



U.S. Department of Transportation
**Pipeline and Hazardous Materials
Safety Administration**

8701 S. Gessner, Suite 630
Houston, TX 77074

VIA E-MAIL:

May 28, 2021

Alicia Moy
President & CEO
Hawaii Gas
745 Fort Street Mall, Ste. 1800
Honolulu, Hawaii 96813

CPF 4-2021-042-NOPSO

Dear Ms. Moy:

Enclosed is a Notice of Proposed Safety Order (Notice) issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the above-referenced case. The Notice proposes that Hawaii Gas take certain measures with respect to its liquefied natural facility located in Oahu, Hawaii. The options for responding are set forth in the Notice. Your receipt of the Notice constitutes service of that document under 49 C.F.R. § 190.5.

We look forward to a successful resolution to ensure pipeline safety. Please direct any questions on this matter to me at 713-272-2847.

Thank you for your cooperation in this matter.

Sincerely,

Mary L. McDaniel, P.E.
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration

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

cc: Ms. Linda Daugherty, Deputy Associate Administrator for Field Operations, PHMSA
Mr. Edwin Sawa, General Manager, Hawaii Gas, esawa@hawaiigas.com

**U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
OFFICE OF PIPELINE SAFETY
SOUTHWEST REGION
HOUSTON, TX 77074**

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In the Matter of)	
)	
Hawaii Gas,)	CPF No. 4-2021-042-NOPSO
)	
Respondent.)	
)	

NOTICE OF PROPOSED SAFETY ORDER

Background and Purpose:

Pursuant to Chapter 601 of Title 49, United States Code, the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), has initiated an information and record review and conducted on-site inspection (April 12, 2021 through April 16, 2021) to determine compliance with 49 Code of Federal Regulations (C.F.R.) Part 193 at Hawaii Gas’ (Hawaii Gas or Respondent) liquefied natural gas (LNG) facility located in Oahu, Hawaii.

As a result of the review and on-site inspection, it appears that a condition or conditions exist on Hawaii Gas’s LNG facilities that pose an integrity risk to public safety, property, or the environment. Accordingly, PHMSA OPS issues this Notice of Proposed Safety Order (Notice), pursuant to 49 U.S.C. § 60117(1), notifying you of the preliminary findings of the inspection and proposing that Hawaii Gas take measures to ensure that the public, property, and the environment are protected from the potential risk.

Preliminary Findings:

- The Hawaii Gas LNG facility, located in Oahu, Hawaii, is designed to vaporize LNG that has been delivered to the facility in International Organization for Standardization (ISO) containers via container ship from California. Once a container ship arrives to Hawaii, the ISO containers, which act as the transportation vessel for the fuel, are delivered to the LNG facility via tractor-trailers. LNG is then pumped from the ISO containers to a heat exchanging system which vaporizes the LNG.

- The ISO containers, as designed, have a water capacity of 45,000 liters (or approximately 11,880 gallons); however, the tanks are loaded in California with approximately 9,000 gallons of LNG per container. The LNG plant is designed for parking two trailer-mounted containers at a time at the transfer area. There is a staging area at the facility which

accommodates an additional 4 to 5 trailer-mounted ISO tanks. There are never more than 6 to 7 ISO tanks on-site at any one time.

- The LNG vaporizers are sized for a normal operational send out of 84.2 MSCFH and a daily volume of 1.82 MMSCF. The vaporized natural gas is delivered into existing natural gas transmission pipelines for further distribution to the island.
- The Hawaii Gas LNG facility, including the surrounding synthetic natural gas (SNG) plant, also owned by Hawaii Gas, is located within 1000 feet of Kalaeloa Regional Park and Pearl Harbor National Wildlife Refuge, Kalaeloa Unit. The Kalaeloa Regional Park is located south of the LNG facility and contains forested and beach areas for walking and camping. Additionally, Pearl Harbor National Wildlife Refuge, Kalaeloa Unit, once part of the former Barber's Point Naval Air Station, was established during military base closure proceedings in 2001 to protect native Hawaiian plants.
- PHMSA conducted an on-site inspection at the Hawaii Gas LNG facility from April 13, 2021, through April 16, 2021, and identified the following safety conditions:
 - The two siting studies prepared for the Hawaii Gas LNG facility did not meet the siting requirements in 49 C.F.R. Part 193, Subpart B as follows:
 - The *LNG Vaporization System (Plant Siting) Feasibility Study* was conducted by the company's LNG supplier, Clean Energy, in 2018. The revision history of the report shows that the initial report was completed in 2014, and the 2018 version provided by Hawaii Gas was a revised version. The *LNG Vaporization System (Plant Siting) Feasibility Study* contained inadequate thermal radiation and flammable vapor dispersion exclusion zone calculations. The siting analysis for the LNG facility was not conducted in accordance with the requirements in 49 C.F.R. Part 193, Subpart B.
 - The final report, *Hawaii Gas Kapolei New SNG Plant Facility Siting Study*, dated April 25, 2017, used API RP 752 and API RP 753 and did not follow the siting requirements in the 2001 edition of National Fire Protection Association 59A (NFPA 59A-2001), which is incorporated by reference in 49 C.F.R. § 193.2051. The regulations do not allow for API RP 752 or API 753 to be used for siting under 49 C.F.R. § 193.2051.
 - Hawaii Gas installed the vent stack in the middle of the LNG facility, adjacent to the vaporization facility. The overpressure protection system (i.e., reliefs and bleeders) is connected to the vent stack, where flammable vapor released from the vent stack may disperse to an area with ignition sources.
 - The stand-by or staging area for the containers is within 20 feet of the property line, and the staging area has no impoundment. Even though the ISO containers are double-walled, the outer shell was only rated to -40 degrees C/F. The integrity of

the outer shell will be affected by an inner tank failure. Therefore, an additional impoundment area must be provided in accordance with NFPA 59A-2001 Section 2.2.2.4, incorporated by reference in 49 C.F.R 193.

- The control room, administrative building, and shop areas are located less than 60 feet from the LNG transfer area and vaporization facility. There is no gas detection near or around the entrances of the buildings.
 - Currently, the LNG facility is not tied into the Distributed Control System (DCS) control panel. At the time of the inspection, Hawaii Gas explained that the control room for the LNG facility is an engineering station adjacent to the main control panel for the LNG facility.
 - The LNG facility flare line ties into the SNG facility flare line that connects into the adjacent refinery, which shares the flare with the Hawaii Gas SNG and LNG facility. During the inspection, Hawaii Gas did not know if the flare could handle the flow from Hawaii Gas and the refinery at the same time.
 - During the inspection, Hawaii Gas' Operations Supervisor claimed that he was the only personnel trained on the vaporization process at the facility; therefore, having only one trained individual to run the process.
 - Respondent's current *Fire Protection Study* does not discuss the capabilities of the fire water system. Hawaii Gas could not provide a coverage map for the fire monitors, nor could they provide the capacity of the fire water system. It is currently unknown if the fire protection systems are adequate to detect, alert, and mitigate a fire at the facility.
- Hawaii Gas has indicated that it plans to conduct LNG pump testing in May 2021 by bringing in full LNG containers into the facility. Due to conditions identified during the inspection there are many areas of concern during the upcoming pump testing and continued operations of the LNG facility, including:
 - an inadequate siting analysis and spill containment;
 - the safety systems in place;
 - management of the process control system;
 - the limited personnel training and basic operating knowledge of the facility; and
 - the safety and integrity of the LNG facility and the surrounding area.

Proposed Issuance of Safety Order:

Section 60117(1) 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 action, which may include physical inspection, testing, repair, replacement, 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 C.F.R. § 190.239, a copy of which is enclosed.

After evaluating the foregoing preliminary findings of fact and considering the hazardous nature of the product, the characteristics of the geographical area where the LNG facility is located including its proximity to an unusually sensitive area, and the likelihood that the issues could affect the safety of other areas of the LNG facility including hampering the facility's emergency response, it appears that continued operation of the affected Hawaii Gas LNG facility without corrective measures may pose an integrity risk to public safety, property, or the environment.

Accordingly, PHMSA issues this Notice to notify Respondent of the proposed issuance of a safety order and to propose that Respondent take measures specified herein to address the potential risks identified in the Preliminary Findings and other risks that may be determined as a result of the proposed corrective measures.

Proposed Corrective Actions:

Pursuant to 49 U.S.C. § 60117(l) and 49 C.F.R. § 190.239, PHMSA proposes to issue to Hawaii Gas a safety order incorporating the following remedial requirements with respect to its LNG facility.

Note: For the purposes of this Notice, "Director" means the Director, Southwest Region, Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety, 8701 S. Gessner, Suite 630, Houston, Texas, 77074.

1. ***Qualified Independent Third Party.*** Within 30 days of the date of the issuance of the Safety Order, Hawaii Gas shall select an Independent Third Party and submit its selection along with their associated qualifications to demonstrate their knowledge and prior experience of PHMSA regulated LNG facilities to the Director for approval.
2. ***Siting Analysis.*** Within 90 days of the date of the Director's approval of the Independent Third Party, Hawaii Gas shall submit a Siting Analysis of the LNG facility for the Director's approval. The Siting Analysis shall address all siting requirements in accordance with Part 193, Subpart B and NFPA 59A-2001 as incorporated by reference in 49 C.F.R. § 193.2051.
3. ***Gas Dispersion Study.*** Within 90 days of the date of the Director's approval of the Independent Third Party, and concurrent with the Siting Analysis, Hawaii Gas shall submit a Gas Dispersion Study for the vapor vent stack(s) located within the LNG facility for the Director's approval. The Gas Dispersion Study will be in accordance with NFPA 5A-2001 Section 3.4.5 as incorporated by reference in 49 C.F.R. § 193.2401.
4. ***Fire Protection Evaluation.*** Within 60 days after completing the Siting Analysis, Hawaii Gas shall submit a Fire Protection Evaluation, performed by the approved Independent Third Party, for the Director's approval. The fire protection evaluation must address all requirements in 49 C.F.R. § 193.2801.

5. ***Operations, Maintenance, and Training Review.*** Within 90 days of the issuance of the Safety Order, Hawaii Gas, using the approved Independent Third Party, shall review and evaluate the current operations and maintenance procedures and training requirements associated with personnel responsible for operations and maintenance within the LNG facility. The review must also ensure that roles and responsibilities are clearly defined and include recommendations for implementing the procedures. All revisions to the procedures must be submitted to the Director for review and approval. Following the Director's approval, Hawaii Gas must implement the revised procedures and mandatory personnel training to accompany the revised procedures.

6. ***Remedial Work Plan.*** Within 90 days after completing the corrective measures in paragraphs 2, 3, 4, and 5, Hawaii Gas shall prepare and submit a Remedial Work Plan (RWP) to the Director for review and approval. The RWP must include actions to remedy any issues identified by the Siting Analysis, Fire Protection Evaluation, Gas Dispersion Study, and the Operations, Maintenance, and Training Review, as well as any other identified safety risks determined by the aforementioned assessments.
 - a. The Director may incrementally approve parts of the RWP without approving the entire RWP.
 - b. Once approved by the Director, the approved RWP increments or entire RWP is considered incorporated by reference into this Safety Order.
 - c. The RWP must specify in detail the measures that Hawaii Gas will use to remedy any non-compliance issues identified.
 - d. The RWP must include the following steps:
 - i. Integrate the results of the Siting Review, Fire Protection Evaluation, the Operations, Maintenance, and Training Review, and any preexisting operational data, which includes, but is not limited to, construction, operations, maintenance, testing, repairs, and any third-party consultation information.
 - ii. Describe all remedial measures Hawaii Gas will use to prioritize, evaluate, repair, or construct to comply with requirements in 49 C.F.R. Part 193 and NFPA 59A-2001.
 - iii. Include a proposed schedule for completion of the RWP and update as required.
 - iv. Submit any plan revisions to the Director for prior approval. The Director may approve plan revisions incrementally.
 - v. Update all facility drawings and records to reflect work completed in the RWP.

- e. Implement the RWP as it is approved by the Director, including any revisions.
7. **Reporting.** Commencing on the date of the Safety Order, Hawaii Gas shall promptly report to the Director any abnormal operating conditions of components within the facility. Additionally, Hawaii Gas shall submit monthly reports to the Director that include information regarding the progress on Siting Analysis, Fire Protection Evaluation, Gas Dispersion Study, Maintenance, Operation, and Training Review, and the RWP required under this Safety Order.
8. **Approvals.** With respect to each submission under the final 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, Hawaii Gas shall take all required actions in the submission as approved or modified by the Director. If the Director disapproves all or any portion of the submission, Hawaii Gas shall correct all deficiencies within the time specified by the Director and resubmit it for approval. If a resubmitted item is disapproved in whole or in part, the Director may again require Respondent to correct the deficiencies in accordance with the foregoing procedure, and the Director may otherwise proceed to enforce the terms of the final Safety Order.
9. **Miscellaneous Provisions.**
 - a. Hawaii Gas may appeal any decision of the Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.
 - b. The Director may grant an extension of time for compliance with any of the terms of the final Safety Order upon a written request timely submitted demonstrating good cause for an extension.
 - c. It is requested, but not mandated, that Hawaii Gas maintain documentation of the safety improvement costs associated with fulfilling this Safety Order and submit the total to the Director. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies, and analyses; and 2) the total cost associated with replacements, additions, and other changes to pipeline infrastructure.

The actions proposed by this Notice are in addition to, and do not waive, any requirements that apply to Hawaii Gas' LNG facility under 49 C.F.R. Parts 190 through 199, under any other order issued to Hawaii Gas under the 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 this proceeding, PHMSA may identify other corrective measures that the Respondent must perform. In that event, Hawaii Gas

will be notified of any additional measures required and any amendments to the final Safety Order. To the extent consistent with safety, Hawaii Gas will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

Response to this Notice:

In accordance with § 190.239, you have 30 days following receipt of this Notice to submit a written response to the Director. If you do not respond within 30 days, this constitutes a waiver of your rights 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 final Safety Order. In your response, you may indicate 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 final Safety Order is issued). Informal consultation provides you with an opportunity to explain the circumstances associated with the risk conditions 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 you and PHMSA agree within 30 days of the informal consultation on a plan and schedule for you to address each identified risk condition, the parties may enter into a written consent agreement, in which case 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 final Safety Order.

Be advised that all material submitted in response to this enforcement action is subject to public availability. 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 4-2021-042-NOPSO**, and for each document you submit, please provide a copy in electronic format whenever possible.

Mary L. McDaniel, P.E.
Director, Southwest Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

Date issued