



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

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

WARNING LETTER

OVERNIGHT EXPRESS DELIVERY

March 16, 2023

Mr. Linn Evans
President and Chief Executive Officer
Black Hills Energy
7100 Mt Rushmore Road
PO BOX 1400
Rapid City, South Dakota 57709

CPF 1-2023-018-WL

Dear Mr. Evans:

From August 30, 2022, through September 1, 2022, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code (U.S.C.) inspected Black Hills Energy's (BHE) Bunker Hill storage, East Mohoney storage, Kirk Ranch storage and Oil Springs storage fields. The inspection was conducted at the BHE offices in Casper, Wyoming and the Bunker Hill and Oil Springs fields located in Carbon County, Wyoming.

As a result of the inspection, it is alleged that you have committed probable violation of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items inspected and the probable violations are:

1. **§ 192.12 Underground natural gas storage facilities.**
 - (a) ...
 - (b) *Depleted hydrocarbon and aquifer reservoir UNGSFs.*
 - (1) ...
 - (2) Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed on or before July 18, 2017, must meet the provisions of API RP 1171 (incorporated by reference, *see* §192.7), sections 8, 9, 10, and 11, and paragraph (c) of this section, by January 18, 2018, and must meet all provisions of paragraph (d) of this section by March 13, 2021

BHE failed to meet the provisions of API RP 1171, Section 8. Specifically, BHE failed to include and accurately present potential threats and hazards impacting the reservoir in its risk management model in accordance with API RP 1171, Section 8.4.2 (Section 8.4.2).

Section 8.4.2 states in part that “The operator shall evaluate the potential threats and hazards impacting storage wells and reservoirs.”

During the inspection, BHE reported that potential threats and hazards impacting the reservoir had not been incorporated into the risk management model. BHE stated subsurface studies of Bunker Hill storage would be completed by end of 2022 and subsurface studies of Oil Springs storage were in its early planning stages. They also stated they planned to add threats to the reservoir from plugged and abandoned wells within the reservoir boundary to their risk model in the future. Additionally, BHE is working with a new risk management model program. In this program, certain threats and hazards incorporated into the risk management model impacting storage wells, had inaccurate scoring or were not able to be reviewed due to their lack of familiarity with the new program.

Therefore, BHE failed to meet the provisions of Section 8.4.2.

2. § 192.12 Underground natural gas storage facilities.

(a) ...

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

(1) ...

(2) **Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed on or before July 18, 2017, must meet the provisions of API RP 1171 (incorporated by reference, see §192.7), sections 8, 9, 10, and 11, and paragraph (c) of this section, by January 18, 2018, and must meet all provisions of paragraph (d) of this section by March 13, 2021.**

BHE failed to meet the provisions of API RP 1171, Section 9. Specifically, BHE failed to evaluate each annular gas occurrence that exceeded operator-defined thresholds levels in accordance with API RP 1171, Section 9.3.2 (Section 9.3.2).

Section 9.3.2 states in part that “The operator shall evaluate each annular gas occurrence that exceeds operator- or regulatory-defined threshold levels determined from well integrity evaluation and from risk assessment.”

During the inspection, BHE was not able to provide records of the evaluation of each annular gas occurrence that exceeded operator or regulatory-defined threshold levels at Bunker Hill storage and Oil Springs storage.

Therefore, BHE failed to meet the provisions of Section 9.3.2.

3. § 192.12 Underground natural gas storage facilities.

(a) ...

(b) Depleted hydrocarbon and aquifer reservoir UNGSFs.**(1) ...**

(2) Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed on or before July 18, 2017, must meet the provisions of API RP 1171 (incorporated by reference, see §192.7), sections 8, 9, 10, and 11, and paragraph (c) of this section, by January 18, 2018, and must meet all provisions of paragraph (d) of this section by March 13, 2021.

BHE failed to meet the provisions of API RP 1171, Section 8. Specifically, BHE failed to assess threat and hazard interaction in accordance with API RP 1171, Section 8.3.2 (Section 8.3.2).

Section 8.3.2 states in part:

The operator shall use available information such as performance data collected through the field history, operations and maintenance (O&M) activities, geotechnical data such as well logs, engineering data, and completion reports to determine susceptibility to threat and hazard-related events and to assess threat and hazard interaction.

During the inspection, BHE's new risk management model program was reviewed. BHE stated that the threat and hazard interactions were not being addressed within this program.

Therefore, BHE failed to meet the provisions of Section 8.3.2.

4. § 192.12 Underground natural gas storage facilities.

(a) ...**(b) Depleted hydrocarbon and aquifer reservoir UNGSFs.****(1) ...**

(2) Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed on or before July 18, 2017, must meet the provisions of API RP 1171 (incorporated by reference, see §192.7), sections 8, 9, 10, and 11, and paragraph (c) of this section, by January 18, 2018, and must meet all provisions of paragraph (d) of this section by March 13, 2021.

BHE failed to meet the provisions of API RP 1171, Section 9. Specifically, BHE failed to perform annual wellhead pipeline isolation valve testing of its wells, and failed to perform annual master valve function testing of Bunker Hill 3 well in 2018, 2019, 2020 and 2021 in accordance with API RP 1171 Section 9.3.2 (Section 9.3.2).

Section 9.3.2 states in part that "The operator shall test the operation of the master valve and wellhead pipeline isolation valve at least annually for proper function and ability to isolate the well."

During the inspection, PHMSA reviewed BHE's records of wellhead valve operation. These records did not have isolation testing of the wells at the 4 storages in 2018, 2019, 2020 and 2021.

Additionally, BHE was not able to provide records of annual master valve function tests of Bunker Hill 3 well in 2018, 2019, 2020 and 2021.

Therefore, BHE failed to meet the provisions of Section 9.3.2.

5. **§ 192.12 Underground natural gas storage facilities.**

(a) ...

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

(1) ...

(2) **Each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed on or before July 18, 2017, must meet the provisions of API RP 1171 (incorporated by reference, see §192.7), sections 8, 9, 10, and 11, and paragraph (c) of this section, by January 18, 2018, and must meet all provisions of paragraph (d) of this section by March 13, 2021.**

BHE records were insufficient to demonstrate compliance with the provisions of API RP 1171, Section 9. Specifically, BHE records do not demonstrate that it function-tested surface safety valves at least annually in accordance with PAI RP 1171, Section 9.3.2.

Section 9.3.2, Well Integrity Monitoring, States in part that “Surface and subsurface safety valve systems, where installed, shall be function-tested at least annually.”

During the inspection, PHMSA reviewed BHE’s records of annual surface safety valve function tests. In 2018, there were 4 wells at Oil Springs storage with subsurface safety valves. These valves were removed in 2019. The 4 wells were Baker 3, Baker 5, Cunningham 1 and Oil Springs 4-3. The function test records from 5/3/2018, 11/9/2018, and 5/10/2019 were reviewed. However, these records did not specify which well's safety valve was function tested.

Therefore, BHE’s documentation was insufficient to demonstrate compliance with the provisions of Section 9.3.2.

6. **§ 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.**

BHE failed to follow its manual of written procedures for conducting activities under § 192.12(b). Specifically, BHE failed to follow its Storage Integrity Management Plan (SIMP), Section 133.6.13.2, during the Plug and Abandon of Well East Mohoney Dome 29-1 which was done 12/2021 – 1/2022.

Section 133.6.13.2 stated in part:

The Company shall retain records relating to permitting, procedures, personnel, and equipment for the period required by regulation, or, where no regulatory requirements exist, for the life of the well plus 5 years. These records shall include, as applicable and available, the following: Environmental, Health, and Safety- On-site safety meeting records.

During the inspection, BHE was not able to provide on-site safety meeting records of safeguards used for environment, health, and safety of workers during the Plug and Abandon of Well East Mohoney Dome 29-1.

Therefore, BHE failed to follow its SIMP, Section 133.6.13.2.

7. **§ 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.

BHE failed to follow its manual of written procedures for conducting activities under § 192.12(b). Specifically, BHE failed to follow its Storage Integrity Management Plan (SIMP), Section 133.6.2.5 regarding conducting annual review of blowout contingency plans in 2020 and 2021.

Section 133.6.2.5 stated in part that “The state specific Blowout Plans will be reviewed annually with the ERP.” During the inspection, BHE was not able to provide records of blowout contingency plan annual review during the year of 2020 and 2021.

Therefore, BHE failed to follow its SIMP, Section 133.6.2.5.

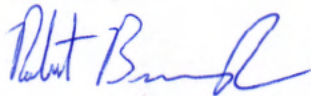
Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed \$257,664 per violation per day the violation persists, up to a maximum of \$2,576,627 for a related series of violations. For violation occurring on or after March 21, 2022, and before January 6, 2023, the maximum penalty may not exceed \$239,142 per violation per day the violation persists, up to a maximum of \$2,391,142 for a related series of violations. For violation occurring on or

after May 3, 2021, and before March 21, 2022, the maximum penalty may not exceed \$225,134 per violation per day the violation persists, up to a maximum of \$2,251,334 for a related series of violations. For violation occurring on or after January 11, 2021, and before May 3, 2021, the maximum penalty may not exceed \$222,504 per violation per day the violation persists, up to a maximum of \$2,225,034 for a related series of violations. For violation occurring on or after July 31, 2019, and before January 11, 2021, the maximum penalty may not exceed \$218,647 per violation per day the violation persists, up to a maximum of \$2,186,465 for a related series of violations. For violation occurring on or after November 27, 2018, and before July 31, 2019, the maximum penalty may not exceed \$213,268 per violation per day, with a maximum penalty not to exceed \$2,132,679. For violation occurring on or after November 2, 2015, and before November 27, 2018, the maximum penalty may not exceed \$209,002 per violation per day, with a maximum penalty not to exceed \$2,090,022.

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to correct the items identified in this letter. Failure to do so will result in Black Hills Energy being subject to additional enforcement action.

No reply to this letter is required. If you choose to reply, in your correspondence please refer to **CPF 1-2023-018-WL**. 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).

Sincerely,

A handwritten signature in blue ink, appearing to read "Robert Burrough", is written over a horizontal line.

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