NOTICE OF PROPOSED SAFETY ORDER

OVERNIGHT EXPRESS DELIVERY

September 4, 2020

Joseph Hartz
Vice President, Asset Management
UGI Energy Services
1 Meridian Blvd
Wyomissing, PA 19610

CPF 1-2020-009-NOPSO

Dear Joseph Hartz:

Enclosed is a Notice of Proposed Safety Order (Notice) issued in the above-referenced case. The Notice proposes that you take certain measures with respect to UGI Energy Services' (UGIES or Respondent) Temple LNG Peak Shaving Plant's (LNG Plant) storage tank 1 (Tank 1) to ensure pipeline safety. Your 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 (609) 771-7809.

Sincerely,

Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration

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

DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
OFFICE OF PIPELINE SAFETY
EASTERN REGION
WEST TRENTON, NJ 08628

In the Matter of	)	
UGI Energy Services a subsidiary of UGI Corporation,	)	**CPF No. 1-2020-009-NOPSO**
Respondent.	)	

NOTICE OF PROPOSED SAFETY ORDER

Pursuant to Chapter 601 of Title 49, United States Code, the Pipeline and Hazardous Materials Safety Administration (PHMSA), U.S. Department of Transportation, has initiated an investigation into the safety of UGI Energy Services' (UGIES or Respondent) Temple LNG Peak Shaving Plant's (LNG Plant) storage tank 1 (Tank 1). UGIES is a wholly owned subsidiary of UGI Corporation, an international energy distribution and services company.[1]

The investigation was prompted following a discussion of a Federal Energy Regulatory Commission's (FERC) inspection conducted in August 2018. FERC reported that the south-east portion of Tank 1's shell was buckling and gas was migrating between the tank floor and the heating conduits beneath the tank. FERC also informed PHMSA that UGIES had applied a weather seal to act as a vapor barrier around the entire base of Tank 1.

On August 31, 2018, PHMSA requested information on the gas migration beneath the tank from UGIES. The Respondent provided a May 2018 tank inspection report conducted by Matrix PDM entitled *Project No. 5308-1103 Temple 1 LNG Tank Inspection Report* (Matrix PDM Report) and information on the multi-layer epoxy weather proofing seal that was applied to the base of Tank 1. Over the course of 18 months, UGIES has attempted to mitigate the detected vapor leaks by applying a seal to the circumference of the chime and horizontal plane of Tank 1's concrete foundation. UGIES also sleeved the heater conduits with stainless steel tubing upon discovering

[1] UGI Corporation Website, About UGI, *available at* https://www.ugicorp.com/company/corporate-information/about-ugi/default.aspx, (last accessed August 19, 2020).

that they were exposed to natural gas vapor in the tank's annular space. Work on the heater conduits is ongoing.

Background and Purpose:

On July 29, 2020, PHMSA conducted an onsite inspection of Tank 1 to continue its investigation of the natural gas vapor migration in Tank 1. During the inspection, PHMSA observed that the shell was deformed around the entire circumference of Tank 1 and the area that had the greatest deformation was the south-east area of the tank. PHMSA also observed UGEIS constructing a new truck loading station adjacent to Tank 1.

As a result of the preliminary investigation, it appears conditions exist at your liquefied natural gas (LNG) facility that pose an integrity risk to public safety, property, or the environment. Pursuant to 49 U.S.C. § 60117(l), PHMSA, Office of Pipeline Safety (OPS), issues this Notice of Proposed Safety Order (Notice), notifying you of the preliminary findings of the investigation, and proposing that you take certain measures to ensure that the public, property, and the environment are protected from this integrity risk.

For the purposes of this Notice:

"*Director*" means the Director, Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety, Eastern Region. The Director's address is 840 Bear Tavern Road, Suite 300, West Trenton, NJ 08628.

Preliminary Findings:

- The UGIES LNG Plant is located in Temple, Pennsylvania. UGIES' LNG Plant has a storage capacity of 15 million gallons of LNG and a maximum daily deliverability of 205,200 dekatherms (Dth). The LNG Plant has a liquefaction capacity of 120,000 gallons per day (10,000 Dth).

- UGIES Temple LNG Tank 1 is one of two LNG tanks located in the UGIES LNG Plant. Tank 1 is a single containment, double-wall tank with a flat bottom, suspended deck, and dome outer roof. The inner tank has a diameter of 75 feet and the outer tank has a diameter of 87 feet. Tank 1 has a height of 93 feet and a nominal capacity of 73,000 barrels (bbls). From January 2015 until July 2020, Tank 1 has stored approximately 34,000± bbls of LNG each year. Tank 1 was constructed in 1972 and is equipped with an impressed current cathodic protection system.

- The LNG Plant site is 6.62 acres of fenced-in industrial land, with open grass areas along with 1.56 acres of existing pipeline right of way. The LNG Plant is located north of the City of Reading in Berks County, Pennsylvania. Reading encompasses 10 square miles and has a population density of 8,993 people per square mile. Between 2016 and 2017 the population of Reading, Pennsylvania grew from 87,899 to 88,275, a 0.428% increase. The

LNG Plant is located adjacent to US Highway 222, which serves as the state's principal artery between the Lancaster and Reading areas.

- Deformation was observed at various anchor strap locations along the circumference of UGIES Tank 1 with the most severe instance occurring in the southeast area -- approximately 10 feet long and 6 feet in height.

- UGIES Tank 1 is experiencing natural gas vapor migration between the tank floor and the foundation.

- The primary source of the vapor seepage in the heater conduit remains unknown. Natural gas vapor in the heater system presents an identifiable ignition hazard.

- The migration and seepage of Tank 1's natural gas vapors in conjunction with the construction activities adjacent to the tank present an increased risk of accidental ignition.

- To date, UGIES has not be able to demonstrate to PHMSA that the remediation measures it has performed complies with the repair requirements of Part 193 to ensure the integrity and operational safety of Tank 1. *See* 49 C.F.R. § 193.2617.

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, the ongoing construction at the LNG facility which may result in an increased risk of accidental ignition of the migrating gas, the unknown factors that resulted in the buckling of Tank 1, and the likelihood that the issues could affect the safety of other areas of the LNG facility, it appears that continued operation of the affected LNG Plant without corrective measures may pose an integrity risk to public safety, property, or the environment.

Accordingly, 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 Actions:

Pursuant to 49 U.S.C. § 60117(l) and 49 C.F.R. § 190.239, PHMSA proposes to issue to UGIES a safety order incorporating the following remedial requirements with respect to its Temple LNG Peak Shaving Plant's Tank 1:

1. ***Limit Capacity.*** UGIES shall immediately limit the operations of Tank 1 to a liquid level no greater than 35,000 bbls or 50% of the tank capacity. If UGIES determines that a different level is necessary for safe operation, it must provide all information used in calculating this level to the Director. The liquid level reduction must remain in place until approval to resume normal operations of Tank 1 is given by the Director.

2. ***Gas Detection.*** UGIES shall immediately install temporary gas detection around Tank 1. The gas levels should be monitored and recorded. The temporary gas detection must be installed so that it will alert the control center and plant personnel of a natural gas vapor leak in the vicinity of the Tank 1 chime area. The gas detection must remain in place until approval is given by the Director for removal.

3. ***Records Inventory.*** Within 30 days of the date of the Safety Order, UGIES must submit to the Director a complete inventory of all design and construction records for Tank 1. This inventory of records for Tank 1 must include, but is not be limited to, tank metallurgical and mechanical records of the shell plates and bottom plates; shell plate and bottom plate welding records; non-destructive examination records; tank design specifications and all loading conditions; all tank hydrotest records; all leak surveys; inspection records of the heating conduits; and settlement surveys for the life of the tank. Additionally, the inventory must include all geotechnical investigations and geotechnical updates conducted at the LNG Plant.

4. ***Fitness-for-Service Assessment.*** Within 90 days of the date of the Safety Order, UGIES must complete a fitness-for-service assessment in accordance with API RP 579-1 / ASME FFS-1, Fitness-for-Service (3rd edition), issued in June 2016. All flaw types or damage mechanisms needed to determine if Tank 1 is fit for service must be evaluated. The fitness-for-service assessment must follow the eight-step process outlined in Section 2.1.3 (*FFS Assessment Procedure*) of API RP 579-1/ASME FFS-1.

5. **Remedial Work Plan.** Within 30 days following completion of the fitness-for-service assessment, UGIES must submit a Remedial Work Plan (RWP) to the Director for approval. The RWP must include actions to remedy any issues identified by the Records Inventory and Fitness-for-Service Assessment, described above, as well as any other identified risk conditions determined by the investigation of the deformation of the shell plates and migrating natural gas vapors in the foundation heater conduits. Identified risk conditions may include, but is not limited to: (1) the continued presence of natural gas vapors in the foundation slots that contain the heater conduits; (2) evidence of differential

circumferential settlement of the tank foundation that exceeds design criteria; (3) geotechnical evidence that would require additional assessment and/or remediation to sufficiently support the tank; and (4) out-of-roundness and localized distortions and buckles that impair structural integrity of the tank.

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 or Consent Agreement.

c. The RWP must specify the tests, inspections, assessments, evaluations, and remedial measures UGIES will use in order to remedy issues identified.

d. The RWP must include the following steps:

    i. Integrate the results of the Fitness-For-Service Assessment, and other corrective actions required by this Safety Order with all relevant preexisting operational and assessment data for the identified risk conditions. Pre-existing operational data includes, but is not limited to, construction, operations, maintenance, testing, repairs, prior metallurgical analyses, and any third-party consultation information.

    ii. Determine if conditions similar to those found when assessing Tank 1 are likely to exist elsewhere within the plant.

    iii. Conduct additional field tests, inspections, assessments, and/or evaluations to determine whether, and to what extent, the conditions similar to those found when assessing Tank 1 are likely to be present elsewhere in the plant. At a minimum, this process must consider evidence of differential settlement and the presence of natural gas found from an unknown source and specify the use of tests, inspections, assessments, and evaluations appropriate for these conditions. UGIES may use the results of previous tests, inspections, assessments, and evaluations, if approved by the Director, provided the results of the tests, inspections, assessments, and evaluations are analyzed with regard to the factors found on Tank 1.

    iv. Describe the inspection and repair criteria UGIES will use to prioritize, 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.

    v. Based on the known history and condition of the tank and components included in the identified risk condition, describe the methods UGIES will

use to repair, replace, or take other corrective measures to remediate the conditions associated with Tank 1, and to address other known integrity threats discovered at the plant. The repair, replacement, or other corrective measures must be completed in accordance with 49 C.F.R. § 193.2617.

vi. Implement continuing long-term periodic inspection and integrity verification measures to ensure the ongoing safe operation of the tank and plant, considering the results of the analyses, inspections, evaluations, and corrective measures undertaken pursuant to the Safety Order.

e. Include a proposed schedule for completion of the RWP and update as required.

f. UGIES must revise the RWP as necessary to incorporate new information obtained during remedial activities, to incorporate the results of actions undertaken pursuant to this 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.

6. **Reporting.** Commencing on the date of the Safety Order, UGIES shall promptly report to the Director any unanticipated or sustained operation of other components of the plant outside their design parameters including but not limited to: alarms by the temporary gas detection; rollover; geysering; cold spots on the storage tank(s); storage tank vibrations and/or vibrations in associated cryogenic piping; leaking or inoperative isolation valves; significant equipment or instrumentation malfunctions or failures; non-scheduled maintenance or repair (and reasons therefore); relative movement of the inner tank; vapor or liquid releases; negative pressures (vacuum) within the storage tank; and higher than predicted boil-off rates. Additionally, UGIES must submit monthly reports to the Director that: (1) include all results of the evaluations required by this Order; and (2) describe the progress of the repairs or other remedial actions being undertaken.

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, Respondent 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, Respondent 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.

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. UGI Energy Services may appeal any decision of the Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.

The actions proposed by this Notice are in addition to and do not waive any requirements that apply to Respondent's pipeline system under 49 C.F.R. 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 this investigation, PHMSA may identify other corrective measures that need to be taken. In that event, Respondent will be notified of any additional measures required and amendment of the final Safety Order will be considered. To the extent consistent with safety, Respondent 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 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 No. 1-2020-009-NOPSO**, and for each document you submit, please provide a copy in electronic format whenever possible.

_____ _____

Robert Burrough Date Issued
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration