PUBLIC DISCLOSURE

Atlanta Gas Light

# CHEROKEE LNG EXPANSION – LNG TRACKER

## QUARTERLY REPORT NO. 7

Docket No. 43820

November 30, 2023



# ATLANTA GAS LIGHT
# CHEROKEE LNG EXPANSION – LNG TRACKER
# QUARTERLY REPORT NO. 7
# DOCKET NO. 43820

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## INTRODUCTION

Atlanta Gas Light Company ("AGL" or the "Company") files this Quarterly Report No. 7 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 "Amended 2022-2031 i-CDP" or the "i-CDP"). The Stipulation approved by the i-CDP Order requires that AGL submit Quarterly Reports to the GPSC Staff ("Staff") documenting the execution progress of the Project. This report documents the execution progress for the third quarter of 2023 covering the period from July 1 through September 30, 2023.

Appendix A further stipulates that 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 AGL's Amended 2022-2031 i-CDP, including:
    a. The budget updates to include these categories and associated subcategories;
    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 AGL's Amended 2022-2031 i-CDP;
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 third quarter of 2023. The tank balance of plant in-service will be delayed to the second quarter 2024. Work progress for power generation remains on schedule to meet the key in-service date specified in the i-CDP, and there is elevated risk that the liquefaction in-service may 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 September 30, 2023 include the following:

1. LNG Storage Tank Construction Progress

   July Work Completed:

   - Fit and weld tank top piping
   - Prep for testing N1, N3, and N5
   - Installed RTD angle guides
   - Finished pipe supports for pump columns
   - Finished outer tank anchor straps
   - Continued to Fit and weld tank top piping
   - Finished testing N32, N1, N3, N4, and N5
   - Finished PT on shell stiffeners
   - Finished installing perlite curtain
   - Started laying out and connecting equipment for tank hydro
   - Started installing deck insulation
   - Welding out inner tank door sheet
   - Set up hoses and prepping for hydro test
   - Installed gates on emergency ladder
   - Figure 1 shows a view of the tank construction site at the end of July 2023

   August Work Completed:

   - Finished installing inner tank door sheet
   - Finished installing outer tank door sheet
   - Filled tank to 100% for hydro test
   - Hydro test surveys completed
   - Started draining the tank and preparing for pneumatic test
   - Finished pneumatic test
   - Completed final installation of spill pans.
   - Installed spring cans and cold shoes
   - Installed spill pan grating
   - Continued pipe fabrication and installation
   - Continued with pneumatic test packages for outer tank piping
   - Figure 2 shows a view of the tank construction site at the end of August 2023

September Work Completed:

- Fabricated and installing air and nitrogen lines
- Continued with pneumatic pipe test packages
- Continued with suspended deck insulation
- Continued installing tank top piping
- Finished vac box of inner tank bottom, annular butt welds, and corner welds
- Relocated TE for better access
- Installed foot valves
- Finished installing annular space purge hose
- Started demobilizing by gathering tools and removing some equipment
- Worked on punch list items
- Figure 3 shows a view of the tank construction site at the end of September 2023

Engineering Work Completed:

- Drawings Issued for Construction
  - Tank Hydrotest Procedure (IFC)
  - Free Field Seismic Monitor Foundation Drawing
  - Updated Control Narrative
  - Piping Isometrics
  - Perlite ITP
- Engineering work continues according to schedule.

2. Tank BOP and Power Generation Construction Progress

July Work Completed:

- Installed and maintained erosion control measures
- Performed hydro excavation/slit trenching for silt fence installation and concrete installation
- Poured concrete for both turbine generator foundations, PDC building foundations, both air cooler foundations, pipe rack support foundations (PRS-25 thru PRS-34) and the BOG compressor foundation (C-204)
- Demoed and removed the concrete slab and block in the existing compressor building
- Tied rebar and built forms for the remaining pipe rack support foundations
- Installed forms and rebar for the cable tray supports near the PDC building (Detail 38); Demoed and isolated the existing compressor piping, removed the compressor in the existing compressor building, and demoed the West wall of the existing compressor building
- Received and set the two AXH air coolers on their foundations
- Received and set the three transformers
- Received and offloaded structural steel for the pipe rack supports
- Erected and bolted-up structural steel for the pipe rack supports
- Hydro excavated/slit trenched around the proposed generator building and PDC building in preparation for concrete installation
- Hydro excavated/slit trenched around the proposed pipe rack supports in preparation for concrete installation
- Trenched and installed grounding for the PDC building, coolers, and pipe rack supports

- Installed below ground conduit for the duct banks at the PDC building
- Received and offloaded cable tray
- Figure 4 shows a view of the BOP and Power Generation construction site at the end of July 2023

August Work Completed:

- Installed and maintained erosion control measures
- Performed hydro excavation/slit trenching for concrete installation
- Excavated for all pipe rack support foundations near the tank area
- Excavated for all cable tray support foundations
- Poured concrete for the pipe rack support foundations (PRS-08 thru PRS-36)
- Poured concrete for the cable tray support foundations near the PDC building (Detail 38)
- Poured concrete for the cable tray support foundations (CTS-19 thru CTS-23)
- Poured concrete for the cable tray bridge foundations (Detail 18)
- Poured concrete for the transformer foundation (Detail 36)
- Backfilled around the PDC building foundations
- Backfilled around the pipe rack support and cable tray support foundations
- Tied rebar and built forms for the remaining cable tray support foundations
- Tied rebar and built forms for the trenches
- Received and offloaded structural steel for the pipe rack supports
- Installed structural steel for the pipe rack supports up to PRS-20
- Received and offloaded material for the turbine generator building
- Laid mats for the crane to set the BOG compressor unit C-204
- Assisted various crews as needed
- Hydro excavated/slit trenched around the proposed pipe rack supports in preparation for concrete installation
- Hydro excavated/slit trenched around the proposed cable tray supports in preparation for concrete installation
- Installed grounding for the pipe rack support and cable tray support foundations
- Installed below ground conduits and poured concrete for the duct banks at the PDC building
- Installed cable tray on the pipe rack supports
- Contractor mobilized and begun hydro excavation for sub impoundment scope
- Figure 5 shows a view of the BOP and Power Generation construction site at the end of August 2023

September Work Completed:

- Installed and maintained erosion control measures
- Performed hydro excavation/slit trenching for concrete installation
- 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 (CTS-10 to CTS-18)
- 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
- Received/set BOG Compressor Unit C-205
- 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
- Installed U-bolts to secure the 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
- Soil nails were drilled through row 3 of sub impoundment for T-101
- Soil nails were drilled through row 2 of sub impoundment for T-102
- Figure 6 shows a view of the BOP and Power Generation construction site at the end of September 2023

3. Detailed Engineering Progress

Engineering Work Completed:

- Tank BOP, Power Generation, Liquefaction and Fire Protection detailed design continued in progress
- 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 (“IFB”) package was issued
- 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 July 2023



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



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



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



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

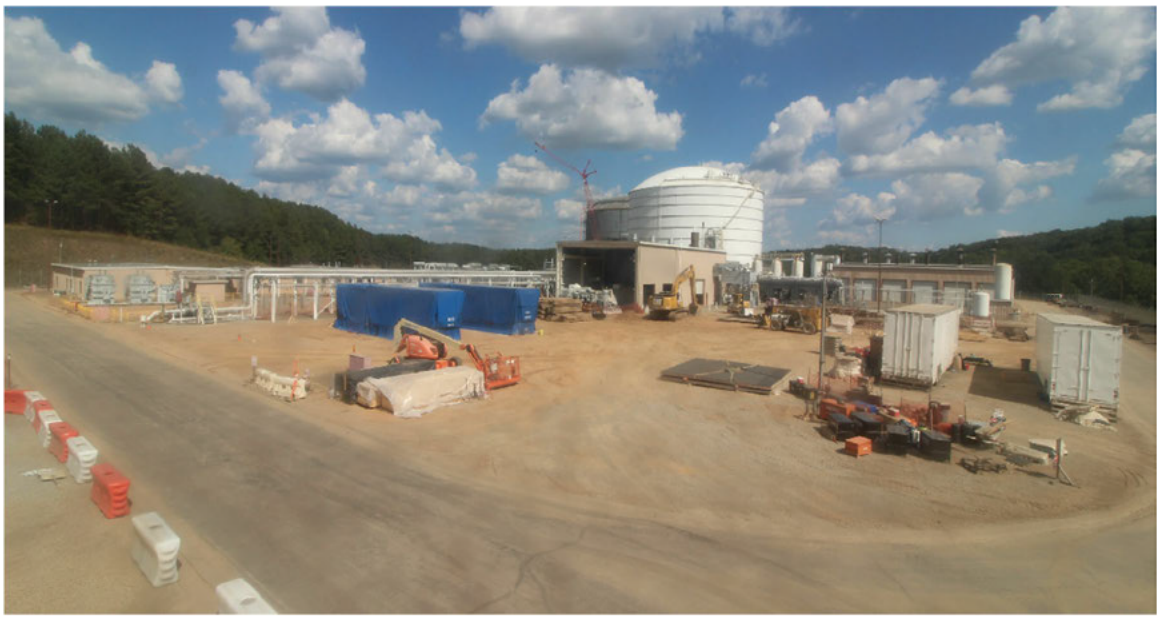


Figure 6: View of BOP and Power Generation Site at the End of September 2023

## PROJECT BUDGET

AGL's Annual Spend Analysis for the Project for the month ends of June 2023 (end of 2nd Quarter 2023), July, August, and September 2023 are provided 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. 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 June 2023 (end of 2nd Quarter 2023)



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



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



Table 4: Annual Spend Analysis – from AGL's Project financials update for September 2023



Table 5: Deviations between Table 4 (September 2023) and Table 1 (June 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 4 herein and the June 2023 (end of 2nd Quarter 2023) estimate presented in Table 1 herein.

[redacted]

Cost deviations such as this are to be expected 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 September 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 is using a rolling wave planning approach to managing risks for each of the execution phases, maintaining a heightened focus on the risks to the current / upcoming phases while maintaining overall visibility of the future phases.

Currently, the team is primarily focused on the risks to the Tank BOP, Power Generation, and Liquefaction scopes with a potential to impact the 2024 in-service delivery. Risk will be

continuously refined and reassessed as additional information becomes available. Risk review meetings were conducted in July to update the risk register. Risk workshops were held in August and September to complete a Quantitative Schedule and Cost Risk Analysis. The remaining project contingency of [redacted] 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 one contractor is constructing both phases, and the risks are no longer phase specific.

Five "High-Risk" item remained in 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 June 2024 delivery date.

The inability for the Tank and BOP to be placed in service by November 2023 will mean that LNG from the Cherokee LNG expansion cannot provide the incremental LNG supply indicated in the i-CDP for 2023. However, this does not mean that AGL will be unable to meet system demand in 2023 and 2024. 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



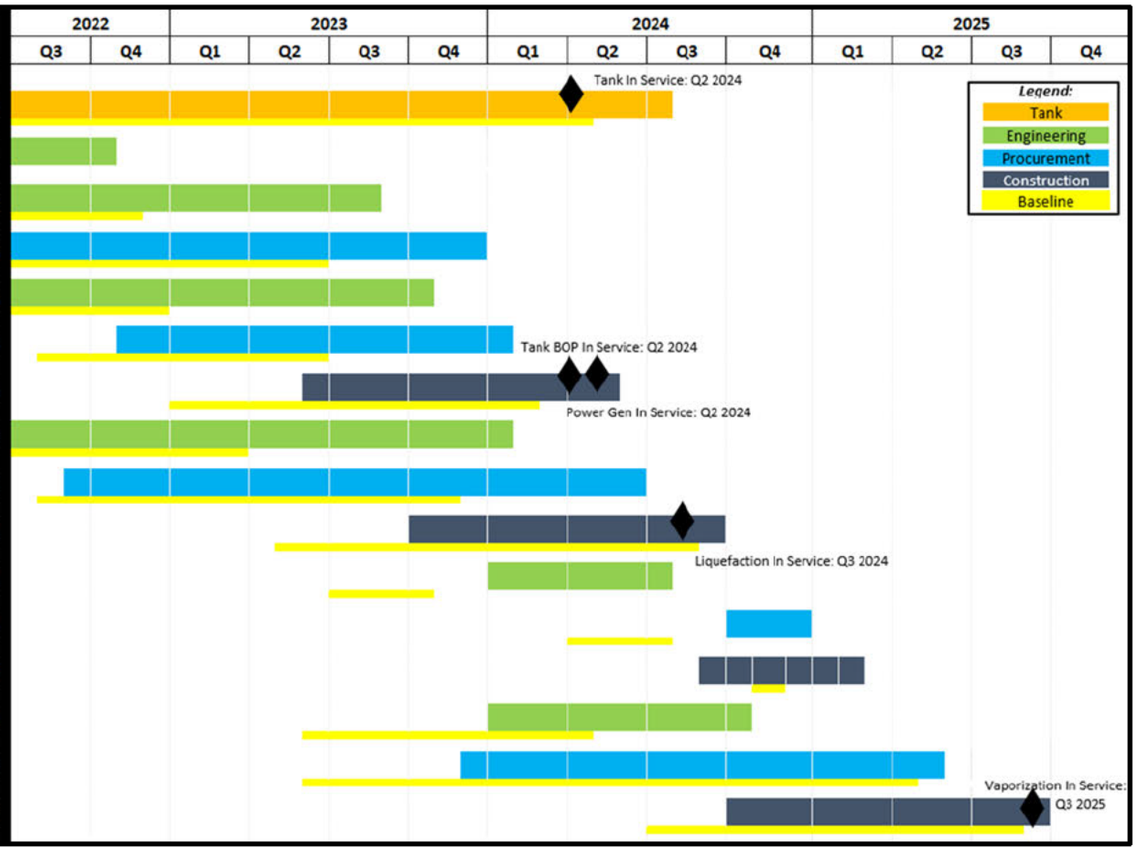
Capacity Supply Plan, AGL will seek added bundled peaking if the expected additional vaporization capability described in the i-CDP is delayed.

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.

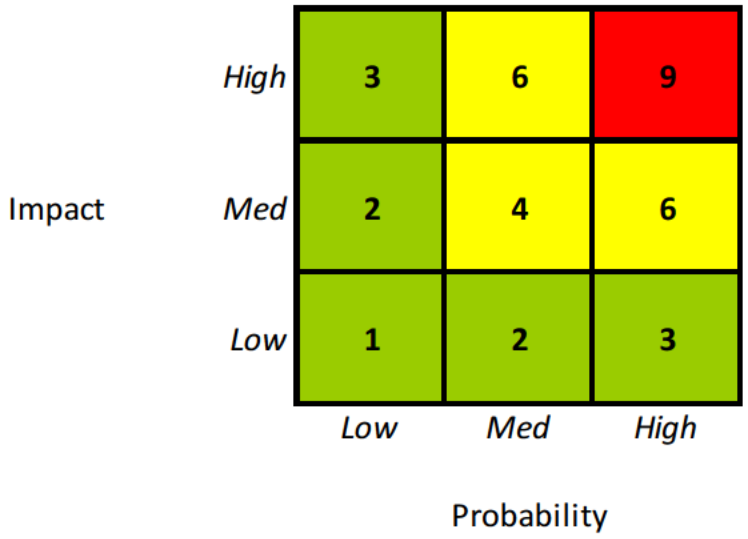
| Cherokee LNG Summary Schedule<br>*As Of: September 30, 2023* | Start | Finish |
|---|---|---|
| Tank Construction (Matrix) | *26-Aug-21* | 11-Jul-24 |
| Stage 1: Front-End Engineering and Design | *22-Oct-21* | *31-Oct-22* |
| Stage 2: Tank BOP Detailed Design | *6-Apr-22* | 21-Aug-23 |
| Stage 2: 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-May-24 |
| Stage 4: Liquefaction Detailed Design | *24-Jun-22* | 15-Jan-24 |
| Stage 4: Liquefaction Procurement | *27-Sep-22* | 30-Jun-24 |
| Liquefaction Construction | 3-Oct-23 | 1-Sep-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 | 13-Sep-24 | 4-Feb-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-Oct-24 | 26-Sep-25 |



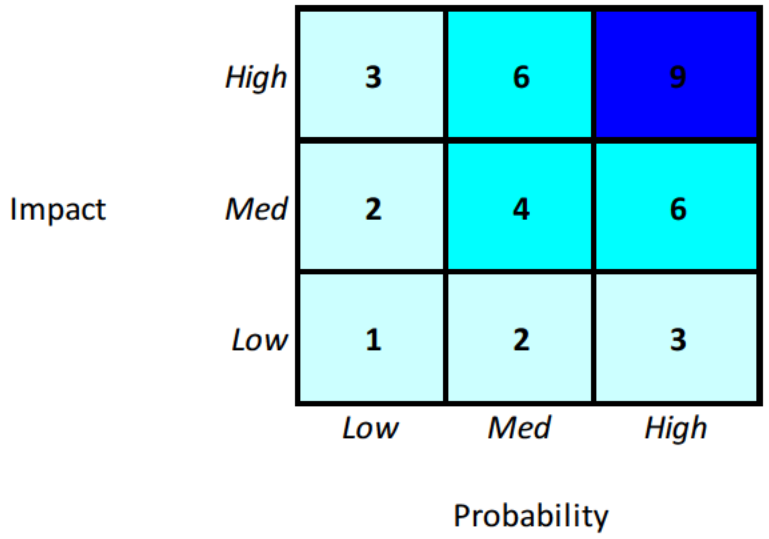
## ATTACHMENT B. PROJECT RISK REGISTER

# HEAT MAP ILLUSTRATION

**Risk Matrix Value & Color Code**

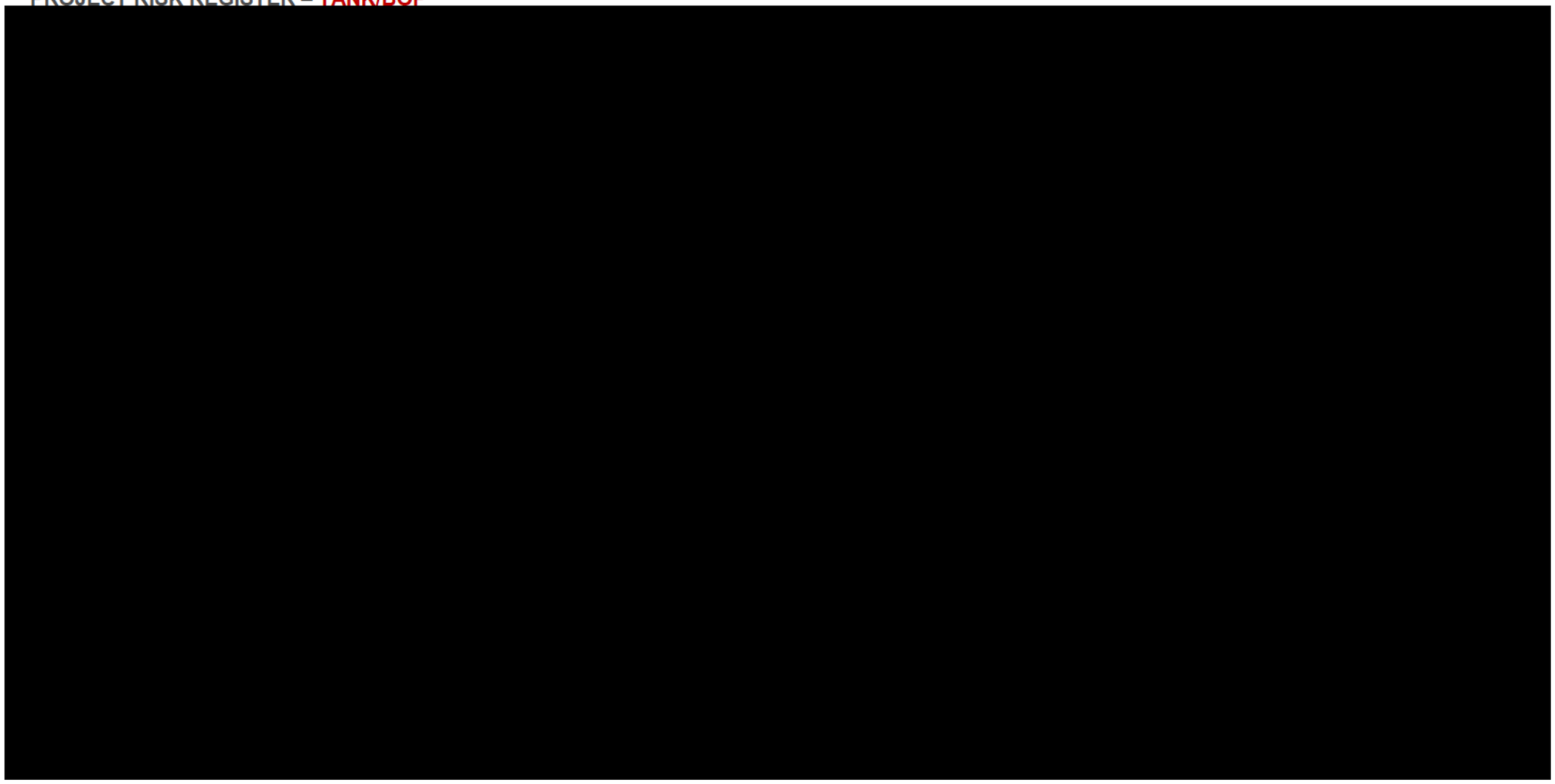



**Opportunities Matrix Value & Color Code**




L = Low
M = Medium
H = High

PROJECT RISK REGISTER – TANK/BOP







## PROJECT RISK REGISTER – LIQUEFACTION





## PROJECT RISK REGISTER – VAPORIZATION

