



April 16, 2024

Mr. Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration
840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628

RE: CPF 1-2024-017-NOA

Dear Mr. Burrough:

Following are the responses to address the findings described in the Non-Compliance (CPF 1-2024-017-NOA) letter issued to Bluewater Gas Storage on March 19, 2024. Each response has been formatted as follows:

Regulation for basis of finding

PHMSA Finding

BWG RESPONSE - Includes details of Standard and/or Procedure updated and **changes to said Standard or Procedure are in bold**

Following the responses are the copies of the Standards and/or Procedures that were updated:

Standard 217 Storage Risk Management Plan
Standard 219 Testing and Inspection of Valves
Standard 222 Well Integrity Inspection
OM608 Valves

If you have any questions or need additional information, please reach out to Jeff Westrick, Asset Manager, at (810) 642-9035 or by email at jeffrey.westrick@wecenergygroup.com.

Sincerely,

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

Andrew Hesselbach
Senior Vice President
Gas Operations

cc: Jeffrey Westrick, Khoi Nguyen, Rita Reed

Regulations, Findings, and BWGS Responses

1. 49 CFR § 192.12 Underground natural gas storage facilities.

(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.

During the inspection, Bluewater Gas Storage's OM608 Valves Manual was reviewed and determined to not address the method in which valves shall be replaced within their valve maintenance program, such as a procedure specifying how valve replacements, or incidental repairs to valves, are to be performed and recorded.

BWG RESPONSE -

Bluewater Gas Storage has updated Standard 219 Section 3.3 items b & c to include the following statements (**in bold**).

3. Inspection and Testing of Wellhead Valves

- a) The Company shall test the operation of the master valve and wellhead pipeline isolation valve at least annually, not to exceed 15 months, for proper function and ability to isolate the well. These valves shall be maintained, repaired or replaced in accordance with the Company's valve maintenance program for isolation valves as described in OM608 - Valves. The test should consist of fully cycling each valve (fully closing and fully opening it) to confirm proper function if unobstructed by pusher string or tubing string. If obstructed, the test should consist of partially cycling the Master Valve. Tests are recorded on the DOT Valve Asset Information Inspection Form.
- b) **Wellhead valve inspection process will inspect physical condition of the valves for any deficiencies including corrosion, leaks, grease-fitting caps, plugs or caps installed where required. Wellhead valve inspections will verify full open & close (if applicable) to specific valve API 6A turns specifications as referenced below. If necessary upon wellhead valve inspections, maintenance of the wellhead valves may include greasing valve body and stem, tighten stem packing or add stem packing media and address any physical deficiencies.**

Type of Valve	Valve Size	Turns
Gate Valve (M)	2-1/16-inch	13
	2-9/16-inch	15-1/2
	7-1/16-inch	39 ½
Orbit Valve	7 1/16-inch	2 ½
Plug valve		1/4

- c) Wellhead valves including master valve, surface safety valve, and wing valve but not limited to the well meter run valve will be tested for pressure isolation as described in OP-036 "Gas Well/Wellhead Valve Inspection" guide. If a wellhead valve fails the limit threshold as specified in OP-036 step "H" but less than 300 psi, then the valve must be repair and/or replace with an "in kind" valve no more than 12 months from the determination date. If a wellhead valve exceeds the 300 psi threshold, the well will be isolated from the system within reasonable timeframe as allowed until the defective valve has been replaced.

OM608 Valves, Section 2 Valve Inspection Procedure has been updated to refer to Standard 219.

2.7 Each gas well / wellhead isolation valve, including the safety valve, shall be fully operated and tested to confirm adequate isolation. Refer to OP-036 Gas Well / Wellhead Valve Inspection and **Standard 219 Testing and Inspection of Valves** for further details.

2. 49 CFR § 192.12 Underground natural gas storage facilities.

(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.

Bluewater Gas Storage's written procedures for conducting operations and maintenance activities were inadequate to ensure safe operation of a pipeline facility. Specifically, Bluewater Gas Storage's procedure, Standard 222 - Well Integrity Inspection, failed to include sufficient detail on the options for type and timing of the next mechanical integrity tests based on the results of initial and prior mechanical integrity testing.

BWG RESPONSE

Bluewater Gas Storage has updated Standard 222 Section 3.5 item 4 to include the following statement (in bold).

222.3.5 RESPONSE CRITERIA

- (1) Storage Management/Storage Operations¹ will review and assess the casing inspection log results.
- (2) If it is determined that further action is required, the well should be evaluated for appropriate mitigative or corrective actions, including but not limited to:
 - (a) Liner
 - (b) Casing patch
 - (c) Increased frequency of monitoring
 - (d) Increased frequency of logging and/or re-assessment
 - (e) Top joint(s) replacement
 - (f) Tubing and packer**
 - (g) Temporary isolation of the well
 - (h) Plug and abandonment
- (3) The timeframe for corrective actions should be no more than 12 months from the determination date.**

3. 49 CFR § 192.12 Underground natural gas storage facilities.

(d) Integrity management program

(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.

During the inspection, Bluewater Gas Storage's Standard 222 - Well Integrity Inspection Standard was reviewed and determined to not address the requirement that the baseline assessment for all reservoirs and 40% of the wells shall be completed by March 13, 2024 and 100% of the wells by March 13, 2027.

BWG RESPONSE

Bluewater Gas Storage has updated Standard 222 Section 3.3 items 2, 3, and 6 to include the following statements (in bold).

222.3.3 FREQUENCY OF INSPECTION

1. The frequency of inspection shall be dictated by the results of a well-specific risk assessment which may include but not be limited to: prior casing inspection results, observed corrosion and wear in similar wells (common field or common conditions), corrosion analysis, results of corrosion probe measurement, past failures and well operating history.
2. **Gas storage wells with tubing and packer configuration should be re-assessed by means of mechanical integrity pressure test against the tubing and packer on a 5 year but not to exceed 7 year re-assessment cycle.**
3. **If a gas storage well with tubing and packer configuration or casing only well have been removed and re-installed, then a mechanical integrity pressure test must be performed before re-commissioning the well back in service.**
4. If a well has not previously been subjected to any kind of downhole inspections, a baseline inspection of the casing will be performed. Follow-up inspections will be conducted based upon the results of the casing inspections.
5. BWGS gas storage wells are under a 5-year integrity assessment cycle. Refer to BWGS logging schedule for the prescribed frequency of inspection.
6. **PHMSA mandates baseline assessment for 100% of reservoirs and 40% of individual wells must be completed by March 13, 2024. Remaining 60% of individual wells must be completed by March 13, 2027.**

4. 49 CFR § 192.12 Underground natural gas storage facilities.

(d) Integrity management program--

(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.

Bluewater Gas Storage's written procedures for carrying out its integrity management program were inadequate to ensure safe operation of a pipeline facility. Specifically, Bluewater Gas Storage's procedure Standard 217 - Storage Risk Management Plan failed to require that the interval for risk assessments for each reservoir, cavern, and well be determined using the results from earlier assessments and updated risk analyses pursuant to § 192.12(d)(3).

Bluewater Gas Storage's Standard 217 - Storage Risk Management Plan was reviewed and found to require in Section 217.7.2 that a review and update to the risk assessment will take place at least every three years. Bluewater Gas Storage's Standard 217 Storage Risk Management Plan did not require that the appropriate interval for risk assessments be defined using the results from earlier assessments and updated risk analyses, as is specified in

§192.12(d)(3).

BWG RESPONSE

Bluewater Gas Storage has updated Standard 217 Section 7 to include the following statement (in bold).

217.7.2 Frequency

The risk model will be reviewed and updated annually, not to exceed 15 months or more frequently if previous risk assessments or emergent risks warrant.

Each of BWGS gas storage wells are on a 5 year cycle integrity assessment as per MPSC certificate. The integrity assessment will include at minimum a logging suite consisting of gamma-ray, neutron and corrosion tools.