

Via Electronic Mail

March 25, 2022

Ms. Mary McDaniel
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration
8701 S. Gessner Road
Suite 900
Houston, TX 77074

**RE: East Tennessee Natural Gas, LLC Response
Notice of Amendment
CPF 4-2022-027-NOA**

Dear Ms. McDaniel,

From July 12, 2021, through August 17, 2021, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code, inspected East Tennessee Natural Gas, LLC's (ETNG) plans and procedures for its Peak Shaving Liquefied Natural Gas (LNG) facility located in Sullivan County, Tennessee.

On January 26, 2022, PHMSA issued the above referenced Notice of Amendment (NOA) identifying seven (7) apparent inadequacies in ETNG's plans and procedures. The following is a brief summary of PHMSA's concerns and ETNG's response to those concerns.

PHMSA Finding

1. § 193.2503 Operating procedures.

ETNG's written LNG Operations Manual, Liquefaction System (Date: 06/27/2018), is inadequate because it does not include instructions for documenting startup and shutdown sequences in accordance with § 193.2503(b).

Specifically, ETNG's procedures regarding liquefaction system startup and shutdown instructs ETNG personnel to follow an ordered sequence to perform startup and shutdown processes; however, the procedure does not include provisions for recording the startup or shutdown to demonstrate that the procedure is followed.

ETNG must amend its written procedures to include provisions to demonstrate that startup and shutdown sequences are followed as per the written procedure in accordance with § 193.2503.

ETNG Response

ETNG acknowledges that its written *LNG Operations Manual, Liquefaction System* procedure did not include instructions for documenting startup and shutdown sequences in accordance with § 193.2503(b).

ETNG has since made revisions to this procedure to include the instructions for documenting startup and shutdown sequences. A copy of a redline version is enclosed. The revisions to address this concern can be found in the *Liquefaction Startup* and *Liquefaction Shutdown* sections.

PHMSA Finding

2. § 193.2503 Operating procedures.

ETNG's written LNG Operations Manual, Miscellaneous Procedures, Tab P (Date: 10/23/2017), is inadequate because it does not include details for recognizing and responding to abnormal operating conditions (AOCs).

ETNG's procedures regarding AOCs do not include guidance related to recognizing and responding to AOCs. Moreover, the same procedure references ETNG's procedure "5-2050 Response to Abnormal Operating Operations," which is applicable to gas transmission pipelines subject to 49 CFR part 192 only.

ETNG must amend its written procedures to include provisions for recognizing and responding to AOCs for its LNG operations.

ETNG Response

ETNG acknowledges that its written SOP 5-2050, *Response to Abnormal Operations Procedure* did not include provisions for recognizing and responding to AOCs for its LNG operations.

ETNG has since made revisions to this procedure to include the provisions for recognizing and responding to AOCs for its LNG operations. A copy of a redline version is enclosed. The

revisions to address this concern can be found in the *Purpose, Terms and Definitions, Responsibilities and Compliance* sections.

PHMSA Finding

3. § 193.2503 Operating procedures.

ETNG's written LNG Operations Manual Send-Out (Date: 06/27/2018), is inadequate because it does not include requirements for components subjected to cryogenic temperatures to be limited to a rate and distribution pattern that keeps thermal stresses within design limits during the cooldown period. ETNG's procedure states:

Initial cooldown of the pump skid is accomplished by opening the Internal Tank Valve, latching check valve T1R open and opening valve V-T1P. This allows flow to by-pass valve V-T1Q thru by-pass line 3/4A11-P-4. This is done to slowly lower the temperature of the process piping and equipment to reduce thermal shock. After 72 hours, valve V-T1P can be closed and cooldown continued thru V-T1Q.

ETNG's procedure does not include temperature measurements to determine the cooldown rate of components subject to cryogenic temperatures. ETNG's procedure only requires that the initial cooldown is performed over 72 hours without temperature measurements.

ETNG must amend its written procedures to include temperature rate and distribution measurement during the cooldown period of components subjected to cryogenic temperatures to keep thermal stresses within the design limit.

ETNG Response

ETNG acknowledges that its written *LNG Operations Manual Send-Out* procedure did not include temperature rate and distribution measurement during the cooldown period of components subjected to cryogenic temperatures to keep thermal stresses within the design limit.

ETNG has since made revisions to this procedure to include temperature rate and distribution measurement during the cooldown period of components subjected to cryogenic temperatures to keep thermal stresses within the design limit. A copy of a redline version is enclosed. The revisions to address this concern can be found in the *Cooldown* section.

PHMSA Finding

4. § 193.2513 Transfer procedures.

ETNG's written LNG Operations Manual, Miscellaneous Procedures, Tab S (Date: 06/27/2018), is inadequate because it does not include instructions to perform hazardous fluid transfers. ETNG's procedure does not provide any instructions regarding the transfer process other than for operating personnel to escort the delivery vehicle in and out of the facility.

ETNG must amend its written procedures to include detailed procedures for hazardous fluid transfer process in accordance with § 193.2513. ETNG's procedures should be expanded to include all aspects related to the transfer process, including ensuring the tank truck or car complies with applicable regulations governing its use; a visual inspection of hoses for damage and defects; ensuring each tank truck is properly immobilized with chock wheels, and electrically grounded; and ensuring that each tank truck is turned off unless it is required for transfer operations.

ETNG Response

ETNG acknowledges that its written *LNG Operations Manual, Miscellaneous Procedure, Tab S, Cargo Transfer* procedure did not include detailed procedures for hazardous fluid transfer process in accordance with § 193.2513.

ETNG has since made revisions to this procedure to include detailed procedures for hazardous fluid transfer process in accordance with § 193.2513. A copy of a redline version is enclosed. The revisions to address this concern can be found in the *Procedure* section.

PHMSA Finding

5. § 193.2605 Maintenance procedures.

ETNG's written LNG Operations Manual (Date: 06/27/2018), did not include a provision to test auxiliary power sources monthly in order to check operational capability, or a provision to test auxiliary power sources annually for capacity, in accordance with § 193.2613.

PHMSA requested ETNG's test procedure regarding the Uninterruptible Power Supply (UPS) system used as an auxiliary power source. ETNG responded that while it performed

inspections, it had not formalized the procedure and planned to make the appropriate revisions in the next review cycle of its facilities procedures.

ETNG must amend its written procedures to include performing a monthly operational capability test and an annual capacity test on its UPS system in accordance with § 193.2613.

ETNG Response

ETNG acknowledges that its written *LNG Operations Manual* did not include performing a monthly operational capability test and an annual capacity test on its UPS system in accordance with § 193.2613.

ETNG has since made revisions to this procedure to include performing a monthly operational capability test and an annual capacity test on its UPS system in accordance with § 193.2613. A copy of a redline version is enclosed. The revisions to address this concern can be found in the *Standby Generator* and *UPS System* sections.

PHMSA Finding

6. § 193.2605 Maintenance procedures.

ETNG's written LNG Maintenance Manual, M-4 Sendout System, Tab C (Date: 8/6/2018), is inadequate as it does not include instructions for transfer hoses used in LNG or flammable refrigerants transfer systems to be pressure tested to maximum pump pressure or relief valve setting. ETNG's procedure only states the interval and duration of the pressure test and the documentation of the test results.

ETNG must amend its written procedure to include instructions for transfer hoses used in LNG or flammable refrigerants transfer systems to be pressure tested to maximum pump pressure or relief valve setting in accordance with § 193.2621(a).

ETNG Response

ETNG acknowledges that its written *LNG Maintenance Manual, M-4 Sendout System, Tab C* did not include instructions for transfer hoses used in LNG or flammable refrigerants transfer systems to be pressure tested to maximum pump pressure or relief valve setting in accordance with § 193.2621(a).

ETNG has since made revisions to this procedure to include instructions for transfer hoses used in LNG or flammable refrigerants transfer systems to be pressure tested to maximum pump pressure or relief valve setting in accordance with § 193.2621(a). A copy of a redline version is enclosed. The revisions to address this concern can be found in the *Transfer Hose Testing* section.

PHMSA Finding

7. § 193.2717 Training: fire protection.

ETNG's written procedures for training related to fire protection contained within its LNG Operations Manual, Personnel, Tab A (Date: 10/23/2017), is inadequate because it does not include details of initial and continuing fire protection training, including plant fire drills for operation, maintenance, and supervisory personnel.

During the inspection, ETNG representatives stated that all personnel attend a two-day training at LNG Fire School for initial fire protection training. Additionally, ETNG stated that the local fire department is not trained to conduct LNG fire protection activities, and during an actual emergency the local fire department will rely on the expertise of ETNG personnel for LNG fire protection skills. PHMSA's inspector requested procedures for initial fire training, and ETNG provided its LNG Operations Manual, Personnel, Tab A (Date: 10/23/2017), which includes fire protection training. However, the procedures do not include details regarding the two-day training at LNG Fire School. Furthermore, ETNG's procedures require personnel to review various fire protection training activities and conduct hands-on plant fire drills.

PHMSA requested ETNG's Plant Fire Drill Plan, and ETNG provided an informal fire drill procedure without any document control. ETNG's plant fire drill is divided into two types of training, Code 1 and Code 2. ETNG's plant fire drill procedures describe scenarios for Code 2 training, but there are no instructions regarding Code 1 training in the submitted procedures.

ETNG must amend its procedures to include details on initial and refresher fire protection training for operation, maintenance, and supervisory personnel in accordance with § 193.2717. ETNG must revise its Plant Fire Drills Plan to include potential causes, sizes, areas, and consequences of a fire, and instructions for personnel to perform their duties according to emergency procedures as required by § 193.2509.

ETNG Response

ETNG acknowledges that its written *LNG Operations Manual, Personnel, Tab A* procedure did not include details on initial and refresher fire protection training for operation, maintenance, and supervisory personnel in accordance with § 193.2717 and that its written *LNG Plant Fire Drill Plan* procedure did not include potential causes, sizes, areas, and consequences of a fire, and instructions for personnel to perform their duties according to emergency procedures as required by § 193.2509.

ETNG has since made revisions to this procedure to include details on initial and refresher fire protection training for operation, maintenance, and supervisory personnel in accordance with § 193.2717. A copy of a redline version is enclosed. The revisions to address the concern can be found in the *VI. Training* section.

In addition, ETNG has made revisions to this procedure to include the *LNG Plant Fire Drill Plan* for potential causes, sizes, areas, and consequences of a fire, and instructions for personnel to perform their duties according to emergency procedures as required by §193.2509. A copy of a redline version is enclosed.

We trust that you will find the revisions to the LNG Operations Manual, LNG Maintenance Manual and SOP 5-2050 will fully address the issues noted in the NOA, and you will consider this matter closed. Upon PHMSA's acceptance of the proposed amended procedures as being adequate to address these issues noted in the NOA, ETNG will issue the revised LNG Operations Manual, LNG Maintenance Manual and SOP 5-2050, effectively communicate the revisions, and train affected personnel as needed.

ETNG takes these issues very seriously, and we are committed to addressing these issues in an expeditious manner.

Sincerely,

A handwritten signature in blue ink, appearing to read "Nathan Atanu".

Nathan Atanu
Manager, Operational Compliance

Enclosures