



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628
609.771.7800

NOTICE OF AMENDMENT

VIA ELECTRONIC MAIL TO: DonM@kfoc.net

July 9, 2021

Mr. Don Millican
Vice President/CFO
Wyckoff Gas Storage Company, LLC
6733 S. Yale Avenue
Tulsa, Oklahoma 74136

CPF 1-2021-036-NOA

Dear Mr. Millican:

From June 16, 2020 through June 18, 2020, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code, inspected Wyckoff Gas Storage Company, LLC's (WGS) procedures for its Underground Gas Storage Facility (UNGS) Program in Greenwood, New York.

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

1. § 192.12 Underground natural gas storage facilities.

(a) ...

(c) *Procedural manuals.* Each operator of a UNGSF must prepare and follow for each facility one or more manuals of written procedures for conducting operations, maintenance, and emergency preparedness and response activities under paragraphs (a) and (b) of this section. Each operator must keep records necessary to administer such procedures and review and update these manuals at intervals not exceeding 15 months, but at least once each calendar year. Each operator must keep the appropriate parts of these manuals accessible at locations where UNGSF work is being performed. Each operator must have written procedures in place before commencing operations or beginning an activity not yet implemented.

WGS's written procedures for conducting operations, maintenance, and emergency preparedness and response activities under § 192.12(b)¹ were inadequate. Specifically, WGS's *Gas Operations and Maintenance Manual*, dated July 2019 (O&M Manual), lacked details for the operation of underground natural gas storage fields with regard to various reporting requirements of 49 CFR Part 191.

During the inspection, the PHMSA inspection team reviewed the O&M Manual. The inspection team identified the following elements of the O&M Manual related to the reporting requirements of 49 CFR Part 191 that were inadequate:

Reporting

1. The O&M Manual defined incidents on a pipeline but did not address incidents in underground natural gas storage facilities. (§ 191.3)
2. The O&M Manual addressed immediate notifications of incidents, but did not address incidents in underground natural gas storage facilities. (§ 191.5(a))
3. The O&M Manual addressed the 30-day incident report, but did not address incidents in underground natural gas storage facilities. (§ 191.15(c))
4. The O&M Manual did not address underground natural gas storage facilities filing of supplemental or revised reports. (§ 191.15(d))
5. The O&M Manual did not clearly require the filing of the annual report for underground natural gas storage facilities. (§ 191.17(c))
6. The O&M Manual failed to include specific language for underground natural gas storage facilities notifications (i.e. construction, conversions, change in entity, or acquisition or divestiture). (§ 191.22(c))
7. The O&M Manual did not address safety related conditions for underground natural gas storage facilities. (§ 191.23(a))

Therefore, WGS's written procedures were inadequate regarding various reporting requirements found in Part 191. WGS must revise its O&M Manual to address the deficiencies in reporting procedures outlined above.

2. § 192.12 Underground natural gas storage facilities.

(a) ...

(c) *Procedural manuals.* Each operator of a UNGSF must prepare and follow for each facility one or more manuals of written procedures for conducting operations, maintenance, and emergency preparedness and response activities under paragraphs (a) and (b) of this section. Each operator must keep records necessary to administer such procedures and review and update these manuals at intervals not

¹ § 192.12 Underground natural gas storage facilities.

(a) ...

(b) *Depleted hydrocarbon and aquifer reservoir UNGSFs.*

exceeding 15 months, but at least once each calendar year. Each operator must keep the appropriate parts of these manuals accessible at locations where UNGSF work is being performed. Each operator must have written procedures in place before commencing operations or beginning an activity not yet implemented.

WGS's written procedures for conducting operations, maintenance, and emergency preparedness and response activities under § 192.12(b) were inadequate. Specifically, WGS's *Natural Gas Storage Integrity Management Program*, dated 6/2/20 (IMP Manual), lacked sufficient details for the operation of underground natural gas storage fields regarding various integrity monitoring requirements found in API RP 1171, Section 9, Integrity Demonstration, Verification, and Monitoring Practices (Section 9).

During the inspection, the PHMSA inspection team identified the following elements of the IMP Manual related to Section 9 requirements that were inadequate:

Integrity Demonstration, Verification, and Monitoring Practices

1. The IMP Manual did not have any procedures to verify the functional integrity of the reservoir. No hysteresis curve had been developed or was available, wherein WGS analyzed pressure/volume data to determine reservoir integrity. (API RP1171, Section 9.2.1)
2. The IMP Manual did not have a procedure to develop integrity demonstration, verification, and monitoring tasks. (API RP1171, Section 9.2.2)
3. The IMP Manual did not have a procedure to integrate well integrity evaluations into the risk assessment program. (API RP1171, Section 9.3.1)
4. The IMP Manual did not have a procedure to request third party well integrity evaluation data or explain how that data, once received, is reviewed, and incorporated into the Risk Management program. (API RP 1171, Section 9.3.1)
5. The IMP Manual did not have a threshold requirement specified for annular pressure or annular gas flow for observation wells, and therefore there is no follow up process for threshold excursions. (API RP1171, Section 9.3.2)
6. The IMP Manual did not address addresses valve inspections in general. WGS stated that they use their O&M Manual to address valve inspections, but the O&M Manual was silent on this provision. (API RP1171, Section 9.3.2)
7. The IMP Manual did not have any procedure to require that all integrity related inspections, tests, patrols, and analysis retained for the life of the facility. (API RP1171, Section 9.8.1)

Therefore, WGS's written procedures required by § 192.12(c) were inadequate. WGS must revise its procedures to address the deficiencies outlined above.

3. § 192.12 Underground natural gas storage facilities.

(a) ...

(c) *Procedural manuals.* Each operator of a UNGSF must prepare and follow for each facility one or more manuals of written procedures for conducting operations, maintenance, and emergency preparedness

and response activities under paragraphs (a) and (b) of this section. Each operator must keep records necessary to administer such procedures and review and update these manuals at intervals not exceeding 15 months, but at least once each calendar year. Each operator must keep the appropriate parts of these manuals accessible at locations where UNGSF work is being performed. Each operator must have written procedures in place before commencing operations or beginning an activity not yet implemented.

WGS's written procedures for conducting operations, maintenance, and emergency preparedness and response activities under § 192.12(b) were inadequate. Specifically, WGS's O&M Manual and IMP Manual lacked sufficient details for the operation of underground natural gas storage fields regarding various requirements of API RP 1171, Section 11 Procedures and Training (Section 11).

During the inspection, the PHMSA inspection team reviewed the O&M Manual and IMP Manual. The inspection team identified the following elements of the manuals related to Section 11 requirements that were inadequate:

Procedures and Training

1. The O&M Manual, page 35, IFR – Underground Gas Storage listed a general framework, but did not specify detailed procedures for construction, operation, and maintenance to establish and maintain functional integrity of the wells and reservoirs. (API RP 1171, Section 11.2.1)
2. The IMP Manual, Section 5 Records and Management of Change (MOC), presented a framework and referenced WGS's Control Room Management (CRM) procedure, but did not include a detailed process for implementing UNGS changes in a controlled manner. (API RP 1171, Section 11.11.1). The MOC procedure in the CRM plan did not reference UNGS facilities. Further, this MOC procedure had not been revised since 2015.

Therefore, WGS's written procedures required by § 192.12(c) were inadequate. WGS must revise its procedures to address the deficiencies outlined above.

4. § 192.12 Underground natural gas storage facilities.

(a) ...

(c) *Procedural manuals.* Each operator of a UNGSF must prepare and follow for each facility one or more manuals of written procedures for conducting operations, maintenance, and emergency preparedness and response activities under paragraphs (a) and (b) of this section. Each operator must keep records necessary to administer such procedures and review and update these manuals at intervals not exceeding 15 months, but at least once each calendar year. Each operator must keep the appropriate parts of these manuals accessible at locations where UNGSF work is being performed. Each operator must have written procedures in place before commencing operations or beginning an activity not yet implemented.

WGS's written procedures for conducting operations, maintenance, and emergency preparedness and response activities under § 192.12(b) were inadequate. Specifically, WGS's *Emergency Response Plan*, dated January 2020 (ERP), lacked sufficient details for the operation of underground natural gas storage fields regarding various requirements of API RP 1171, Section 10, Site Security and Safety, Site Inspections, and Emergency Preparedness and Response (Section 10).

During the inspection, the PHMSA inspection team reviewed the ERP. The inspection team identified the following elements of the ERP related to Section 10 requirements that were inadequate:

Site Security and Safety, Site Inspections, and Emergency Preparedness and Response

1. The inspection team discussed the four specific topics that must be addressed in the emergency preparedness/response plan. WGS's ERP did not have the correct verbiage for all four required elements; specifically, natural disasters, accidental releases, equipment failure, and third-party emergencies are not covered. (API RP 1171, Section 10.6.1)
2. The ERP did not include a Blowout Contingency Plan. (API RP 1171, Section 10.6.1)
3. The ERP addressed training, but did not specify the required intervals and did not require Table Top Exercises or In Person Drills to evaluate the plan for effectiveness. (API RP 1171, Section 10.6.2)

Therefore, WGS's written procedures required by § 192.12(c) were inadequate. WGS must revise its procedures to address the deficiencies outlined above.

5. § 192.12 Underground natural gas storage facilities.

(a) ...

(c) *Procedural manuals.* Each operator of a UNGSF must prepare and follow for each facility one or more manuals of written procedures for conducting operations, maintenance, and emergency preparedness and response activities under paragraphs (a) and (b) of this section. Each operator must keep records necessary to administer such procedures and review and update these manuals at intervals not exceeding 15 months, but at least once each calendar year. Each operator must keep the appropriate parts of these manuals accessible at locations where UNGSF work is being performed. Each operator must have written procedures in place before commencing operations or beginning an activity not yet implemented.

WGS's written procedures for conducting operations, maintenance, and emergency preparedness and response activities under § 192.12(b)(1)² were inadequate. Specifically, WGS's O&M Manual lacked sufficient details for the maintenance of underground natural gas storage fields

² § 192.12 Underground natural gas storage facilities.

(a) ...

(b) *Depleted hydrocarbon and aquifer reservoir UNGSFs.* (1) Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed after July 18, 2017, must meet all provisions of API RP 1171 (incorporated by reference, *see* §192.7), and paragraphs (c) and (d) of this section, prior to commencing operations.

regarding various requirements of API RP 1171, Section 6, Integrity in Well Design & Construction (Section 6).

During the inspection, the PHMSA inspection team reviewed the O&M Manual. The inspection team identified the following elements of the manual related to Section 6 requirements that were inadequate:

Integrity in Well Design & Construction

1. The O&M Manual did not have a provision to ensure that new or replaced wellheads allow for full wellbore entry to the wellbore. (API RP1171, Section 6.2.2)
2. The O&M Manual did not have a provision to ensure that wells are equipped with valves that provide isolation of the well from the pipeline system and allow for entry into the wellbore. (API RP1171, Section 6.2.2)
3. The O&M Manual did not have a provision to ensure that the equipment attached to the well is rated to exceed the maximum anticipated operating pressure. (API RP1171, Section 6.2.3)
4. The O&M Manual did not have a provision to ensure the use of API Technical Report 5C3 *Calculating Performance Properties of Pipe Used as Casing or Tubing* for casing designs. (API RP1171, Section 6.3.1)
5. The O&M Manual did not have a provision to ensure that the casing connections can maintain a gas seal under anticipated wellbore flow conditions and subsequent work. (API RP1171, Section 6.3.7)
6. The O&M Manual did not have a provision to ensure that wells identified as having compromised mechanical integrity requiring evaluation and responsive action with a timeframe depending on severity of the integrity risk. (API RP1171, Section 6.6.1)
7. The O&M Manual did not have a provision requiring WGS to verify that personnel are qualified to do work on wells. (API RP1171, Section 6.11.2)

Therefore, WGS's written procedures required by § 192.12(c) were inadequate. WGS must revise its procedures to address the deficiencies outlined above.

6. § 192.12 Underground natural gas storage facilities.

(a) ...

(d) *Integrity management program—*

(1) ...

(4) *Integrity management procedures and recordkeeping.* Each UNGSF operator must establish and follow written procedures to carry out its integrity management program under API RP 1171 (incorporated by reference, see § 192.7), section 8 ("Risk Management for Gas Storage Operations"), and this paragraph (d). The operator must also maintain, for the useful life of the UNGSF, records that demonstrate compliance with the requirements of this paragraph (d). This includes records developed and used in support of any identification, calculation, amendment, modification, justification, deviation, and determination made, and any action taken to implement and evaluate any integrity management program element.

WGS's written procedures for carrying out its integrity management program under API RP 1171, Section 8 were inadequate. Specifically, WGS's IMP Manual lacked sufficient details for carrying out its integrity management program regarding various risk management requirements found in API RP 1171, Section 8, Risk Management for Storage Operations (Section 8).

During the inspection, the PHMSA inspection team reviewed the IMP Manual. The inspection team identified the following elements of the manual related to Section 8 requirements that were inadequate:

Risk Management for Storage Operations

1. In reviewing the risk management process, it was identified that WGS used a self-developed system. Their options consisted of 'Probability Drivers' and 'Preventors'. Section 1.0 of the IMP Manual, subsection II.ii.iv defined preventors as "... measures that completely eliminate threat probability, consequence, or both. These could be measures such as use of emergency shutoff devices, regular use of inhibitors, or other means of removing susceptibility to a specific threat." WGS's scoring system was explained in P-192.12, Interim Final Rule, Procedure Step 4, which stated "Probability Drivers and Indicators are scored from 0 to 10, with 10 equating to the highest probability of occurrence. Probability Resistors and Preventors are scored from 0 to -10, with -10 equating to complete elimination of the probability of occurrence... Consequences are scored from 0 to 10 based on significance, with 0 equating to no significance or consequence and 10 equating to extremely high significance or consequence." The IMP Manual lacked a detailed and documented process involving subject matter experts required to eliminate any threat or consequence. (API RP1171, Section 8.4.2).
2. Compliance staff indicated that a periodic risk assessment review was performed (annually); however, the IMP Manual did not explicitly require this review. (API RP1171, Section 8.5.2)
3. The IMP Manual did not specify or describe a procedure to monitor the effectiveness of the risk monitoring and risk management process. (API RP1171, Section 8.7.1)

Therefore, WGS's written procedures required by § 192.12(d)(4) were inadequate. WGS must revise its procedures to address each of the concerns outlined above.

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 Wyckoff Gas Storage Company, LLC 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, Eastern Region, Pipeline and Hazardous Materials Safety Administration, 840 Bear Tavern Road, Suite 300, West Trenton, NJ 08628. In correspondence concerning this matter, please refer to **CPF 1-2021-036-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