VIA ELECTRONIC MAIL TO: paul.ruppert@bhegts.com

October 14, 2025

Paul Ruppert
President
BHE GT&S, LLC
6603 West Broad Street
Richmond, VA 23200

CPF No. 4-2025-010-NOPSO

Dear Mr. Ruppert:

Enclosed is a Notice of Proposed Safety Order (Notice) issued in the above-referenced case. The Notice proposes that Cove Point LNG, LP, take certain measures with respect to the 5V534 A/B ethane tanks operated at Cove Point's liquefied natural gas facility in Lusby, Maryland, to ensure pipeline safety. Your options for responding are set forth in the Notice. Service of this Notice by electronic mail is deemed effective upon the date of transmission, or as otherwise provided under 49 CFR § 190.5.

We look forward to a successful resolution to ensure pipeline safety. Please direct any questions on this matter to me at (713) 773-7215.

Sincerely,

Bryan Lethcoe
Director, Southwest Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

Enclosure: Notice of Proposed Safety Order
Copy of 49 C.F.R. § 190.239

cc: Linda Daugherty, Acting Associate Administrator for Pipeline Safety
Tate Era, LNG Production Coordinator, tate.era@bhegts.com
Andrew Kohout, Director, Division of LNG Facility Reviews and Inspections, FERC, andrew.kohout@ferc.gov

DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
OFFICE OF PIPELINE SAFETY
SOUTHWEST REGION
HOUSTON, TEXAS 77074

In the Matter of	)	
Cove Point LNG, LP,	)	**CPF No. 4-2025-010-NOPSO**
Respondent	)	

NOTICE OF PROPOSED SAFETY ORDER

Introduction and Purpose

The Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), is issuing this Notice of Proposed Safety Order (NOPSO or Notice) to Cove Point LNG LP (Cove Point or Respondent)[1] pursuant to the authority provided in 49 U.S.C. § 60117 and 49 CFR § 190.239. As explained in more detail below, PHMSA has initiated an investigation of the safety of the 5V534 A and 5V534 B ethane tanks operated at Cove Point's liquefied natural gas (LNG) facility in Lusby, Maryland. PHMSA initiated the investigation in response to the discovery of an ethane leak on September 24, 2025.[2] Cove Point's LNG facility is subject to PHMSA's jurisdiction pursuant to the Pipeline Safety Act, 49 U.S.C. § 60101 et seq., and Pipeline Safety Regulations, 49 C.F.R. Parts 190 to 199.

PHMSA's ongoing investigation indicates that conditions may exist at Cove Point's LNG facility that pose a pipeline integrity risk to public safety, property, or the environment. Specifically, PHMSA's preliminary investigation indicates that the 5V534A ethane tank is experiencing frost heave that is placing stress on associated piping and appurtenances, causing leaks. It is unknown at this time whether the frost heave is being caused by an underground leak, insulation failure, or another structural cause. Regardless of the specific causal mechanism, the continued frost heave of the tank is generating stress on associated piping and has become an integrity risk to the tank itself, the nearby 5V534B ethane tank, and the piping and appurtenances related to the tanks. For these reasons, it appears that the continued operation of the 5V534A and 5V534B ethane tanks without corrective measures would pose a pipeline integrity risk to public safety, property, or the environment.

[1] Cove Point is a subsidiary of BHE GT&S, LLC.
[2] PHMSA became aware of the release on September 24, 2025, however, the first day of the leak is unknown.

This NOPSO notifies Cove Point of the preliminary findings of the investigation and proposes that Cove Point take measures to ensure that the public, property, and the environment are protected from the potential risk.

Background

On March 17, 2025, during a routine check for leaks, Cove Point field technicians discovered ten leaks around Tanks 5V534A and 5V534B at its LNG facility in Lusby, Maryland. Tanks 5V534A and 5V534B are underground ethane tanks used to supply refrigerants for make up to the refrigeration circuit, contained in the Main Cryogenic Heat Exchanger (MCHE). Tanks 5V534A and 5V534B sit on underground mud mats meant to provide a stable foundation for the equipment ethane tank area components. The leaks ranged from a lower bound of 200 ppm up to 40,000 ppm—the latter exceeds ethane's lower explosive level (LEL) of 3%.

On May 29, 2025, Cove Point discovered that a pump skid containment in the area of the ethane tanks was sinking and settling, causing piping and wiring to bend and pull. That day, Cove Point conducted a Management Team Break-Out to discuss ethane piping movement and contacted a surveying company to obtain elevations of the affected equipment.

On June 3, 2025, a contractor for Cove Point performed a piping assessment which lasted two days. The contractor did not recommend further action. A follow-up inspection was planned for October 2025, after which the contractor would issue a final report of its findings. Also on June 3, 2025, GT&S (Cove Point's parent company) had a team of civil engineers perform an on-site review.

On August 14, 2025, Cove Point included the below in its required semi-annual report to FERC:

> Item 4.5.2: The 5V534A/B Ethane Storage Tanks elevations have risen since original commissioning. All hazardous fluid piping was evaluated by an engineering firm and found to be acceptable. Currently planning to monitor for additional movement and assess cause.
>
> Item 6.23 (proposed modification): Install elevation monitoring system for the underground 5V534A/B Ethane Storage Tanks. Perform limited hydro-vac excavations to gather data and monitor underground temperatures.

The semi-annual report did not mention the series of leaks surrounding the ethane tank, but did include leaks discovered on a hydraulic system, heat exchanger, and LNG valves.

On August 19-21, 2025, a PHMSA Southwest Region inspector conducted a regularly scheduled inspection of the Cove Point facility. No Cove Point personnel made any mention of the frost heave issue with the ethane tank or the leaks on the surrounding appurtenances.

On September 24, 2025, FERC conducted a follow-on inspection, in conjunction with PHMSA, to further understand the condition of the tank. During the inspection, a forward looking infrared (FLIR) camera confirmed the existence of leaks surrounding the above ground appurtenances of

the ethane tank, and the inspectors noticed the appearance of lift due to the pipe supports and cracking on the outfall concrete.

The preliminary findings of PHMSA's ongoing investigation are as follows:

Preliminary Findings:

- Cove Point's LNG facility in Lusby, Maryland, is subject to PHMSA's jurisdiction pursuant to the Pipeline Safety Act, 49 U.S.C. § 60101 et seq., and Pipeline Safety Regulations, 49 C.F.R. Parts 190 to 199.

- Tanks 5V534A and 5V534B are underground ethane tanks used to supply refrigerants for the liquefaction process by supplying the Main Cryogenic Heat Exchanger (MCHE). Tanks 5V534A and 5V534B sits on underground mud mats meant to provide a stable foundation for the equipment ethane tank area components. Each tank measures 13 feet by 36 feet and they have a combined capacity of 40.047 gallons. The tanks are located in proximity to two gas flares.

- On March 17, 2025, Cove Point discovered ten leaks surrounding the 5V534A and 5V534B tanks, ranging from a low of 200 ppm to 40,000 ppm, the latter of which exceeds the LEL for ethane. Cove Point repaired certain leaks located in valves and scheduled the remaining leaks to be remediated during a regularly scheduled shutdown.

- On May 29, 2025, Cove Point contacted a surveying company to perform elevation measurements of its ethane piping in response to a pump skid containment (a secondary enclosure around an LNG pumping unit) that company personnel noticed was sinking and bending piping.

- An elevation survey was performed on June 3, 2025, with preliminary results returned on June 9, 2025.

- On June 10, 2025, Cove Point held a conference call with its elevation survey contractor during which it discussed that the subject ethane tank had risen 10 inches on the northern end and 6 inches on the southern end above its design basis. At this point, the operator began a series of discussions with contractors about excavating the tank and preparing possible installed stabilizers or other solutions. The operator believed that the ethane tank had frozen the moisture in the soil around it, causing the tank to rise and pitch, bending piping and flange connections. This is commonly known as frost heave. The tank was designed to be insulated, which renders it unclear how the tank could have frozen the surrounding soil if it was properly functioning and intact.

- Cove Point's preliminary survey results indicate that the tank has risen above its design elevation by 10 inches on the northern side of the tank and by 6 inches on the southern side of the tank. The elevation change presented by the reviewed records were apparent when walking the same footprint while on-site. Based on the elevation change of the

tank and the strain on the associated piping, it appears that the tank movement is contributing to the leaks.

- Preliminarily, current conditions indicate there are two possible causal scenarios for the ethane tank movement. The first scenario is that a problem with the designed foundation or designed insulation is freezing water in the soil surrounding the tank, causing frost heave and causing the vessel to lift and strain the piping network, producing leaks. The second scenario is that the tank itself is leaking, and the ethane releasing from the tank is freezing the surrounding soil, contributing to frost heave and causing gas to leak upwards within the insulation. In either scenario, the tank will continue to undergo frost heave, bend and strain attached piping and appurtenances, and possibly generate further leaks. Both scenarios also present serious risks for in-service excavation, including excavation making contact with an ongoing ethane leak, or causing ice melt which could further destabilize the tank.

- The movement of the tank generates several risks to the attached piping and appurtenances, including bending of the connected piping and components as well as generating stress on flanges and connections, which may trigger further leaking. The tanks are located nearby two ground flares, and at least one prior leak exceeded the LEL for ethane. The risk posed by additional ethane leaks is significant, particularly given the proximity to ground flares. In the event of a release, an ignition source could result in a jet fire from the attached piping, posing severe thermal and mechanical hazards to adjacent equipment and personnel.

- The investigation into the tanks is on-going, and information could change. These preliminary findings may be amended based on further findings during the investigation.

Proposed Issuance of Safety Order

Section 60117(m) of Title 49, United States Code, provides for the issuance of a safety order, after reasonable notice and the opportunity for a hearing, requiring corrective measures, which may include physical inspection, testing, repair, or other action, as appropriate. The basis for making the determination that a pipeline facility has a condition or conditions that pose a pipeline integrity risk to public safety, property, or the environment is set forth both in the above-referenced statute and 49 CFR § 190.239, a copy of which is enclosed.

After evaluating the foregoing preliminary findings of fact, and having considered the characteristics of the LNG facility, including the persistence over time of leaks surrounding the ethane tanks; the uncertainty as to the root cause of the movement and leaks; the hazardous nature of the ethane stored in the tanks; the proximity of the tanks to the facility's gas flares; the existing and potential additional impacts to persons and property; and the possibility that the condition has caused further integrity risk on associated piping and appurtenances strained by frost heave; it appears that the continued operation of the ethane tanks without corrective measures would pose a pipeline integrity risk to public safety, property, or the environment. Further, the unknown nature of the cause or mechanism of the frost heave has potentially exacerbated the integrity risk over an

extended period of time. Accordingly, corrective measures are necessary to mitigate the pipeline integrity risk of the pipeline system to protect public safety, property, and the environment.

PHMSA issues this Notice of Proposed Safety Order to notify Respondent of the proposed issuance of a safety order and to propose that Respondent take measures specified herein to address the potential risk.

Proposed Corrective Measures

Pursuant to 49 U.S.C. § 60117(m) and 49 CFR § 190.239, PHMSA proposes to issue to Cove Point a safety order incorporating the following remedial requirements with respect to the affected pipeline.

For the purposes of this Notice, "Director" means the Director, Office of Pipeline Safety, Southwest Region, PHMSA. "*Ethane Make-Up Drums*" refers to the 5V534 A/B ethane tanks operated at Cove Point's facility in Lusby, Maryland.

1. ***Immediate Removal from Service.*** Within 5 days after the effective date of the Safety Order, Cove Point must make the *Ethane Make-up Drums* and the area surrounding the *Ethane Make-up Drums* safe by ceasing to use the vessels for facility operation and setting up portable gas detection equipment to maintain a safe perimeter around the tanks.
    a. Cove Point is not restricted from using temporary storage for ethane refrigerant so long as the storage complies with the applicable requirements in 49 CFR Part 193.

2. ***Immediate Leak Investigation.*** After the completion of Item 1, and within 7 days of receipt of the Safety Order, Cove Point must submit to the Director for written approval, a plan to detect and isolate any leaks on all above ground connections to the *Ethane Make-up Drums*. After the Director approves the plan, Cove Point must within 5 days execute the plan and provide documentation to the Director on actions taken to detect and isolate leaks.

3. ***Full Purging Plan***. After the completion of Item 2, and within 20 days of receipt of the Safety Order, Cove Point must submit to the Director for written approval, a plan to purge and inert the *Ethane Make up Drums* in accordance with the requirements for isolation and purging in 49 CFR 193.2615 and 193.2517. Once the plan is approved by the Director, the Operator may commence the purge and inerting process in the plan. Additionally, the plan may include an alternative method to supply Ethane to the LNG plant. Documentation that the plan has been completed must be provided to the Director.

4. ***Remedial Work Plan (RWP).***
    a. After completion of Item 3, and within 80 days of receipt of the Safety Order, Cove Point must submit a Remedial Work Plan (RWP) to the Director for approval.
    b. The Director may approve the RWP incrementally without approving the entire RWP.

c. Once approved by the Director, the RWP will be incorporated by reference into the Safety Order.

d. The RWP must include a procedure or process to:

i. Inspect both *Ethane Make Up Drums* and supporting foundations and inspect and repair all damaged piping, fittings, and supports associated with the *Ethane Make-up Drums*. The RWP must specify the tests, inspections, assessments, evaluations, and remedial measures Respondent will use to verify the integrity of *the Ethane Make-Up Drums* and all supporting or connecting appurtenances.

ii. Conduct additional field tests, inspections, assessments, and evaluations to determine whether, and to what extent, the conditions on the *Ethane Make-up Drums* or any other integrity threats are present elsewhere in the facility. Respondent may use the results of previous tests, inspections, assessments, and evaluations if approved by the Director.

iii. Describe the inspection and repair criteria Respondent will use to prioritize, excavate, evaluate, and repair anomalies, imperfections, and other identified integrity threats. Include a description of how any defects will be graded and a schedule for repairs or replacement.

iv. Evaluate the effectiveness and capability of Respondent's leak detection program on the *Ethane Make-Up Drums*.

v. Based on the findings of the evaluation pursuant to paragraph iv of this subparagraph, identify and implement appropriate measures to enhance the effectiveness of Respondent's leak detection system. The evaluation must consider the potential benefits of incorporating multiple layers of monitoring to help identify leaks in the vessel shell or connected piping. These measures must be designed to strengthen the system's overall capability to detect leaks that may pose risks to public safety, property, or the environment.

vi. A comprehensive plan to conduct settlement and elevation surveys for underground vessels and associated piping, including integrating geotechnical monitoring with continuous integrity assessment. The plan should begin with establishing precise elevation benchmarks around each vessel and its foundation to detect settlement, heave, or lateral displacement over time. Annual or post-event surveys must be performed to measure any deviation exceeding acceptable tolerances, which may indicate foundation instability or soil movement. Data from settlement and leak monitoring activities must be integrated to determine any correlations between ground movement and integrity risks. Findings must be documented in the facility's integrity management system, and any signs of settlement-related stress or leak indication must trigger an engineering evaluation and corrective action plan to ensure continued safe operation of the underground system.

vii. Implement continuing long-term periodic testing and integrity verification measures to ensure the ongoing safe operation of the *Ethane Make-Up Drums* considering the results of the analyses, inspections, evaluations, and corrective measures undertaken pursuant to the Order.

e. Include a proposed schedule for completion of the RWP.

f. Cove Point must revise the RWP as necessary to incorporate new information obtained during the investigation and remedial activities, to incorporate the results of actions undertaken pursuant to the Safety Order, and/or to incorporate modifications required by the Director.

   i. Submit any plan revisions to the Director for prior approval.

   ii. The Director may approve plan revisions incrementally.

g. Implement the RWP as it is approved by the Director, including any revisions to the plan.

5. ***Root Cause Failure Analysis.*** Within 90 days of receipt of the Safety Order, Cove Point must complete a root cause failure analysis (RCFA) and submit a final report of this RCFA to the Director for approval. The RCFA must be supplemented or facilitated by an independent third-party approved by the Director and must document the decision-making process and all factors contributing to any discovered damage to the vessel. Respondent must ensure that all reports, whether draft or final, are made available in their entirety to the Director at the same time they are made available to Respondent. The final report must include findings and any lessons learned and whether the findings and lessons learned are applicable to other locations within the facility.

Other Requirements:

6. **Approvals.** With respect to each submission under the Safety Order that requires the approval of the Director, the Director may: (a) approve, in whole or part, the submission; (b) approve the submission on specified conditions; (c) modify the submission to cure any deficiencies; (d) disapprove in whole or in part, the submission, directing that Respondent modify the submission, or (e) any combination of the above. In the event of approval, approval upon conditions, or modification by the Director, Respondent shall proceed to take all action required by the submission as approved or modified by the Director. If the Director disapproves all or any portion of the submission, Respondent must correct all deficiencies within the time specified by the Director and resubmit it for approval.

7. **Extensions of Time.** The Director may grant an extension of time for compliance with any of the terms of the Safety Order upon a written request timely submitted demonstrating good cause for an extension.

8. **Reporting.** Submit weekly reports to the Director that: (1) include all available data and results of the testing and evaluations required by this Order; and (2) describe the progress of the repairs or other remedial actions being undertaken. The first weekly report is due on October 21, 2025. The Director may approve a change to the interval for the submission of these reports by written communication to Respondent. Respondent must submit a final report when each item of the Safety Order has been completed at the time that it requests closure of the Safety Order.

9. **Documentation of the Costs.** It is requested that Respondent maintain documentation of

the costs associated with implementation of the Safety Order. Include in each monthly report submitted, the to-date total costs associated with: (1) preparation and revision of procedures, studies and analyses; (2) physical changes to pipeline infrastructure, including repairs, replacements and other modifications; and (3) environmental remediation.

The actions proposed by this Notice of Proposed Safety Order are in addition to and do not waive any requirements that apply to Respondent's pipeline system under 49 CFR Parts 190 through 199, under any other order issued to Respondent under authority of 49 U.S.C. § 60101 *et seq*., or under any other provision of Federal or state law.

After receiving and analyzing additional data in the course of PHMSA's investigation, this proceeding, or implementation of the corrective measures, PHMSA may identify other safety measures that need to be taken. In that event, Respondent will be notified of any proposed additional measures and, if necessary, amendments to the Safety Order.

Response to this Notice

In accordance with 49 CFR § 190.239, you have 30 days following receipt of this Notice to submit a written response to the official who issued the Notice. If you do not respond within 30 days, this constitutes a waiver of your right to contest this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Safety Order. In your response, you may notify the official that you intend to comply with the terms of the Notice as proposed, or you may request that an informal consultation be scheduled (you will also have the opportunity to request an administrative hearing before a safety order is issued). Informal consultation provides you with the opportunity to explain the circumstances associated with the risk condition(s) alleged in the notice and, as appropriate, to present a proposal for a work plan or other remedial measures, without prejudice to your position in any subsequent hearing.

If as a result of informal consultation, you and PHMSA agree on a plan and schedule for you to address each identified risk condition, the parties may enter into a written consent agreement (PHMSA would then issue an administrative consent order incorporating the terms of the agreement). If a consent agreement is not reached, or if you have elected not to request informal consultation, you may request an administrative hearing in writing within 30 days following receipt of the Notice or within 10 days following the conclusion of an informal consultation that did not result in a consent agreement, as applicable. Following a hearing, if the Associate Administrator finds the facility to have a condition that poses a pipeline integrity risk to the public, property, or the environment in accordance with § 190.239, the Associate Administrator may issue a safety order.

Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. § 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. § 552(b).

In your correspondence on this matter, please refer to **CPF No. 4-2025-010-NOPSO** and for each document you submit, please provide a copy in electronic format whenever possible.

_____ _____

Bryan Lethcoe Date issued
Director, Southwest Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration