NOTICE OF AMENDMENT

VIA ELECTRONIC MAIL TO: jhartz@ugies.com

April 19, 2021

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

CPF 1-2021-017-NOA

Dear Mr. Hartz:

From November 9, 2020 to November 18, 2020, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code (U.S.C.) inspected UGI Energy Services' (UGI) procedures and records for the Temple LNG Plant in Reading, Pennsylvania.

On the basis of the inspection, PHMSA has identified the apparent inadequacies found within UGI's plans or procedures, as described below:

1. § 193.2503 Operating procedures.

Each operator shall follow one or more manuals of written procedures to provide safety in normal operation and in responding to an abnormal operation that would affect safety. The procedures must include provisions for:

(a) …

(c) Recognizing abnormal operating conditions.

UGI's operating procedures were inadequate. Specifically, UGI's *Temple 1- LNG Maintenance Manual, revised 7/15/20* and *LNG Liquefaction System Manual* (collectively, Operating Procedures) failed to include details for recognizing and responding to abnormal operating conditions (AOCs).

During the inspection, the PHMSA inspector requested UGI's procedures regarding abnormal operating conditions, and UGI provided its Operating Procedures. However, the Operating Procedures did not provide adequate guidance on how UGI personnel working outside of the control room recognize and respond to AOCs, nor do they define or list AOCs that may exist at its

LNG plant.

When the PHMSA inspector requested if there were additional procedures or guidance related to recognizing AOCs, UGI stated there was no further procedures.

Therefore, UGI failed to include details in its manuals of written procedures for recognizing AOCs in accordance with § 193.2503(c). UGI must revise its procedures to include provisions for recognizing AOCs.

2. § 193.2509 Emergency procedures.

(a) …

(b) To adequately handle each type of emergency identified under paragraph (a) of this section and each fire emergency, each operator must follow one or more manuals of written procedures. The procedures must provide for the following:

(1) Coordinating with appropriate local officials in preparation of an emergency evacuation plan, which sets forth the steps required to protect the public in the event of an emergency, including catastrophic failure of an LNG storage tank.

UGI's emergency procedures were inadequate. Specifically, UGI's *LNG Emergency Procedures Manual* and *Asset Emergency Response Plan, revised 10/01/20* failed to provide details for coordinating with appropriate local officials in preparation of an emergency evacuation plan, which sets forth the steps required to protect the public in the event of an emergency, including catastrophic failure of an LNG storage tank.

During the inspection, the PHMSA inspector requested UGI's procedures regarding coordination with local officials in preparation of an emergency evacuation plan. UGI provided its *Emergency Procedures Manual* and *Asset Emergency Response Plan* related to emergency types/actions and pointed to the following sections of their manuals, which failed to demonstrate compliance.

The *Asset Emergency Response Plan, revised 10/01/20,* Page 5, stated in part, "The purpose of this Emergency Response Plan (ERP) is to provide consistent policies and procedures to manage an emergency effectively. This plan will assist in protecting the lives and health of the public and UGI Energy Services (UGIES) employees. This plan will provide guidance to protect and minimize damage to company property in the event of an emergency and provide protective measures to ensure minimal impact to the surrounding community during an emergency."

The *LNG Emergency Procedures Manual Section 2.4* stated in part, "UGI supervisory personnel shall coordinate with local officials keeping them advised of the location of the plant fire control equipment, the potential hazards at the plant, and the status of each emergency."

These written procedures did not provide specific details for coordinating with appropriate local officials in preparing emergency evacuation plans, nor did it discuss contents of emergency evaluation plans to include steps required to protect the public in the event of an emergency, including catastrophic failure of an LNG storage tank.

When the PHMSA inspector requested if there were additional procedures or guidance related to coordination with local officials in preparation of emergency evacuation plans, UGI did not provide any additional information or response.

Therefore, UGI failed to provide details for coordinating with appropriate local officials in preparation of an emergency evacuation plan in accordance with § 193.2509(b)(3). UGI must revise its *LNG Emergency Procedures Manual* and *Asset Emergency Response Plan* to address this requirement.

3. § 193.2509 Emergency procedures.

(a) …

(b) To adequately handle each type of emergency identified under paragraph (a) of this section and each fire emergency, each operator must follow one or more manuals of written procedures. The procedures must provide for the following:

(1) …

(4) Cooperating with appropriate local officials in evacuations and emergencies requiring mutual assistance…

UGI's emergency procedures were inadequate. Specifically, UGI's *LNG Emergency Procedures Manual* failed to require cooperating with appropriate local officials in evacuations and emergencies requiring mutual assistance.

During the inspection, the PHMSA inspector requested UGI's procedures addressing § 193.2509(b)(4), and UGI provided its *Emergency Procedures Manual*. The *Emergency Procedures Manual* stated in Section 2.4, "UGI supervisory personnel shall coordinate with local officials keeping them advised of the location of the plant fire control equipment, the potential hazards at the plant, and the status of each emergency."

However, the written procedure did not provide any details or guidance related to the cooperation with local officials in evacuations and emergencies requiring mutual assistance. The *Emergency Procedures Manual* also failed to define or mention any activity or requirement related to providing mutual assistance.

When the PHMSA inspector asked UGI if there were further written procedures regarding mutual assistance, UGI stated there were no specific requirements in their procedures on mutual assistance events during evacuations and emergencies.

Therefore, UGI failed to have emergency procedures which require cooperating with appropriate local officials in evacuations and emergencies requiring mutual assistance in accordance with § 193.2509(b)(4). UGI must revise its *Emergency Procedures Manual* to include details addressing this requirement.

4. § 193.2605 Maintenance procedures.

(a) …

(b) Each operator shall follow one or more manuals of written procedures for the maintenance of each component, including any required corrosion control. The procedure must include:

(1) The details of the inspections or tests determined under paragraph (a) of this section and their frequency of performance; and…

UGI's maintenance procedures were inadequate. Specifically, UGI's *LNG Truck Transfer System Manual, dated 7/10/19* and *Temple 1-LNG Maintenance Manual, dated 7/15/20* (collectively, Transfer Hose Procedures) failed to provide details regarding testing of transfer hoses once each calendar year, but with intervals not exceeding 15 months, to the maximum pump pressure or relief valve setting in accordance with § 193.2621(a).

Section 193.2621(a) states:

Hoses used in LNG or flammable refrigerant transfer systems must be:

(a) Tested once each calendar year, but with intervals not exceeding 15 months, to the maximum pump pressure or relief valve setting;

During the inspection, the PHMSA inspector requested UGI's procedure regarding testing and inspection of transfer hoses. UGI provided its Transfer Hose Procedures related to Temple I, as this is the only area with a truck transfer system. The *Temple 1-LNG Maintenance Manual, dated 7/15/20,* Sections 2.E. Trucking System and 2.F. Truck Rack Expansion System included a requirement for a truck transfer hose pressure test to be performed at a 12-month frequency. However, the Transfer Hose Procedures did not provide a procedure requiring that each transfer hose must be tested to the maximum pump pressure or relief valve setting, or any details on how the truck transfer hose pressure test is performed.

When the PHMSA inspector requested additional information related to testing of transfer hoses, UGI did not provide any additional information or response.

Therefore, UGI failed to include details in its written procedures that transfer hoses must be tested once each calendar year, but with intervals not exceeding 15 months, to the maximum pump pressure or relief valve setting in accordance with § 193.2621(a), as required by §193.2605(b). UGI must revise its Transfer Hose Procedures to include a detailed procedure for testing transfer hoses in accordance with § 193.2621(a).

5. § 193.2605 Maintenance procedures.

(a) …

(b) Each operator shall follow one or more manuals of written procedures for the maintenance of each component, including any required corrosion control. The procedure must include:

(1) The details of the inspections or tests determined under paragraph (a) of this section and their frequency of performance; and…

UGI's maintenance procedures were inadequate. Specifically, UGI's *Temple 1-LNG Maintenance Manual, dated 7/15/20* and *Temple II Tank and Sendout System Operations Manual, dated 10/17/19* failed to address how it monitors for internal corrosion in accordance with the requirements of § 193.2635(e).

Section 193.2635(e) states:

> Corrosion protection provided as required by this subpart must be periodically monitored to give early recognition of ineffective corrosion protection, including the following, as applicable:
> …
> (e) If a component is protected from internal corrosion, monitoring devices designed to detect internal corrosion, such as coupons or probes, must be located where corrosion is most likely to occur. However, monitoring is not required for corrosion resistant materials if the operator can demonstrate that the component will not be adversely affected by internal corrosion during its service life. Internal corrosion control monitoring devices must be checked at least two times each calendar year, but with intervals not exceeding 7 1/2 months.

During the inspection, the PHMSA inspector requested UGI's procedure regarding internal corrosion monitoring. UGI provided its *Temple 1-LNG Maintenance Manual* and *Temple II Tank and Sendout System Operations Manual.*

The *Temple 1-LNG Maintenance Manual,* procedure MP-45 Corrosion Protection, stated in part, "Per CFR Part 193.2636, WEG[1] sampling and testing is to be conducted on a 6-month interval and not to exceed 7-months" …and that the protection systems are the "Corrosion inhibitors contained within WEG and lube oil fluid."

The *Temple 1-LNG Maintenance Manual*, however, referenced a non-existent code citation from CFR Part 193.

The *Temple II Tank and Sendout System Operations Manual,* procedure MP-1110 stated in part, "The WEG should be checked on an annual basis for the following attributes
% glycol, PH, Corrosion inhibitor…"

The *Temple 1-LNG Maintenance Manual, dated 7/15/20* and *Temple II Tank and Sendout System Operations Manual, dated 10/17/19* failed to mention which components are subject to internal corrosive attack and how they are protected from internal corrosion. Additionally, the Procedures failed to describe UGI's internal corrosion monitoring device requirements, including details such as where they are required or if any protected components utilizing corrosion resistant materials are excepted from monitoring.

When the PHMSA inspector asked for additional information regarding internal corrosion monitoring, UGI stated the CFR reference was outdated, however the WEG testing is conducted.

Therefore, UGI failed to include details in its written Procedures for Temple I and Temple II regarding internal corrosion monitoring in accordance with § 193.2635(e), as required by

[1] Water-Ethylene Glycol

§ 193.2605(b). UGI must revise its procedures to address § 193.2635(e).

6. § 193.2605 Maintenance procedures.

(a) …

(b) Each operator shall follow one or more manuals of written procedures for the maintenance of each component, including any required corrosion control. The procedure must include:

(1) The details of the inspections or tests determined under paragraph (a) of this section and their frequency of performance; and…

UGI's maintenance procedures were inadequate. Specifically, UGI's *Temple 1-LNG Maintenance Manual, dated 7/15/20* and *Temple II Tank and Sendout System Operations Manual, dated 10/17/19* failed to provide adequate guidance requiring each auxiliary power source to be tested annually for capacity in accordance with § 193.2613.

Section 193.2613 states:

> Each auxiliary power source must be tested monthly to check its operational capability and tested annually for capacity. The capacity test must take into account the power needed to start up and simultaneously operate equipment that would have to be served by that power source in an emergency.

During the inspection, the PHMSA inspector requested UGI's procedure regarding auxiliary power sources. The *Temple 1-LNG Maintenance Manual* Procedure stated in part (emphasis added):

> The Temple I facility's temporary auxiliary power source is provided by a CUMMINS 500 DFEK SPEC F, diesel fueled generator. The generator has a load capacity of 500KW for the facility's 480 VAC service. Load is transferred to the generator by way of an automatic transfer switch.
>
> Frequency: Operational Test – Monthly
>
> **Capacity Load Test – Annually**
>
> …
>
> B. Capacity Load Test
>
> Note: **The following procedure only needs to be performed if a commercial power outage has not occurred in the prior 12-months**.

Similarly, the *Temple II Tank and Sendout System Operations Manual* Procedure Section 15.51 stated in part (emphasis added):

> General: The Temple II facility's standby power source is provided by Kawasaki GPS4000 natural gas turbine generator. The generator has a load capacity of 3.2MW for the facility's 4160V service.
>
> Frequency:
>
> Operational Test – Monthly

Capacity Load Test – Annually

…

C. Capacity Load Test

Note: **The following procedure only needs to be performed if a commercial power outage requiring the generator's operation has not occurred in the prior 12-months**.

The Auxiliary Power Procedures did not provide an adequate process that ensures that each auxiliary power source is tested annually for capacity, with the capacity test taking into account the power needed to start up and simultaneously operate equipment that would have to be served by that power source in an emergency. A commercial power outage resulting in the generator's operation may not provide an adequate test of the capacity of the power source as described in § 193.2613.

Therefore, UGI failed to include adequate details in its written maintenance procedures that each auxiliary power source is to be tested annually for capacity in accordance with § 193.2613, as required by § 193.2605(b). UGI must revise its procedures to require annual capacity testing of auxiliary power sources, and for the capacity testing to account for the specific requirements of § 193.2613.

7. § 193.2605 Maintenance procedures.

(a) …

(b) Each operator shall follow one or more manuals of written procedures for the maintenance of each component, including any required corrosion control. The procedure must include:

(1) The details of the inspections or tests determined under paragraph (a) of this section and their frequency of performance; and…

UGI's maintenance procedures were inadequate. Specifically, UGI's *Temple II Tank and Sendout System Operations Manual, dated 10/17/19* failed to provide details regarding fire protection inspection frequencies for Temple II facilities, in accordance with § 193.2619(c)(2).

Section 193.2619(c)(2) states:

> (c) Control systems in service, but not normally in operation, such as relief valves and automatic shutdown devices, and control systems for internal shutoff valves for bottom penetration tanks must be inspected and tested once each calendar year, not exceeding 15 months, with the following exceptions:
>
> (2) Control systems that are intended for fire protection must be inspected and tested at regular intervals not to exceed 6 months.

During the inspection, the PHMSA inspector requested UGI's procedure regarding control systems meeting the requirements of § 193.2619(c)(2). UGI provided its procedures regarding control systems for Temple II facilities.

The *Temple II Tank and Sendout System Operations Manual,* Procedure MP-1055 Fire Detection/Fire Protection Test and Inspection, included a process for testing its Detronics fire detection system. However, these procedures did not provide any details or guidance requiring that control systems intended for fire protection must be inspected and tested at regular intervals not to exceed 6 months. When the PHMSA inspector asked if this information was contained in any UGI procedures, UGI provided *Table 15.2.3 Temple II Sendout System Maintenance.* However, this document was not incorporated or referenced in any UGI Procedures, nor did it appear to address inspection frequencies for all control systems intended for fire protection.

Therefore, UGI failed to include details in its written procedures for Temple II facilities that control systems intended for fire protection must be inspected and tested at regular intervals not to exceed 6 months in accordance with § 193.2619(c)(2), as required by § 193.2605(b). UGI must revise its procedures to provide details for fire protection control system inspection frequencies for its Temple II facilities.

8. § 193.2605 Maintenance procedures.

(a) …

(b) Each operator shall follow one or more manuals of written procedures for the maintenance of each component, including any required corrosion control. The procedure must include:

(1) The details of the inspections or tests determined under paragraph (a) of this section and their frequency of performance; and…

UGI's maintenance procedures were inadequate. Specifically, UGI's *Temple 1-LNG Maintenance Manual, dated 7/15/20* and *Temple II Tank and Sendout Systems Operations Manual, dated 10/17/19* failed to provide details on inspecting LNG storage tank Temple T-II in accordance with § 193.2623.

Section 193.2623 states:

> Each LNG storage tank must be inspected or tested to verify that each of the following conditions does not impair the structural integrity or safety of the tank:
> (a) Foundation and tank movement during normal operation and after a major meteorological or geophysical disturbance.
> (b) Inner tank leakage.
> (c) Effectiveness of insulation.
> (d) Frost heave.

During the inspection, the PHMSA inspector requested UGI's procedure regarding inspecting LNG storage tanks. UGI provided the written Tank Procedures related to Temple I and Temple II LNG storage tanks.

The *Temple II Tank and Sendout Systems Operations Manual,* Section 15.1, General stated in part, "In addition to the normal maintenance procedure, all LNG personnel shall note and report in writing: Any abnormal ground movements that might impair the structural integrity, or reliability the LNG-tank or plant piping systems.

-Any malfunction that exposes process piping or vessels or the LNG-tank to an overpressure condition (beyond maximum operating pressure plus allowable build-up).
-Any leak of gas or LNG from piping or vessels.
-Any condition such as inner-tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of the LNG tank."

However, the Procedures did not provide any details or guidance on how UGI inspects or tests Temple Tank T-II for inner tank leakage, effectiveness of insulation and frost heave.

When the PHMSA inspector asked UGI about the related Procedure, UGI stated that there are no processes or procedures for these inspections or tests because it is a concrete walled tank. However, Section 193.2623 does not provide exception for concrete walled tanks.

Therefore, UGI failed to include details in its written procedures on inspecting or testing LNG storage tank Temple T-II, as required by § 193.2605(b). UGI must revise its procedures to include a process for inspecting or testing Temple T-II in accordance with § 193.2623.

9. § 193.2605 Maintenance procedures.

(a) …

(b) Each operator shall follow one or more manuals of written procedures for the maintenance of each component, including any required corrosion control. The procedure must include:

(1) …

(2) A description of other actions necessary to maintain the LNG plant according to the requirements of this subpart.

UGI's maintenance procedures were inadequate. Specifically, UGI's *Temple 1-LNG Maintenance Manual, dated 7/15/20* failed to include details that the LNG plant grounds must be free from rubbish, debris, and other material which present a fire hazard in accordance with § 193.2607(b).

Section 193.2607(b) states:

> LNG plant grounds must be free from rubbish, debris, and other material which present a fire hazard. Grass areas on the LNG plant grounds must be maintained in a manner that does not present a fire hazard.

During the inspection, the PHMSA inspector requested UGI's procedures regarding their process to maintain the facility to be free from the presence of foreign material and debris. UGI provided its *Temple 1-LNG Maintenance Manual, dated 7/15/20*, which failed to indicate any such requirement.

When the PHMSA inspector requested if there were additional procedures or guidance related to maintaining the facility free from the presence of foreign material and debris, UGI did not provide any additional information or response.

Therefore, UGI failed to include details in its written procedures that the LNG plant grounds must be free from rubbish, debris, and other material which present a fire hazard in accordance with

§ 193.2607(b), as required by §193.2605(b). UGI must revise its procedures to address this requirement.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Enforcement Proceedings*.

Please refer to this document and note the response options. 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).

Following the receipt of this Notice, you have 30 days to submit written comments, revised procedures, or a request for a hearing under §190.211. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in 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 an Order Directing Amendment. If your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.206). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 30 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

It is requested (not mandated) that UGI Energy Services maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to Robert Burrough, Director, PHMSA Eastern Region, 840 Bear Tavern Road, Suite 300, West Trenton, NJ 08628. In correspondence concerning this matter, please refer to **CPF 1-2021-017-NOA** and, for each document you submit, please provide a copy in electronic format whenever possible. Smaller files may be emailed to robert.burrough@dot.gov. Larger files should be sent on USB flash drive accompanied by the original paper copy to the Eastern Region Office.

Sincerely,

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

Enclosure: *Response Options for Pipeline Operators in Enforcement Proceedings*