to the materials (*i.e.*, away from public roadways/walkways).
- Soil, construction material and/or debris stockpile areas shall not be located on any coastal feature, within 200-feet of the inland edge of the coastal feature or in coastal waters.

#### 5.40 DUST AND ODOR CONTROL

All reasonable precautions must be taken to prevent the excessive generation of dust and/or nuisance odor during soil excavation, stockpiling, loading, and other soil handling activities. At a minimum, the PM<sub>10</sub> dust concentration, as measured with a real-time dust monitor, shall not exceed 150 ug/m<sup>3</sup> over a 24-hour period. Dust control measures must be implemented, as required, to prevent airborne particulate matter from leaving the Site at all times. Methods of stabilization consisting of sprinkling, mulching, or similar methods shall be employed as soil conditions warrant (*i.e.*, visual evidence of dust). Odor controls such as sprinkling, covering of piles and/or disturbed areas, and use of foams or other techniques shall also be employed as necessary to control odors.

Work at the Site must comply with all applicable federal, state, and local regulations, including the RIDEM's *Air Pollution Control Regulations*, and specifically Regulation No.5 regarding control of fugitive dust. The contractor will conduct dust/odor control measures during and after normal work hours and on weekends as necessary to control dust/odors. All stockpiles shall be inspected on a daily basis to ensure compliance with RIDEM *Air Pollution Control Regulations*.



### 5.50 CAPPING REQUIREMENTS

Following construction activities, soils will be managed in a manner which ultimately results in these materials being interred in the following manner.



- All excavated soils which meet the re-use criteria (refer to Appendix B – RIDEM approved Remedial Objectives) will be re-interred (if possible).
- Soil meeting the surface soil Remedial Objectives will be used as surface soil or subsurface backfill. Soil passing the subsurface soil Remedial Objectives will be used only as subsurface soil backfill.
- Soil not meeting the subsurface Remedial Objectives or soils that cannot be reused will be disposed at a National Grid approved licensed facility.
- The replacement of the existing surficial cap should consist of either: (1) two feet of clean soil, (2) one foot of clean soil underlain by permeable geosynthetic; (3) asphalt pavement cover; or (4) permanent structures with concrete slab.

### 5.60 DECONTAMINATION PROTOCOL

Since heavy equipment/hand tools may remain onsite for several days, decontamination need not occur on a daily basis. At the conclusion of the construction activities, heavy equipment and tools will be decontaminated. Soil will be brushed from the equipment and containerized prior to washing the equipment surfaces. The containerized material should be sampled for disposal determination (as required) and then properly disposed at an off-Site facility. All liquid (water) generated as a result of decontamination procedures will be spread over as large an area as possible and allowed to infiltrate the ground surface.

Crushed gravel will be placed at the construction boundary zone to facilitate the removal of excess soil from vehicle tires for vehicles which need to leave the work zone on a daily basis (such as vehicles used to transport soil).

### 5.70 OTHER SOILS

Any clean fill material brought on-Site is required to meet the RIDEM's Method 1 Residential Direct Exposure Criteria or be designated by a qualified environmental consultant as Non-Jurisdictional under the Remediation Regulations. All clean fill, including sub-grade material and loam, imported to the Site must be sampled prior to delivery and placement. Laboratory analytical results shall be reviewed by a qualified environmental consultant and National Grid prior to acceptance or delivery to the Site. Clean fill and loam shall be sampled for arsenic at a minimum frequency of one sample per 500 cubic yards. One-quarter of the total number of compliance samples of clean fill and loam shall be sampled for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and the 13 priority pollutant metals. Any fill determined to be non-jurisdictional will also require the submission of a written certification by a qualified

environmental consultant designating that the fill is not jurisdictional. Any clean fill that is stockpiled on the Site prior to use will be segregated from any stockpiles of excavated soils, although must be stockpiled pursuant to Section 5.30.

#### 5.80 DEWATERING



Laboratory analytical results of Site groundwater samples indicate the detection of hazardous substances that exceed RIDEM GB Groundwater Objectives and possibly sewer or surface water discharge criteria. If dewatering is necessary, all impacted fluids shall either be properly treated on-site for subsequent surface water or Narragansett Bay Commission (NBC) discharge, or containerized for off-Site disposal. Any discharges shall be performed consistent with all applicable regulations and permits. With respect to fluids to be disposed off-site (including NAPL), they shall be properly transferred and containerized to prevent discharges or leaks, characterized per the requirements of the receiving facility, and subsequently transported to a fully licensed/permitted treatment/recycling facility. **Impacted, untreated groundwater shall not be discharged directly to the ground surface, collection utilities or neighboring water bodies.** Open excavations shall be protected when feasible to prevent introduction of stormwater runoff and/or precipitation into the excavation (ie. staked haybales to berm the edge of excavations, etc.) If dewatering is part of the Contractor's scope of work, the cost implication of dewatering, permitting and disposal must be included in the bid costs.

#### 5.90 MANAGEMENT OF NON SOILS

Work area excavations may unearth solid debris and/or refuse materials such as concrete, brick, rubble, pipe, lumber and other building materials. This material should be segregated to the extent feasible and stockpiled separately utilizing the procedures outlined above. Disposal of this material is not the subject of this plan and will be handled by the contractor in a manner consistent with demolition and refuse clearing projects and in accordance with RIDEM *Solid Waste Regulations*, and subject to National Grid approval.

### **6.00 HEALTH AND SAFETY GUIDELINES**

The basic health and safety procedures outlined below are intended as a general guideline for basic short-term excavation activity conducted at the Site and that a project- specific HASP may be warranted for complex or long-duration subsurface work. **The contractor is responsible for developing their own HASP and to provide site safety personnel who will be responsible for ensuring that safety measures are strictly followed.** Prior to starting work, the project-specific HASP must be reviewed by National Grid.

#### 6.10 PERSONNEL PROTECTIVE EQUIPMENT (PPE)

In general, the level of protection which will be used by workers will be determined by the task which the person is performing; however, at a minimum, workers performing excavation

work subject to the SMP are required to wear the following Level D personnel protection equipment (PPE):

- Safety leather steel toe boots;
- Rubber or leather gloves;
- Eye and hearing protection;
- Hard hats; and
- Florescent vests.



## 6.20 SITE OPERATING PROCEDURES / SAFETY GUIDELINES

Regardless of the level of PPE necessary to complete work, the following general health and safety guidelines shall be followed during the performance of any excavation activities conducted.

- Workers conducting site activities under this SMP should do so with consideration to OSHA Standards including OSHA Standard 29 CFR 19.10-120.
- Site security shall be maintained on a continuous basis. No trespassers will be allowed.
- Work in the LNG portion of the site will be performed in accordance with National Grid's LNG safe practice procedures for that area of the Site.
- A pre-work meeting will be conducted at the start of every workday to discuss the health and safety procedures.
- The location of all utilities in the vicinity of the excavation shall be established prior to beginning work.
- Practice contamination avoidance: never sit or kneel in an excavation; never lay equipment on the ground; avoid obvious sources of contamination; and avoid unnecessary contact with objects in an excavation.
- Be alert to any unusual changes in your physical condition; never ignore warning signs. Notify the responsible employee as to any changed conditions.
- All equipment used in an excavation shall be properly cleaned and maintained in good working order. Equipment shall be inspected for signs of defect and/or contamination before use.
- Eating, drinking, chewing gum, and smoking shall be prohibited in active excavation areas.



- During working hours, workers who stop to drink or eat should leave the active work area, remove PPE, and wash hands thoroughly with soap and water prior to eating or drinking.
- The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated shall result in the evacuation of personnel from the excavation and the re-evaluation of the hazard and the level of protection; and
- At the completion of work, workers are required to wash their hands with soap and water or use pre-moistened wipes (such as Go-Jo wipes) before leaving the Site. All workers' safety boots are required to be brushed with a stiff bristle brush or similar instrument (not by hand) to remove residual soil. Used disposable PPE (such as Go-Jo<sup>®</sup> wipes, nitrile or latex gloves, boot covers, and Tyvek<sup>®</sup> suits, if necessary) is required to be disposed according to applicable regulations.

**6.30 EMERGENCY PHONE NUMBERS**

Emergency telephone numbers and the directions to the nearest hospital are included below. This information shall also be included in the project-specific HASPs developed for the activity and shall be periodically reviewed and updated as needed.

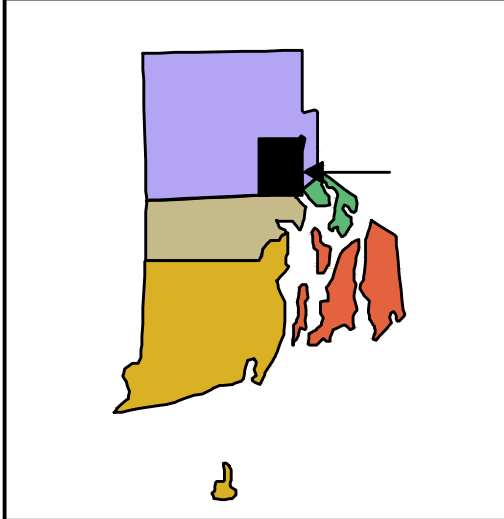
<b>Response Agency</b>	<b>Phone Number</b>
Ambulance	911
Police	911
Fire	911
RIDEM/Office of Compliance & Inspection/Emergency response Program	(401) 222-1360 or (401) 222-3070 (non-business hours)
USEPA/Hazardous Materials Spills	(800) 424-8802
Poison Control Center	(800) 562-8236
DigSafe <sup>®</sup> (Utility Clearance)	1-888-DIGSAFE
<b>Hospital</b>	
Rhode Island Hospital 593 Eddy Street Providence, RI 02903	401-444-4000
<b>Route to Hospital</b>	
<ol style="list-style-type: none"> <li>1. Turn RIGHT out of the Site onto ALLENS AVENUE</li> <li>2. Turn LEFT at the ninth turn onto PUBLIC STREET</li> <li>3. Turn RIGHT at the first turn onto EDDY STREET</li> <li>4. End at 593 EDDY STREET</li> </ol>	

J:\ENV\33554.abu\Soil Management Plan\2012\33554.00 642 Allens Avenue SMP Sept 2012.docx

## **FIGURES**



© 2010 - GZA GeoEnvironmental, Inc. GZA-J:\ENV\33554.obu\FIGURES\GZA DWGS\33554.00\_F1-2\_R0.DWG [LOCUS] September 12, 2012 - 10:03am Sophia.narkiewicz

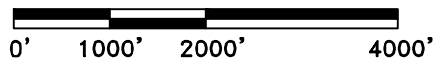


BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:  
 PROVIDENCE, RHODE ISLAND-MASSACHUSETTS (1987)

DIGITAL TOPOGRAPHIC MAPS PROVIDED BY MAPTECH, INC.

CONTOUR ELEVATIONS REFERENCE NGVD 29,  
 CONTOURS ARE SHOWN IN METERS AT 3 INTERVALS

APPROXIMATE SCALE IN FEET



NATIONAL GRID GAS FACILITY  
 642 ALLENS AVENUE

PROVIDENCE, RHODE ISLAND

LOCUS PLAN

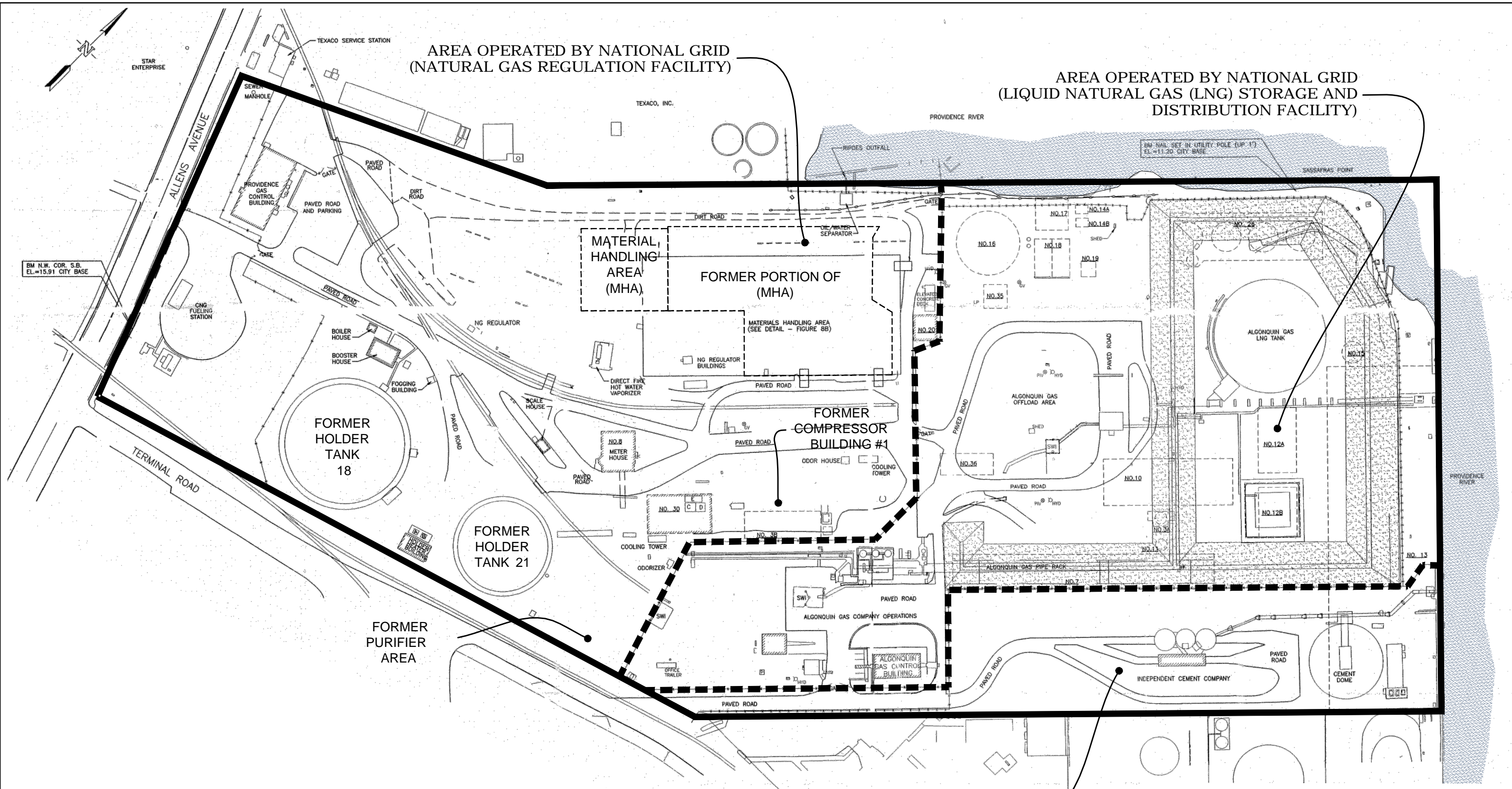
SEPTEMBER 2012

FIGURE NO. 1



AREA OPERATED BY NATIONAL GRID  
(NATURAL GAS REGULATION FACILITY)

AREA OPERATED BY NATIONAL GRID  
(LIQUID NATURAL GAS (LNG) STORAGE AND  
DISTRIBUTION FACILITY)



**NOTE:**  
1) BASE MAP DEVELOPED FROM ELECTRONIC SCAN PROVIDED BY NATIONAL GRID, PREPARED BY ESS ENVIRONMENTAL SCIENCE SERVICES, INC., ENTITLED "SITE LAYOUT PLAN," DATED DECEMBER 3, 1998, ORIGINAL SCALE 1"=80', DRAWING No. P1P51-8A.

AREA OPERATED BY  
HOLCIM (CANADA), INC.

642 ALLENS AVENUE  
PROVIDENCE, RHODE ISLAND  
SITE PLAN







PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists 530 BROADWAY PROVIDENCE, RHODE ISLAND 02909 (401) 421-4140		PREPARED FOR: NATIONAL GRID	
PROJ MGR: ABU	DESIGNED BY: ABU	REVIEWED BY: ABU	CHECKED BY: JPH
DATE: SEPTEMBER 2012	PROJECT NO.: 33554.00	DESIGNED BY: CRB	SCALE: AS NOTED
		REVISION NO.:	FIGURE 2
			SHEET NO.

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




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
**AREAS OF REMEDIATION**

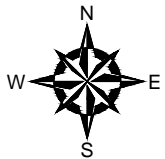
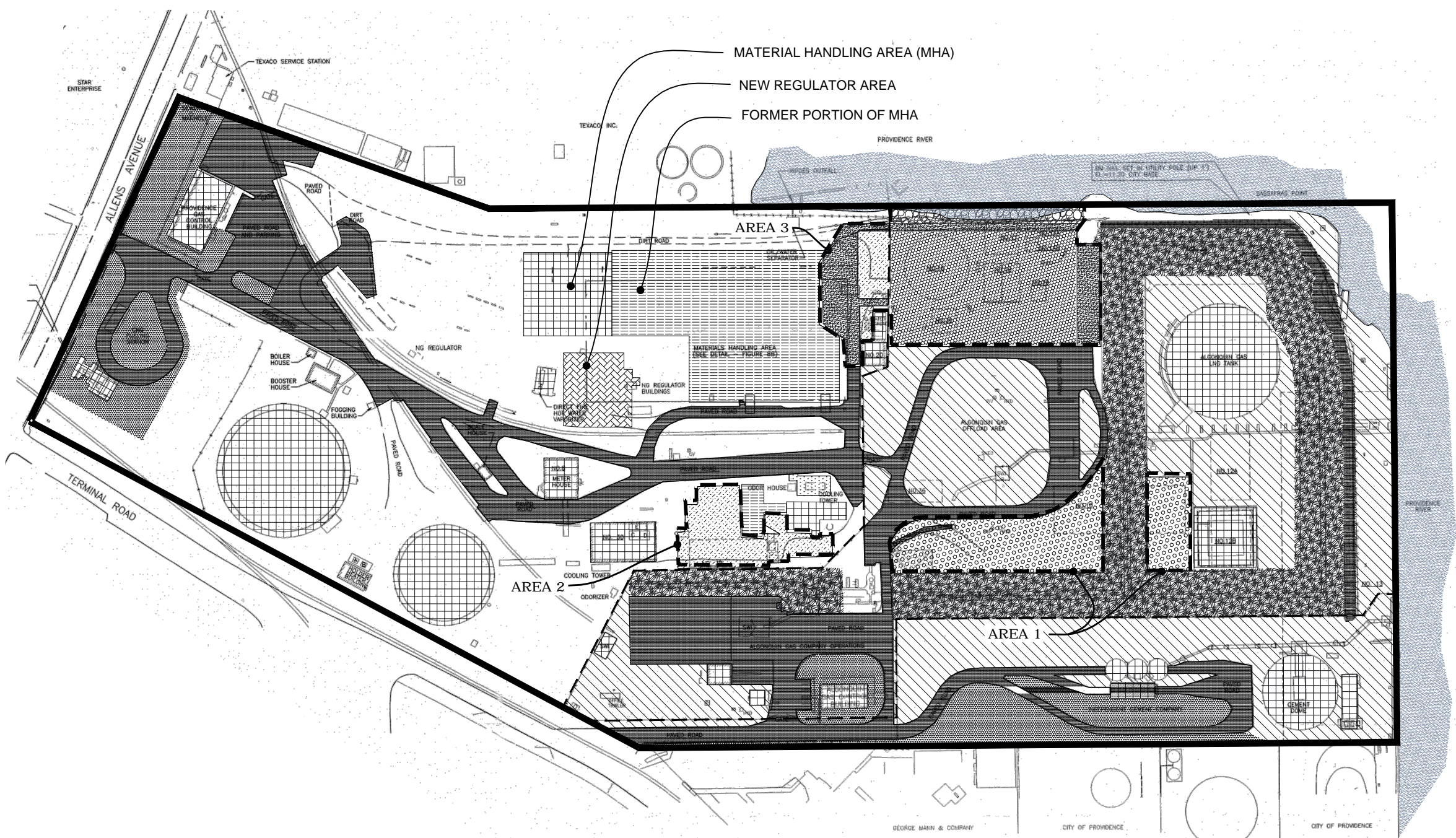
-  AREAS CAPPED WITH APPROXIMATELY 18-20 INCHES OF CLEAN SAND, APPROXIMATELY 4-6 INCHES OF LOAM AND HYDROSEED
-  AREAS CAPPED WITH WITH APPROXIMATELY 2 FEET OF STONE DUST
-  AREAS CAPPED WITH APPROXIMATELY 18-20 INCHES OF CLEAN SAND AND APPROXIMATELY 4-6 INCHES OF CRUSHED STONE
-  AREAS CAPPED WITH 2 FEET OF CLEAN FILL
-  AREAS REMEDIATED BY ESS, CLEAN SAND AND CRUSHED STONE CAP
-  AREAS CAPPED WITH GEOTEXTILE AND APPROXIMATELY 24 INCHES OF RIP RAP

**AREAS EQUIVALENT TO AN ENGINEERED CAP**


-  BUILDING/STRUCTURE
-  PAVED AREAS
-  CONTAINMENT DIKE

**OTHER AREAS**

-  APPROXIMATELY 4-6 INCHES OF LOAM AND HYDROSEED APPLIED TO FORMER MHA, NOT AN ENGINEERED CAP. ADDITIONAL INVESTIGATION ARE PLANNED.
-  CRUSHED STONE
-  AREAS MAINTAINED WITH GRASS



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642 ALLENS AVENUE PROVIDENCE, RHODE ISLAND			
<b>REMEDIATED AREAS</b>			
PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists 530 BROADWAY PROVIDENCE, RHODE ISLAND 02909 (401) 421-4140	PREPARED FOR:		
PROJ MGR: ABU	DESIGNED BY: ABU	REVIEWED BY: ABU	CHECKED BY: JPH
DATE: SEPTEMBER 2012	PROJECT NO.: 33554.00	DRAWN BY: CRB	SCALE: AS NOTED
		REVISION NO.:	FIGURE <b>3</b>
			SHEET NO.

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**APPENDIX A**  
**LIMITATIONS**

## LIMITATIONS

1. This Soil Management Plan has been prepared on behalf of and for the exclusive use of The Narragansett Electric Company d/b/a National Grid (National Grid), solely for use at the 642 Allens Avenue Providence, Rhode Island ("Site") in documenting the work completed as described herein at the Former Tidewater MGP and Power Plant Site ("Site") under the applicable provisions of the State of Rhode Island Department of Environmental Management Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations). This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of GZA GeoEnvironmental, Inc.(GZA) or National Grid.
2. GZA's work was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and GZA observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. GZA's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of the study. No other warranty, express or implied is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA as described herein.
3. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based upon services performed and observations made by GZA.
4. In the event that National Grid or others authorized to use this report obtain information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.
5. The conclusions and recommendations contained in this report are based in part upon the data obtained from environmental samples obtained from relatively widely spread subsurface explorations. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
6. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the boring logs.

7. In the event this work included the collection of water level data, these readings have been made in the test pits, borings and/or observation wells at times and under conditions stated on the exploration logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.
  
8. The conclusions contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA and the conclusions and recommendations presented herein modified accordingly.

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## **APPENDIX B**

### **RIDEM APPROVED REMEDIAL OBJECTIVES**

**Appendix B**  
**RIDEM-Approved Remedial Objectives**  
642 Allens Avenue  
Providence, Rhode Island

Constituent (mg/kg)	RIDEM			RIDEM Approved Remedial Objectives		
	I/C DEC	GB Leachability Criteria	UCL	Surface Soils	Subsurface Soils	Subsurface Soils
					<100 feet from shore	>100 feet from shore
<b>Metals</b>						
Arsenic	7	NE	10,000	7	-	-
Cyanide	10,000	NE	10,000	10,000	-	-
Lead	500	NE	10,000	500	-	-
<b>PAHs</b>						
2,4-Dimethylphenol	10,000	NE	10,000	10,000	10,000	10,000
2,6-Dinitrotoluene	NE	NE	10,000	10,000	10,000	10,000
2-Methylnaphthalene	10,000	NE	10,000	10,000	10,000	10,000
Acenaphthene	10,000	NE	10,000	10,000	10,000	10,000
Acenaphthylene	10,000	NE	10,000	10,000	10,000	10,000
Anthracene	10,000	NE	10,000	10,000	10,000	10,000
Benzo (a) anthracene	7.8	NE	10,000	7.8	10,000	10,000
Benzo (a) pyrene	0.8	NE	10,000	0.8	10,000	10,000
Benzo (b) fluoranthene	7.8	NE	10,000	7.8	10,000	10,000
Benzo [g,h,i] Perylene	10,000	NE	10,000	10,000	10,000	10,000
Benzo [k] Fluoranthene	78	NE	10,000	78	10,000	10,000
Chrysene	780	NE	10,000	780	10,000	10,000
Dibenzo (a,h) anthracene	0.8	NE	10,000	0.8	10,000	10,000
Fluoranthene	10,000	NE	10,000	10,000	10,000	10,000
Fluorene	10,000	NE	10,000	10,000	10,000	10,000
Indeno [1,2,3-cd] Pyrene	7.8	NE	10,000	7.8	10,000	10,000
Naphthalene	10,000	NE	10,000	10,000	500	5,000
PCBs	10	10	10,000	10	10,000	10,000
Pentachlorophenol	48	NE	10,000	48	10,000	10,000
Phenanthrene	10,000	NE	10,000	10,000	10,000	10,000
Pyrene	10,000	NE	10,000	10,000	10,000	10,000
<b>TPH</b>						
TPH	2,500	2,500	30,000	2,500	15,000	30,000
<b>VOCs</b>						
Benzene	200	4.3	10,000	200	4.3	43
Ethylbenzene	10,000	62	10,000	10,000	62	620
Toulene	10,000	54	10,000	10,000	54	540
Xylenes	NE	NE	10,000	10,000	540	540

NE - Not Established

- No Remedial Objective established for this consistuent

PUC 1-10  
**Weld Shop Proposal**

Request:

Referring to the line referencing the “Weld Shop” in Table 1 on Bates page 81 which forecasts \$8.8 million of CY 2023 spending and \$11.3 million of capital additions placed into service in CY 2023 for the same project, please explain why the CY 2023 9-month actual spend for the project would be \$2.4 million lower than the total in-service amount for the same CY 2023 9-month period. In other words, if the Company is proposing to spend \$8.8 million in the 9-month period of CY 2023 for the Weld Shop which has not yet been approved by the Commission, how can it be placing \$11.3 million into service for the Weld Shop during the same period?

Response:

As part of its Fiscal Year (“FY”) 2024 Gas Infrastructure, Safety, and Reliability (“ISR”) Plan proposal, the Company is requesting approval from the Public Utilities Commission to place capital additions in-service associated with the Weld Shop totaling \$11.27 million. This would be the first year that any assets associated with this project would be placed in-service and therefore the first year that it would impact the revenue requirement and customer rates. In its proposal, the Company also is requesting approval of a FY 2024 Gas ISR Plan budget totaling \$8.86 million. The Company is moving forward with FY 2023 at-risk spending of \$3.00 million associated with this project because, in the Company’s opinion, it is in the best interest of customers to have a Weld Shop in use that meets the needs of the Company’s Gas ISR Plan portfolio.

PUC 1-11  
**Tools & Equipment Increase**

Request:

Referencing the Tools & Equipment budget for CY 2023,

- (a) Please provide a schedule showing budget and actual capital expenditures for Tools & Equipment for each of the fiscal years from FY 2019 through FY 2023.
- (b) The Company is proposing a Tools & Equipment budget of \$1.23 million on Table 1. Is any portion of the \$1.86 million specified for the Weld Shop included in this \$1.23 million or is the combined total for tools and equipment purchases for CY 2023 \$3.16 million when taking into account the Weld Shop?
- (c) Please explain why Rhode Island Energy, in its first full year of operating under the ISR, needs to purchase an amount of Tools & Equipment which is significantly higher than historical annual budgets from FY 2019 through FY 2023.
- (d) Referring to the Ground Penetrating Radar Systems and the T.D. Williamson ProStopp, please provide a more complete explanation of the function of each and indicate the cost of each.
- (e) Prior to the PPL acquisition of Narragansett Electric, did Narragansett Electric have access to equipment that served the same function as the Ground Penetrating Radar Systems and the T.D. Williamson ProStopp? If so, was it owned by a National Grid affiliate, Narragansett Electric, or a contractor? If not, how was the Company able to provide safe and reliable service without access to this equipment?

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Response:

- (a) The table below shows the budget and actual/forecasted capital expenditures for Tools & Equipment for each of the fiscal years from FY 2019 through FY 2023, along with the proposed budget for FY 2024.

**Tools & Equipment Budget and Actual/Forecasted Spend by Fiscal Year  
FY 2019 through FY 2024  
(\$millions)**

Category	FY 2019		FY 2020		FY 2021		FY 2022		FY 2023		FY 2024
	Budget	Actual Spend	Budget	Actual Spend	Budget	Actual Spend	Budget	Actual Spend	Budget	Forecast	Proposed Budget
Tools & Equipment	\$ 0.43	\$ 0.72	\$ 0.60	\$ 0.67	\$ 0.60	\$ 0.48	\$ 0.61	\$ 2.46	\$ 0.82	\$ 1.69	\$ 1.62

- (b) In accordance with the Company’s supplemental budget, Table 1a, that it filed with the Public Utilities Commission on January 27, 2023, the Company is proposing a Tools & Equipment budget of \$1.62 million for FY 2024 (April – March). This budget does not include any equipment or tooling that would be purchased for the construction and setup of the Weld Shop. The estimated equipment costs for the Weld Shop total \$1.56 million and the Tools/Tooling total \$0.30 million.

- (c) Late in FY 2019, the Company's Field Operations labor union declined to extend a voluntary agreement to allow non-Company contractors to perform many kinds of live gas operations related to the Leak Prone Pipe replacement programs, which were otherwise to be performed by the Company's internal labor force. Over more than eight years that the agreement was in place, the Company's capital tool needs were reduced as Contractors provided both the tools and labor to accomplish those live gas operations. During that same period, the Tools & Equipment budget and spend remained relatively flat.

In the ensuing years, the wear and tear on the existing tool stock increased, leading the Company to make a fuller assessment of its tool needs. In addition to simply replacing existing tools, the Company surveyed the state-of-the-art in pipeline construction tools and equipment. It identified several options for tools, such as the Williamson ProStopp, that provide significant enhancement to current capabilities by increasing operational efficiency, in terms of speed and footprint requirements as well as the capital efficiency



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that follows from this. Additionally, this equipment appreciably reduces operational risk by eliminating the need to tap multiple holes in a pipeline to achieve multiple stop defense-in-depth. Tapping live gas pipelines carries with it inherent risk and any ability to reduce the number of taps required for gas construction has apparent value.

The Capital Tools & Equipment budget has not kept pace with the tooling needs of the Company over time and the additional spend over the last year and the projected spend for next year reflects a degree of catch up for this underspend. The Company expects that future Tools & Equipment budgets will be greater than the long-term average but will be closer to an inflation adjusted curve.

- (d) The Ground Penetrating Radar (“GPR”) Systems will cost the Company approximately \$16,810 per unit and \$67,240 in total as the Company is in the process of purchasing four of these units in FY 2024. The GPR Systems performs/provides the following functions and benefits:
- 1) Minimizes the risk of damaging unknown underground utilities.
  - 2) Helps to locate untraceable plastic and cast iron pipe that is deep in the ground.
  - 3) Can be used to locate a customer's service and keep the service live instead of shutting off the service to e-line (method of disconnecting the service and inserting a tracer wire to locate gas pipe) if there are insufficient records available.
  - 4) Can help with rectifying records issues if there are any discrepancies with records which helps to reduce both labor and material costs.

The Company is purchasing the T.D. Williamson ProStopp equipment for \$522,050. This includes everything the Company would need to stop two separate locations simultaneously for all pipe sizes from 4” to 12”. The T.D. Williamson ProStopp performs/provides the following functions and benefits:

- 1) Achieves a double stop through one fitting to safely work in a gas free environment.
- 2) Using only a single fitting allows for smaller excavations, which in turn helps keep labor and material costs down.
- 3) Using only a single fitting minimizes the fittings needed, which could be a potential leak point in the future.

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- 4) When used on low pressure pipe, the ProStopp stoppers are more durable than using canvas bags for stops as the canvas bags can pop or deflate which could possibly cause a situation of blowing gas or a potential gas outage.
- (e) Prior to PPL's acquisition of the Company, the Company owned and today continues to retain ownership of several GPR systems. However, it is the Company's assessment that in the interest of gas system infrastructure, safety, reliability, and crew efficiency, Rhode Island Energy needs four more of these systems in FY 2024. Please refer to part (d) of this response for additional detail regarding the function and benefits of a GPR system.

The T.D. Williamson ProStopp equipment was not used (owned or borrowed) on the Rhode Island Gas Distribution System prior to PPL's acquisition of the Company. As stated in part (c) and (d) of this response, the Company became aware of this state-of-the-art gas equipment and has pursued purchasing the equipment based on the operational and capital efficiencies along with the risk reduction and safety benefits.

PUC 1-12  
**Historical Information on Meter Population**

Request:

Referring to the slide entitled "Meter Population" found at Bates page 144 of Book 1, please provide an explanation for the significant rise in meter population in 2018 and the follow-on significant drop in meter population in 2019.

Response:

In July of 2019, National Grid USA ("National Grid") (including the Company) completed moving its meter population database from its old tracking system called MITS (Meter Inventory Tracking System) to a new program called Maximo. In preparation for the move, National Grid cleaned up a large amount of old and inaccurate meter data, which caused a significant drop in the total meter population number between 2018 and 2019. The anomalous period in 2018 occurred during this data collection and scrubbing process, which was undertaken by National Grid and an outside consultant. After the switch to Maximo, the data levels back out for 2019 through 2021.