Atlanta Gas Light

CHEROKEE LNG EXPANSION – LNG TRACKER

QUARTERLY REPORT NO. 8

Docket No. 43820

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ATLANTA GAS LIGHT
CHEROKEE LNG EXPANSION – LNG TRACKER
QUARTERLY REPORT NO. 8
DOCKET NO. 43820

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INTRODUCTION

Atlanta Gas Light Company ("AGL" or the "Company") files this Quarterly Report No. 8 for the Cherokee LNG Expansion Project (the "Project") with the Georgia Public Service Commission (the "Commission" or "GPSC") in compliance with Appendix A of the Stipulation approved by the Commission's November 18, 2021, Order in Docket No. 43820 (the "i-CDP Order") approving AGL's Amended 2022-2031 i-CDP (the "Plan"). The Stipulation approved by the i-CDP Order requires that AGL submit Quarterly Reports to the GPSC Staff ("Staff") documenting progress on the execution of the Project. This report documents such progress for the fourth quarter of 2023 covering the period from September 1 through December 31, 2023.

Appendix A further stipulates that for each calendar quarter AGL shall provide:

1. A high-level Project schedule similar to Appendix G in AGL's Pre-12/23/20 FEED Report, including:
    a. AGL's current contracting and construction approach for the Project and AGL's system improvement projects;
    b. Tasks and associated subtasks to be based on the five Project components listed inTable 14 of AGL's Amended 2022-2031 i-CDP;
    c. A detailed narrative discussing the schedule to be provided each month on a quarterly basis; and,
    d. A narrative to focus on variances to previous reporting with explanations and actions taken to address.
2. A Project budget update similar to Table 14 of the Plan, including:
    a. Categories and associated subcategories budget updates consistent to those in the Plan. ;
    b. A detailed narrative discussing the budget to be provided each month on a quarterly basis; and,
    c. A narrative to focus on variances to previous reporting with explanations, cost variances support, and actions taken to address.
3. A Project risk register similar to the risk register in AGL's Pre-12/23/20 FEED Report, which incorporates:
    a. A risk register to incorporate AGL's current contracting and construction



approach for the Project and AGL's system improvement projects;

b. An organization of the risk register to be based on the five Project components and associated subcomponents listed in Table 14 of the Plan;
c. A detailed narrative discussing the risks to be provided each month; and,
d. A narrative to focus on variances to previous reporting with explanations and actions taken to address.



PROJECT SCHEDULE

Tank Engineering, Procurement, & Construction ("EPC") engineering and construction work and Detailed Engineering Design work for the Tank Balance of Plant ("BOP"), Power Generation and Liquefaction project phases of the Project remained in progress in the fourth quarter of 2023. The tank balance of plant in-service is progressing towards an in-service date in late second quarter 2024. Work progress for power generation remains on schedule to meet the key in-service date specified in the i-CDP Plan, but due to late equipment deliveries, the liquefaction in-service will be delayed until late 2024 (see the Project Risk Register section). A high-level schedule showing the major tasks associated with project execution and projected in-service dates is provided in Attachment A.

The key Project work completed in the quarter ending December 31, 2023, include the following:

1. LNG Storage Tank Construction Progress

   October Work Completed:

   - Continued installing supports for nitrogen line and angle guides on cold shoes.
   - Preparing nitrogen line for walkdown and final testing
   - Rolling out suspended deck insulation
   - Continued demobilizing by breaking down and removing equipment and tooling
   - Completed installation, walkdown, and testing of Instrument Air line
   - Completed installation, walkdown, and testing of LNG 1008 line
   - Working on drip pan piping
   - Worked on punch list items
   - Figure 1 shows a view of the tank construction site at the end of October 2023

   November Work Completed:

   - Ebara in-tank pumps installed
   - Nitrogen Purge started and completed
   - Paint Subcontract mobilized
   - Worked on punch list items
   - Figure 2 shows a view of the tank construction site at the end of November 2023

   December Work Completed:

   - Paint subcontractor completed 40% of scope
   - Figure 3 shows a view of the tank construction site at the end of December 2023

   Engineering Work Completed:

   - Drawings Issued for Construction
   - Engineering work continues according to schedule

2. Tank BOP and Power Generation Construction Progress

October Work Completed:

- Excavated for all cable tray support foundations
- Excavated for the BOG compressor building foundation
- Excavated for the trenches (trench 1, 3, and 5)
- Poured concrete for all pipe rack support foundations around the tank area
- Poured concrete for the cable tray support foundations going to the PDC building
- Poured concrete for the BOG compressor foundation
- Poured concrete for the trenches (trench 1 and 5)
- Poured concrete for the transformer foundations
- Backfilled around the BOG compressor foundation
- Backfilled around the pipe rack supports and cable tray support foundations
- Tied rebar and built forms for the remaining cable tray support foundations
- Installed forms and rebar for the trenches (trench 3 and 5)
- Installed structural steel for the pipe rack supports up to PRS-10
- Installed structural steel on the existing pipe racks for cable tray supports
- Received/set both Turbine Generator units on Tuesday 9/19 and Wednesday 9/20
- Received/set BOG Compressor Unit C-205 on Wednesday 9/20
- Installed jacking bolts and anchored down the Turbine Generator units and BOG compressor unit
- Started welding 3" IA and N lines
- Installed 3" pipe on the pipe racks
- Hydro excavated/slit trenched around the proposed cable tray supports and trenches in preparation for concrete installation
- Installed grounding for the pipe rack support and cable tray support foundations
- Pulled wire and terminated for the lights at the pipe rack foundation
- Installed cable tray and dividers on the pipe rack supports
- Offloaded and set both Turbine Generator units and BOG compressor unit C-205
- X-ray/NDE crew and CWI on site to inspect welds
- Figure 4 shows a view of the BOP and Power Generation construction site at the end of October 2023

November Work Completed:

- Excavated for the trenches (trench 2, 3, 5, and 6)
- Excavated for the light pole foundations
- Poured concrete for the trenches (trench 2, 3, 5, and 6)
- Poured concrete for trench 5 aprons
- Poured concrete for the light pole foundations and the splash wall footer foundation
- Backfilled around the completed trenches
- Backfilled around the completed cable tray support foundations
- Tied rebar and built forms for the trenches and the mole sieve foundation
- Graded/installed rock around the PDC area
- Completed the trenches in and around the area for operations for send out
- Welded and installed 3" IA and N lines on the pipe racks
- Welded and installed 12", 8" and 6" stainless steel pipe on the pipe racks

- Installed u-bolts to secure the pipe on the pipe racks
- Installed structural steel for the remaining pipe rack supports near the tank area
- Installed structural steel on the existing pipe racks for the cable tray supports
- Installed structural steel for the BOG pipe in the compressor building
- Installed all the HDPE foam line pipe and re-installed foam blowers
- Installed grating for the completed trenches
- Installed 30" and 24" cable tray going to the PDC building
- Installed conduit, cable tray, and devices in the compressor building
- Installed grounding on the cable trays and at the PDC
- Installed below ground conduit for the light poles
- Building erectors completed the BOG compressor building extension
- X-ray/NDE crew and CWI on site to inspect welds
- Figure 5 shows a view of the BOP and Power Generation construction site at the end of November 2023

December Work Completed:

- Excavated for the BOG inlet heater skid foundations
- Excavated for the turbine generator building foundations and the mole sieve foundations
- Poured concrete for the trench walls and aprons (trench 5 and 6)
- Poured concrete for BOG inlet heater skid foundations
- Poured concrete for the mole sieve footer foundation
- Tied rebar and built forms for the turbine generator building foundations and the mole sieve foundation
- Installed forms and rebar for the splash wall foundation and the mole sieve foundation
- Graded/installed rock around the PDC area
- Backfilled around the completed trenches
- Welded and installed 3" IA and N lines on the pipe racks
- Welded and installed 12", 8" and 6" stainless steel pipe on the pipe racks
- Welded and installed 2" and 1" DR and LO lines in the compressor building
- Tied-in the IA and N lines
- Installed u-bolts to secure the pipe on the pipe racks
- Installed structural steel for the remaining pipe rack supports near the tank area
- Installed structural steel for the BOG pipe in the compressor building
- Received/set all PDC building sections
- Installed/bolted PDC building sections together
- Set the transformers on the foundations
- Set the BOG inlet heater skids on the foundations
- Installed conduit, cable tray, and devices in the compressor building
- Installed cable tray underneath the PDC building
- Installed bus duct from the transformers to the PDC building stub ups
- Set the PDC building sections and the transformers on their foundations
- Figure 6 shows a view of the BOP and Power Generation construction site at the end of December 2023

3. Detailed Engineering Progress

Engineering Work Completed:

- Tank BOP, Power Generation, Liquefaction and Fire Protection detailed design continued
- Specifications and Procurement Packages for Equipment Purchases
- Support for review of engineering deliverables from equipment provider vendors
- BOP and Power Generation Issued for Construction (IFC) design drawings for construction are in progress
- Liquefaction Issued for Bid (IFR) drawings were issued for mechanical and electrical
- Construction support is ongoing to review submittals from construction contractors and field requests for additional information



Figure 1: View of Tank Construction Site at the End of October 2023



Figure 2: View of Tank Construction Site at the End of November 2023



Figure 3: View of Tank Construction Site at the End of December 2023



Figure 4: View of BOP and Power Generation Site at the End of October 2023



Figure 5: View of BOP and Power Generation Site at the End of November 2023



Figure 6: View of BOP and Power Generation Site at the End of December 2023

PROJECT BUDGET

AGL provides its Annual Spend Analysis for the Project for the end of the 3rd Quarter 2023, and October, November and December 2023 in Tables 1, 2, 3 and 4, respectively. The cost data presented in these tables is converted to $ millions relative to the original Table 14 in the i-CDP Plan. Table 5 presents the cost deviations between Table 1 and Table 4. The total estimated direct cost of completion for execution of the Project remains at approximately [redacted].

Table 1: Annual Spend Analysis – from AGL's Project financials update for September 2023 (end of 3rd Quarter 2023)

[redacted]

Table 2: Annual Spend Analysis – from AGL's Project financials update for October 2023



Table 3: Annual Spend Analysis – from AGL's Project financials update for November 2023



Table 4: Annual Spend Analysis – from AGL's Project financials update for December 2023 (end of 4th Quarter)



Table 5: Deviations between Table 4 (December 2023) and Table 1 (End of 3rd Quarter 2023)



Discussion of Deviations in Table 5

Table 5 shows the cost estimate deviations between the September 2023 (end of 3rd Quarter 2023) estimate presented in Table 1 and the December 2023 (end of 4th Quarter 2023) estimate presented in Table 4.

[redacted]

Such cost deviations are in line with expected parameters during project execution as major equipment procurements are executed, equipment delivery and payment schedules are finalized, and construction schedules and cash flows adjustments are made.

[redacted]

Total actual costs through December 2023 were [redacted] and the total estimated remaining cost to complete project execution was [redacted] (including internal costs and contingency).

PROJECT RISK REGISTER

The Project Team uses a rolling wave planning approach to manage risks for each of the execution phases, and maintains a heightened focus on the risks to the current / upcoming phases while maintaining overall visibility of the future phases.

Currently the team focuses on the Tank BOP, Power Generation and Liquefaction scopes with a potential to impact the 2024 in-service delivery date. Potential risk will be continuously refined and reassessed as additional information becomes available. AGL conducted risk review meetings in July to update the risk register and held risk workshops in August and September to complete a Quantitative Schedule and Cost Risk Analysis. The remaining project contingency of $13 million equates to the estimated contingency cost at the high-end confidence level.

The register developed from these workshops is provided in Attachment C (showing the medium and higher risk items only). The BOP and Power Generation construction schedule has been finalized and was used to set a new baseline schedule and target in-service dates for the tank, BOP and Power Generation. Tank BOP and Power Generation risks were combined, as a single contractor is constructing both phases, and the risks are no longer phase specific. A risk register update will occur again in 1st quarter of 2024.

Five "High-Risk" items remained from the last quarter:

- **BOP Design Errors and Omissions** – Delayed information from vendors could result in design discrepancies and rework in the field. To mitigate this risk the contractor has access to a master 3D smart model for the project and the most up to date documentation.
- **BOP Startup Resources** – Inadequate staffing could result in longer startup durations due to concurrent start up activities for multiple phases. The onboarding process for startup personnel has been accelerated and will occur next quarter.
- **Liquefaction Vendor Drawing Delays** – The liquefaction system provider is behind on equipment design. Efforts continue to ensure constant oversight and timely delivery of vendor drawings.
- **Liquefaction IFC Drawings** – The detailed design has been delayed due to late vendor information on equipment. The IFC drawing set may not be complete before an award is made for the liquefaction construction services. If necessary, a post award true up process can be utilized to reconcile changes in the drawing set.



- **Liquefaction Late Equipment Delivery** – Supply chain issues continue and could result in late equipment delivery. Specifically, the soft starter for the refrigerant compressor has moved to a June 2024 delivery date.

Given the Tank and Tank BOP in service date was delayed, additional LNG supply from the Cherokee LNG expansion wasn't available for the 2023/2024 heating season. However, AGL met system demand and expects to fully meet system demand for the 2024/2025 season. AGL has already secured an added amount of bundled peaking supply to offset the anticipated availability of the expanded facility. As stated in the filed and approved 2022-2025 Capacity Supply Plan, AGL will seek added bundled peaking if the expected additional vaporization capability described in the plan is delayed.

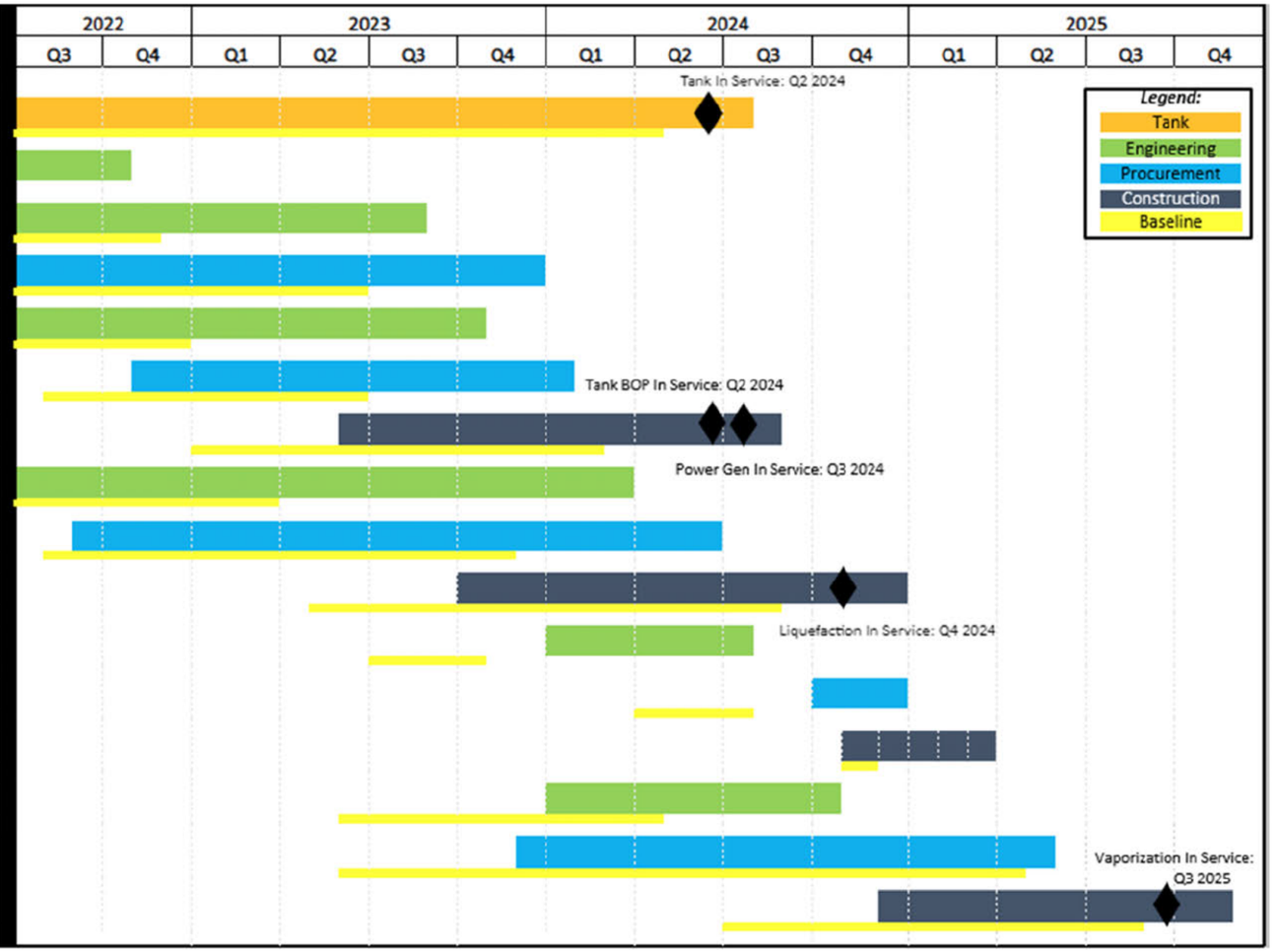
Appendix C provides further information on these risk items and mitigation plans being implemented to minimize the probability and/or potential impact of these risks.



ATTACHMENT A. PROJECT SCHEDULE

High level project schedule for execution of the Project.

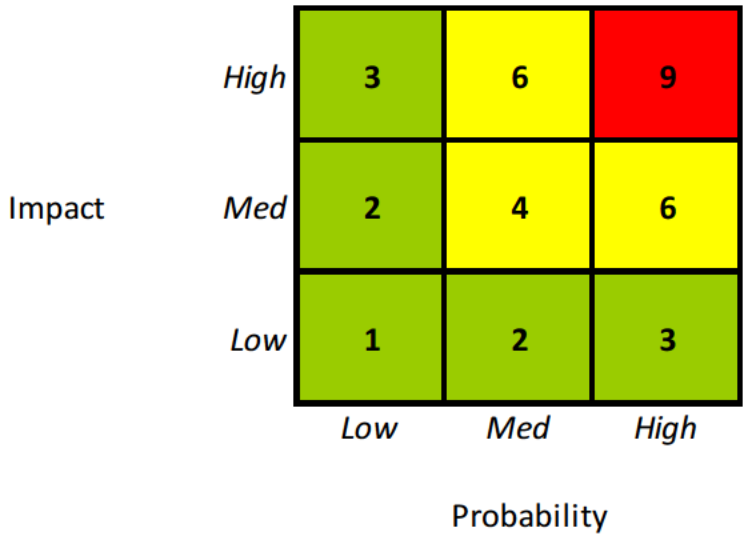
Cherokee LNG Summary Schedule *As Of: December 15, 2023*		
	Start	Finish
Tank Construction (Matrix)	*26-Aug-21*	11-Jul-24
Stage 1: Front-End Engineering and Design	*22-Oct-21*	*31-Oct-22*
Stage 2: Tank BOP Detailed Design	*6-Apr-22*	21-Aug-23
Stage 2: Tank BOP Procurement	*6-May-22*	15-Dec-23
Stage 3: Power Generation Detailed Design	*6-Apr-22*	21-Oct-23
Stage 3: Power Generation Procurement	30-Nov-22	12-Jan-24
Tank BOP / Power Gen Construction	5-Jun-23	3-Aug-24
Stage 4: Liquefaction Detailed Design	*24-Jun-22*	15-Mar-24
Stage 4: Liquefaction Procurement	*27-Sep-22*	30-Jun-24
Liquefaction Construction	3-Oct-23	15-Dec-24
Stage 5: Existing Liquefaction Demolition Engineering	15-Jan-24	25-Jul-24
Stage 5: Existing Liquefaction Demolition Procurement	15-Oct-24	19-Dec-24
Stage 5: Existing Liquefaction Demolition Construction	12-Dec-24	4-Mar-25
Stage 6: Vaporization Detailed Design	15-Jan-24	22-Oct-24
Stage 6: Vaporization Procurement	15-Dec-23	2-May-25
Vaporization Construction	15-Dec-24	26-Nov-25



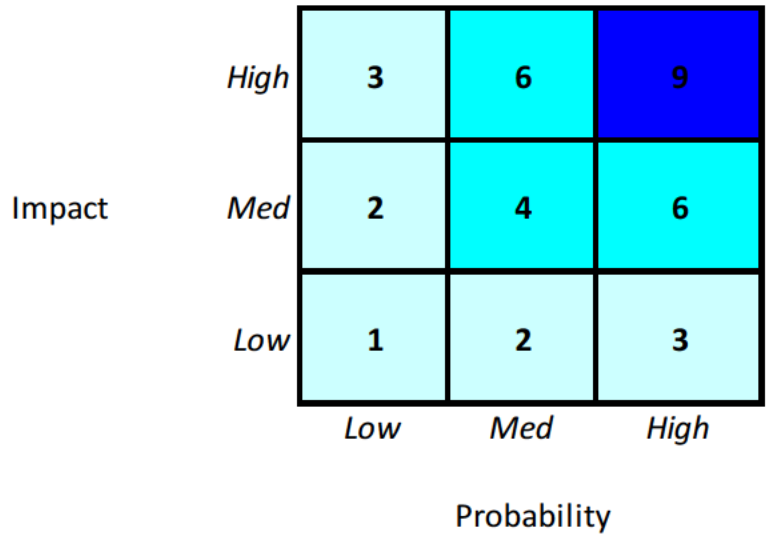
ATTACHMENT B. PROJECT RISK REGISTER

HEAT MAP ILLUSTRATION

Risk Matrix Value & Color Code



Opportunities Matrix Value & Color Code



L = Low
M = Medium
H = High

PROJECT RISK REGISTER – TANK/BOP





[redacted]

PROJECT RISK REGISTER – **LIQUEFACTION**





PROJECT RISK REGISTER – VAPORIZATION

[redacted]