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March 1, 2024

Mark D. Marini, Secretary  
Department of Public Utilities  
One South Station, 5<sup>th</sup> Floor  
Boston, MA 02110

Re: Petition of Eversource Gas Company of Massachusetts d/b/a Eversource Energy  
Regarding the Comprehensive Safety Assessment & Implementation Plan - D.P.U. 21-  
109

Dear Mr. Marini:

On behalf of Eversource Energy (“Eversource”) and Eversource Gas Company of Massachusetts d/b/a Eversource Energy (“EGMA” or the “Company”), enclosed for filing pursuant to Section 2.2.4 of the Settlement Agreement approved by the Department of Public Utilities on October 7, 2020 in D.P.U. 20-59 is the Company’s six month report on the progress of implementation of the Comprehensive Safety Assessment & Implementation Plan (the “Safety Assessment”). Attachment A and Attachment B to this letter provide, respectively, updates on the progress of the implementation and updates to the metrics identified in the September 1, 2021 initial filing in this proceeding for the period ended December 31, 2023.

Thank you for your attention to this matter.

Sincerely,



Danielle C. Winter, Esq.

Enclosures

cc: Susan Geiser, Esq. – Hearing Officer  
Service List – D.P.U. 21-109

Area of Focus	YE 2023 Progress	Program Outlook	Notes
1. Gas Supply and LNG/LPG Gas Supply Resources	All implementation plans associated with this Area of Focus are on track and progressing according to schedule.	The outlook for these implementation plans is that they will continue to progress according to plan and schedule. Assessments and re-evaluations as identified in the initial filing will continue.	Assessment of EGMA gas supply is performed on an ongoing basis as part of the normal work of the Gas Supply group.
2. LNG and LPG Facilities	<p>All implementation plans associated with this Area of Focus are on track and progressing according to schedule. The following LNG/LPG capital projects were completed/progressed significantly in 2023:</p> <p><u>Ludlow LNG:</u></p> <ul style="list-style-type: none"> <li>Contract has been awarded for the design and construction of a liquefaction compressor and updates to the electrical systems.</li> </ul> <p><u>Easton LNG</u></p> <ul style="list-style-type: none"> <li>Pre-front End Engineering Design (“FEED”) study is mostly complete.</li> </ul> <p><u>Marshfield LNG</u></p> <ul style="list-style-type: none"> <li>Pre-front End Engineering Design (“FEED”) study is mostly complete.</li> <li>All permits have been received.</li> </ul> <p><u>Lawrence LNG</u></p> <ul style="list-style-type: none"> <li>Pre-front End Engineering Design (“FEED”) study is mostly complete.</li> <li>All permits have been received.</li> </ul> <p><u>Other Notable Updates</u></p> <ul style="list-style-type: none"> <li>Electric arc flash hazard assessments are complete.</li> </ul>	The outlook for these implementation plans is that they will continue to progress according to plan and schedule. The LNG/LPG capital projects team will spend the remaining years of the assessment, 2024-2028, focused on the development and execution of larger projects that refurbish and enhance the facilities to support the needs of EGMA customers. Emergent projects will continue to be addressed as necessary, and facility assessment efforts are ongoing.	Capital investments continue to be on track with the original filing in both cost and schedule. As projects are being completed in design and seek local permitting, minor delays have incurred due to timing associated with municipalities schedules and response. All permits have been received and construction will begin in Lawrence and Marshfield. Any delay related to this will further escalate costs related to the projects. <sup>1</sup> Eversource also continues to find current market conditions are trending towards their high estimates due to supply constraints and inflation of all costs.
3. Gate Stations and District Regulators	<p>All implementation plans associated with this Area of Focus are on track and progressing according to schedule, with the exception of the accelerated program to install telemetry, the standard station projects, and gate station projects. As discussed in March 1, 2023 progress report, there have been delays due to continued industry-wide material, supply chain, and permitting issues.</p> <p>The following items were completed in the second half of 2023:</p>	<p>Generally, the outlook for these implementation plans is that they will continue to progress according to plan and schedule. There is some risk of delay for the standard and major station projects due to continued industry-wide material and supply chain issues.</p> <p>The installation of telemetry at low-pressure stations is tentatively planned to be completed in 2024.</p>	<p>There have been significant industry-wide material shortages resulting in supply chain issues that continue to affect this Area of Focus. The Company has met with vendors to come up with mitigation plans in advance warning of any potential manufacturing issues that could arise.</p> <p>The new risk on problematic bypass configurations was recently identified as part of the Company’s ongoing continuous improvement efforts. Additional information will be provided in subsequent progress reports as an</p>

<sup>1</sup> Several of the Safety Assessment implementation plans have been impacted by significant global, economic, and industry-wide trends and events, including delays in equipment deliveries and increased costs due to inflation and supply chain issues. The Safety Assessment and Implementation Plan filed on September 1, 2021 and approved on January 12, 2023 was developed utilizing information that was then-currently available. For example, the cost estimates included in the September 1, 2021 Safety Assessment and Implementation Plan were generally developed assuming three percent annual inflation. The Company continues to monitor the costs associated with the Safety Assessment implementation plans, including cost incurrence as it relates to the budget deadbands developed for each Area of Focus and will provide appropriate notification consistent with Section 2.2.2.3 of the Settlement Agreement approved in D.P.U. 20-59 in the event that a budget deadband is exceeded.

Area of Focus	YE 2023 Progress	Program Outlook	Notes
	<ul style="list-style-type: none"> <li>Construction in progress for three standard station projects.</li> <li>The Company installed telemetry cabinets at 31 locations with ongoing work to establish communications and is continuing to install telemetry at all slam shut sites to monitor/indicate the inlet pressure, outlet pressure, and slam shut position.</li> <li>Two stations have been retired.</li> </ul>	Final mechanical work to complete the new over-pressure protection (“OPP”) station associated with the Ludlow LNG Facility is tentatively anticipated to be completed in 2024.	implementation plan is finalized. In the meantime, the Company has developed a plan, with execution beginning in 2023 and continuing in 2024, that allows for near-term monitoring.
4. High-Pressure Pipelines	<p>All implementation plans associated with this Area of Focus are on track and progressing according to schedule.</p> <p>The following implementation plan associated with this Area of Focus was completed in the second half of 2023:</p> <ul style="list-style-type: none"> <li>ConEd Replacement</li> </ul> <p>The following items of note associated with this Area of Focus were completed in the second half of 2023:</p> <ul style="list-style-type: none"> <li>5 direct examination digs on the Lawrence 200 Line, as identified in previous surveys.</li> <li>Completed over 4.4 miles of external corrosion direct assessment and close interval surveys.</li> </ul>	The outlook for these implementation plans is that they will continue to progress according to plan and schedule.	<p>The 10% program expansion implementation plan is progressing with analysis being performed and updates made in GIS.</p> <p>The new risk identified on a section of the Monson-Palmer line is continuing to conduct additional direct examinations and plans to conduct a robotic in-line inspection tool run pilot in 2024.</p>
5. DIMP – Transition and Integration	This implementation plan is now considered to be complete, as the risk software has been completed and the data has been integrated. The DIMP plan will continue as part of normal business operations.	N/A.	N/A.
6. TIMP – Transition and Integration	This implementation plan is now considered to be complete, as the TIMP plan has been developed and implemented as part of normal business operations. The TIMP plan will continue as part of normal business operations.	N/A.	N/A.
7. Gas System Enhancement Program	This implementation plan is on track and progressing according to schedule.	The outlook for this implementation plan is that it will continue to progress according to plan and schedule.	N/A.
8. Leaks on Non-Legacy Materials	<p>All implementation plans associated with this Area of Focus are on track and progressing according to schedule, with the exception of the replacement of Kerotest valves.</p> <p>The following items of note were completed in 2023:</p> <ul style="list-style-type: none"> <li>28 Remote Monitoring Units (“RMUS”) associated with the new RMU plan have been received with the installations substantially completed.</li> </ul>	Generally, the outlook for these implementation plans is that they will continue to progress according to plan and schedule, with the exception of the Kerotest valves. The Company will continue to attempt to identify records associated with Kerotest valves and other facilities manufactured by Kerotest.	<p>The additional data and records clean-up efforts for the steel service relay implementation plan are continuing and any further changes will be reported in future progress reports.</p> <p>As discussed in the March 1, 2022 Progress Report, at this point Kerotest valves can only be replaced if found opportunistically. The mapping and records efforts for the</p>

Area of Focus	YE 2023 Progress	Program Outlook	Notes
	<ul style="list-style-type: none"> <li>114 steel service relays associated with the steel service relay plan.</li> </ul>		identification of Kerotest valves are continuing and any further changes will be reported in future progress reports.
9. Pipeline Safety Management System	All implementation plans associated with this Area of Focus are on track and progressing according to schedule.	The outlook for this program is that it will continue to progress according to plan and schedule.	N/A.
10. Gas Process Safety	All implementation plans associated with this Area of Focus are on track and progressing according to schedule.	The outlook for these implementation plans is that they will continue to progress according to plan and schedule.	N/A.
11. System Reliability and Resiliency	All implementation plans associated with this Area of Focus are on track and progressing according to schedule, with the exception of the Western Mass Reliability Project. As outlined in the March 1, 2023 Progress Report, the project is pending before the Energy Facilities Siting Board.	Generally, the outlook for these implementation plans is that they will continue to progress according to plan and schedule, with the exception of the Western Mass Reliability Project.	N/A.
12. Enhanced Leak Survey and Preventative Maintenance	All implementation plans associated with this Area of Focus are on track and progressing according to schedule.	The outlook for these implementation plans is that they will continue to progress according to plan and schedule.	N/A.
13. Enhanced QC & Contractor Onboarding	Completed prior to the September 1, 2021 Safety Assessment and Implementation Plan filing.	N/A.	N/A.
14. Workmanship and QA/QC	Tracking and analysis of QC program data is ongoing. Current data and trend analysis does not indicate that any additional prioritized Abnormal Operating Condition (“AOC”) mitigation plan is warranted.	The program will continue in its current state.	N/A.
15. Enhanced Operator Qualification	Completed prior to the September 1, 2021 Safety Assessment and Implementation Plan filing.	N/A.	N/A.
16. Training and Development Programs	<p>All of the implementation plans associated with this Area of Focus are on track and progressing according to schedule.</p> <p>The following implementation plan associated with this Area of Focus was completed in the second half of 2023:</p> <ul style="list-style-type: none"> <li>Develop I&amp;R training program.</li> </ul>	The outlook for these implementation plans is that they will continue to progress according to plan and schedule.	Several training programs and refresher courses were successfully completed.
17. Maps and Records and Data Integrity	<p>The following implementation plans associated with this Area of Focus were completed in the second half of 2023:</p> <ul style="list-style-type: none"> <li>GIS-Maximo Cleansing</li> <li>Field Light Detection and Ranging (“LiDAR”) data capture activities via driving the Springfield gas network</li> </ul>	<p>Data processing activities will continue for the LiDAR data capture for the Springfield area in 2024.</p> <p>The outlook for the remainder of these implementation plans is that they will continue to progress according to plan and schedule, with the exception of the below implementation plan:</p>	Additional time was required to incorporate the results from the LiDAR pilot into the pre-cleanup plan to ensure complete and accurate data. LiDAR provides increased cost efficiency and more spatially accurate and complete data than GPS. The Company is reviewing the timeline associated with all remaining implementation plans in consideration of this new process. Additional information will be provided in subsequent progress reports as all GIS

Area of Focus	YE 2023 Progress	Program Outlook	Notes
	<p>The scanning of historical records was completed as of January 3, 2024.</p> <p>The following implementation plan associated with this Area of Focus has changed relative to the September 1, 2021 Safety Assessment and Implementation Plan filing:</p> <ul style="list-style-type: none"> <li>• GPS Complex Locations - Pre-cleanup of Springfield GIS data. The Company altered the plan to use LiDAR rather than GPS for GIS data cleanup. Using LiDAR leverages the latest technology readily available in ways of capturing street gas valves, gas boxes, meters, and street furniture such as manholes and catch basins.</li> </ul> <p>All remaining implementation plans associated with this Area of Focus are on track and progressing according to schedule, with the exception of the Lawrence GIS redraw/rebuild.</p>	<ul style="list-style-type: none"> <li>• The Lawrence GIS redraw/rebuild is tentatively anticipated to be completed in 2024.</li> </ul>	<p>data cleanup implementation plans are executed using LiDAR.</p>
<p>18. Gas Operations Tooling &amp; Safety Equipment</p>	<p>The implementation plans associated with this Area of Focus are on track and progressing according to schedule, with the exception of the plastic pipe couplings.</p> <p>The following implementation plan associated with this Area of Focus was completed in the second half of 2023:</p> <ul style="list-style-type: none"> <li>• All combustible gas indicators (“CGIs”) have been received and distributed.</li> </ul>	<p>The outlook for fleet purchases is uncertain due to global supply chain disruptions.</p> <p>The Company expects to develop a new plastic pipe couplings implementation plan in 2024.</p>	<p>Uncertainties continue to exist in the global supply chain, especially for vehicles, vehicle equipment, and other equipment and tooling. These issues are currently expected to continue through 2024, and to improve in 2025.</p> <p>Training on new equipment and trenching in accordance with Eversource procedures is ongoing.</p> <p>The plastic pipe couplings implementation plan has been altered while the Company continues its consolidation efforts to standardize the pipe sizes across all operating companies. These efforts will continue, and any further changes will be reported in future progress reports.</p>
<p>19. Meters</p>	<p>The following implementation plans associated with this Area of Focus were completed or substantially progressed in the second half of 2023:</p> <ul style="list-style-type: none"> <li>• The Company completed a successful vendor demonstration of a preliminary meter model.</li> <li>• The vent line protector device was determined to be an inappropriate solution due to additional risks associated with its use.</li> </ul> <p>The following implementation plans associated with this Area of Focus have changed relative to the September 1, 2021 Safety Assessment and Implementation Plan filing:</p>	<p>The outlook for the safety-enhanced meter program is that it will continue with ongoing assessment and testing. Market release of the meter with the desired safety-enhanced functionality has been delayed.</p> <p>The Company will continue to assess plans to mitigate against flood risks to meter set regulators. Initially, the Company is reviewing its existing procedures for meter installations in flood zones.</p>	<p>The safety-enhanced meter and commercial and industrial meter replacement implementation plans may continue to change based on the results of the ongoing engineering review and analysis associated with these plans. Any findings or changes identified will be reported in future progress reports.</p>

Area of Focus	YE 2023 Progress	Program Outlook	Notes
	<ul style="list-style-type: none"> <li>The Safety-enhanced meters plan continues to experience delays in delivery of the new technology.</li> <li>The commercial and industrial meter replacement plan has begun. Further engineering review and analysis continues in coordination with the work of Area of Focus #17.</li> </ul> <p>All remaining implementation plans associated with this Area of Focus are on track and progressing according to schedule.</p>	<p>As discussed in the Program Outlook for Area of Focus #20 Compliance Work Backlog, this Area of Focus will report on the continuing inside service regulator plan.</p>	
20. Compliance Work Backlog	<p>All implementation plans associated with this Area of Focus are on track and progressing according to schedule.</p> <p>The following implementation plan was completed by year end 2023:</p> <ul style="list-style-type: none"> <li>The backlog of locations requiring meter protection has been completed and is now part of normal business operations.</li> </ul>	<p>The end cap remediation plan will now be completed by year end 2024. While over 700 have been remediated, there are 84 locations remaining. The plan was extended to accommodate the work and resource constraints associated with the vast majority of these assets being contained within a limited geographic area.</p> <p>Additionally, a significant potential population of additional inside service regulators has been identified, as was detailed as a possibility in the September 1, 2021 Safety Assessment and Implementation Plan filing. This program will continue to be reported as the inside regulators remediation plan in the Metering Area of Focus.</p> <p>The outlook for the remaining implementation plans is that they will continue to progress according to plan and schedule.</p>	<p>Significant data and records clean-up and reconciliation efforts continue to change targeted numbers of inside regulator service relays, outside ATMs, and stubs for remediation. These changes will likely continue as changes are identified both through the course of normal work and through the work performed in the implementation plans under Area of Focus #17. These efforts may also identify new items from previously remediated backlogs, which would then be incorporated into normal business operations and workplans.</p> <p>More detailed information on work plan status is provided to the Department in quarterly updates for the stubs, meter exchanges, and inside pipe inspections plans.</p>
21. Procedures and Standards, NTSB Recommendations	All implementation plans associated with this Area of Focus are substantially complete.	The Company will continue to evaluate the need for continuous improvement.	N/A.
22. Dynamic Risk Recommendations	Completed prior to the September 1, 2021 Safety Assessment and Implementation Plan filing.	N/A.	N/A.

Area of Focus	YE 2023 Progress	Program Outlook	Notes
23. Emergency Response Program	<p>All site-specific emergency plans with the exception of the plans for the Lawrence facility, which was completed as of Jan 16, 2024, were completed in 2023.</p> <p>The Lawrence facility emergency plans required additional time to complete due to the complexities associated with the temporary LNG system and other complexities at that site.</p> <p>All implementation plans associated with this Area of Focus are now considered to be complete and part of normal business operations.</p>	N/A.	N/A.
24. SCADA & Gas Control System Assessment	<p>This implementation plan is continuing with a ramp up period while still meeting the target completion date of 2028.</p> <p>The following items of note were completed by year end 2023:</p> <ul style="list-style-type: none"> <li>Design work and location identification was completed for 45 cabinets for telemetry and 7 control points while the Company continued to work on the construction plan.</li> </ul>	The outlook for these implementation plans is that they will continue to progress according to plan and meet the target completion date of 2028.	The implementation plans associated with this Area of Focus have experienced delays relative to the September 1, 2021 Safety Assessment and Implementation Plan filing as detailed in the March 1, 2023 Progress Report filing. The Company will continue to assess the scope of end-point telemetry devices as other improvements to the system are made. These efforts will continue, and any further changes will be reported in future progress reports.
25. SCADA & Gas Control Field Work Coordination	This implementation plan is complete, as all field work coordination has been completed and implemented and the new SCADA system has been fully integrated.	N/A.	N/A.
26. Radio Communications Systems	<p>The assessment of the risk first identified in the March 1, 2022 progress report continues. The following item of note made significant progress in the second half of 2023:</p> <ul style="list-style-type: none"> <li>Further analysis, including various tower site visits.</li> </ul>	N/A.	As outlined in the Company's September 1, 2023 progress report, a more expansive summary of the key findings and implementation plans for the newly identified risk is provided here as <a href="#">Appendix A</a> to this progress report.

## **Area of Focus #26: Radio Communications Systems**

### **Assessment Methodology:**

As part of the Company's ongoing continuous improvement efforts and efforts to integrate Eversource Gas Company of Massachusetts d/b/a Eversource Energy ("EGMA" or the "Company") into corporate Eversource systems and processes, a new risk was identified after the September 1, 2021 Safety Assessment and Implementation Plan filing. This new risk was associated with the reliability of the existing radio communications systems and was communicated in the Company's first Semi-Annual Progress Report filing on March 1, 2022.

The Company compared existing radio communications systems for the EGMA service territory to the other Eversource Gas and Electric service territory. The analysis looked at operational use cases, radio coverage, back-end infrastructure, and handheld radio usage. In both the Electric and Gas areas of Eversource's business outside of EGMA, Eversource utilizes a private voice radio network for control center to field crew communications. This system is dedicated to Eversource's operations crews. At each tower site, the design incorporates reliability and redundancy for these mission critical voice communications. The data transmission across backhaul communications paths are also utilizing Eversource's corporate fiber network to connect back to the control rooms. Finally, when reviewing the control room environment, the Company identified the use of a single console for all communications in Electric that enables the operators to efficiently handle multiple communications channels to ensure all critical communications are not mishandled. This design is consistent with industry best practice for utility operations.

Outside consultants West Monroe were engaged in 2022 to assess and make recommendations related to spectrum purchase, remediating any gaps in the spectrum, and costs associated with the development of an EGMA voice network. As part of this work, the Company performed site visits to existing EGMA tower locations, assessments of the EGMA service areas, and assessments of the spectrum coverage and alternatives. In addition, the Company assessed the control room operations to identify the location and counts of terminals needed to provide the control room operators the user interface.

### **Site Visits and Assessments**

EGMA radio infrastructure sites and operational locations were visited and assessed in July 2023. Additionally, local staff were interviewed regarding their requirements for radio operations. Overall, only portable radios continue to be used without repeater use in gas plant operations.

### **Gas Operations Radio Infrastructure Sites**

The following radio repeater sites were visited:

- Marshfield Tower
- ATC (American Tower) Tower
- Foxborough Tower
- Lawrence Tower Site (WHAU Broadcast Tower)
- Springfield Tower Site



## Summary

The radio repeater infrastructure was observed to be in overall poor physical condition due to lack of maintenance, building conditions, lack of operational HVAC mouse infiltration, and in one case, poor physical road access. Internet connectivity from each site was disconnected.

## Vehicle Radios

All vehicle radios were removed from the fleet vehicles after Columbia Gas disconnected the system from their Ohio Dispatch. All but approximately 15 radios were removed from the fleet vehicles for parts salvaging. The remaining radios appeared to be in poor condition.

## Gas Control/Gas Operations

The following operations sites were visited. Generally, only portables are used in these locations over simplex (no repeater mode) channels for on-site communications except the Ludlow LNG Plant, which uses a recent vintage on-site radio repeater. Cell phones are in use as a primary means of communication.

- Lawrence LP Plant
- Brockton Plant & Dispatch
- Ludlow LNG Plant

Eversource's Gas Business including Meter Service Dispatch, Gas Emergency Preparedness, and Gas Control, is currently leveraging separate voice communication systems across the Eversource Gas operating companies and a variety of console operator positions in the dispatch and control facilities.

## Key Findings and Risks:

Throughout the process of integrating the Columbia Gas assets into Eversource, analysis of the new assets was conducted, and additional risks associated with the communication systems were discovered. The risks identified during the analysis are detailed as follows:

- Reliance on public cellular carrier service
  - Areas were identified in the EGMA service territory that do not have reliable communications coverage due to limitations in public cellular carrier coverage.
  - Any interruption to public carrier service is outside of the Company's control.
- Lack of synchronization
  - Cellular communication is point-to-point which hinders situational awareness and prevents synchronized tactical operations when field personnel are geographically dispersed, especially during emergencies.
  - Limits interoperability within gas operations.
- Reliance on mobile devices creates a hazard since they are not intrinsically safe in the presence of gas.
- Inability to record all communications.
  - Limits training opportunities.

- Limits use for post-event review and analysis.

### **Implementation Plan:**

This implementation plan will include master radio towers in the field that provide network coverage, remote radios for end users in the field to be able to access the network, and a single radio and telephony solution in the control center to enable operators and dispatchers to be able to quickly receive and make calls that are critical to the Gas operations centers. This information sharing is critical to be completed in a timely manner to ensure that decisions can be made effectively and communicated out to multiple parties simultaneously. Updating the radio communications systems at EGMA will create a standard communication capability for mutual aid during emergent situations and this project will provide a single tool for ongoing maintenance and support. Finally, dedicated, intrinsically safe devices enable field personnel to remain in contact in potentially gaseous environments with other supporting personnel.

This project will implement an integrated voice communications solution (AVTEC) to be installed for Gas Dispatch, Gas Incident Command Center (ICC), and Gas Control operations at the Company's Southborough, Westborough, and Brockton primary control center sites. This tool will enhance the operator's ability by giving them a single repository for all contacts and a single click approach to using the different communications mediums (radio, cellular, landline telephone, etc.). The operators will also benefit from consistent training and work methods using the AVTEC tool. This will continue to build a consistent methodology for managing communication on the gas network.

The implementation includes operator consoles and software as well as the required backend hardware and networking. This technology implementation will enable a standard, flexible tool to ensure reliable communication from Gas Dispatch, Gas ICC, and Gas Control out to the field. The AVTEC console system will host radio, cellular, and landline communications, allowing for communications between all gas service territories, a direct link to electric operations, a common operator experience and training, aligned maintenance programs, upgraded devices and network hardware, and future expansion flexibility.

To implement the private voice radio system, the Company will need to design and build 17 to 20 radio towers and install remote units for vehicles and area work centers. The quantities of user radios for this are estimated to be:

- 400 Mobiles
- 300 Portables
- 30 Fixed Control Stations

Furthermore, to implement the AVTEC solution for Gas Operations, the following activities and deliverables will be completed:

- Investigation and determination of the best solution
- Site readiness for network and back-room connectivity
- Installation of AVTEC fixed network equipment
- Installation of AVTEC consoles
- Fleet mapping requirements and consolidation
- Integration with existing voice radio, telephony, and call logging systems

- Develop and implement a user training program.

A consolidated, standard, and reliable solution for communications between the control center and the field crews is necessary for safe and reliable operations.

The table below provides the investments required to support the implementation plans identified above. The capital investments for 2024-2026 have been assigned a Class 4 deadband for the following reasons:

- Costs based on factored and parametric models.
- Uncertainty due to permitting and land acquisition.
- Continued uncertainty regarding supply chain, inflation, and other larger economic factors.

Capital Budget Forecast (\$M)	2024	2025	2026	2027	2028
<b>Total (\$M)</b>	8.5	9.0	2.0	-	-
<b>Total High (+50%)</b>	12.8	13.5	3.0	-	-
<b>Total Low (-30%)</b>	6.0	6.3	1.4	-	-

Overall, it is expected that metrics that do not require significant analysis will be provided in the March 1 progress reports, and that metrics that require more significant analysis will be provided in the September 1 progress reports. All metrics provided will be year-end values, which mitigates against transient seasonal effects obscuring analysis of trends. Furthermore, annual reporting is consistent with other reporting of the data contained in these metrics both internally and throughout the industry.

<b>Area of Focus</b>	<b>Metric</b>	<b>YE 2023 Value</b>
4. High-Pressure Pipelines	Cathodic protection records	This will be provided in a future report after data analysis is complete.
4. High-Pressure Pipelines	Leak history	This will be provided in a future report after data analysis is complete.
7. Gas System Enhancement Program	Total outstanding leak prone inventory	This will be provided in a future report after data analysis is complete.
7. Gas System Enhancement Program	System-wide leak rates	This will be provided in a future report after data analysis is complete.
8. Leaks on Non-Legacy Materials	Leak rates on plastic assets	This will be provided in a future report after data analysis is complete.
8. Leaks on Non-Legacy Materials	Leak rates on cathodically protected steel assets	This will be provided in a future report after data analysis is complete.
10. Gas Process Safety	Taproot training attendees	17 attendees completed this training in 2023.
10. Gas Process Safety	Hazard ID Submissions	106 Hazard ID Submissions submitted in 2023.
15. Enhanced Operator Qualification	OQ pass rate	94 percent pass rate in 2022. 95 percent pass rate in 2023.
16. Training & Development Programs	Number of EGMA employees who have completed the various identified training programs.	2023 GSTP: <ul style="list-style-type: none"> <li>• 8 Graduates</li> </ul> 2023 Refresher – Distribution: <ul style="list-style-type: none"> <li>• 160 Attendees</li> </ul> 2023 Refresher - Meter Service: <ul style="list-style-type: none"> <li>• 104 Attendees</li> </ul>
24. SCADA & Gas Control System Assessment	Miles between data points by system	This will be provided in a future report. The plans for this Area of Focus will ramp up over the next 2-3 years as detailed in the Progress Report.

Area of Focus	Metric	YE 2023 Value
24. SCADA & Gas Control System Assessment	Overall miles between data points	This will be provided in a future report. The plans for this Area of Focus will ramp up over the next 2-3 years as detailed in the Progress Report.
24. SCADA & Gas Control System Assessment	Additional remote control and/or monitoring required to match best practice by system	This will be provided in a future report. The plans for this Area of Focus will ramp up over the next 2-3 years as detailed in the Progress Report.
24. SCADA & Gas Control System Assessment	Overall additional remote control and/or monitoring required to match best practice	This will be provided in a future report. The plans for this Area of Focus will ramp up over the next 2-3 years as detailed in the Progress Report.

The Emergency Response Program has been removed from the Metrics as it is part of the normal attrition cycle.