

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



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Mathieu Fournier, VP of Eng/Ops
(Mathieu.fournier@rockpointgs.com)
Rockpoint Gas Storage
400, 607 – 8th Avenue S.W.
Calgary, Alberta, Canada T2P 0A7

GI-2017-11-WGS36-08

SUBJECT: General Order 112-F Transmission Integrity Management Program (TIMP) Closure
Letter for Wild Goose Gas Storage

Dear Mr. Fournier:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission (Commission) reviewed Wild Goose Gas Storage's (WGS's) response letter and associated attachments dated January 12, 2017 that addressed the findings identified during the General Order (GO) 112-F Transmission Integrity Management Program (TIMP) Inspection conducted November 6-9, 2017.

A summary of the inspection findings documented by SED, WGS's response to our findings, and SED's evaluation of WGS's response for each identified violation and recommendation is attached to this letter.

This letter serves as the official closure of the 2017 Inspection of WGS's TIMP program.

If you have any questions, please contact Paul Penney at (415) 703-1817 or by email at Paul.Penney@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Dennis Lee".

Dennis Lee, P.E.
Program and Project Supervisor
Gas Safety and Reliability Branch
Safety and Enforcement Division

Enclosure: Summary of Inspection Findings

cc: Gary Theberge, Rockpoint Gas Storage (Gary.Theberge@rockpointgs.com)
Pat Baynard, Rockpoint Gas Storage (Patrick.Baynard@rockpointgs.com)
Dennis Lee, SED (Dennis.Lee@cpuc.ca.gov)
Nathan Sarina, SED (Nathan.Sarina@cpuc.ca.gov)
Victor Muller, SED (Victor.Muller@cpuc.ca.gov)
Richard Boakye Yiadom, SED (Richard.BoakyeYiadom@cpuc.ca.gov)

SUMMARY OF INSPECTION FINDINGS

1. Protocol Area A: Identify HCAs

A.01.a: Verify the operator's integrity management program includes documented processes on how to implement methods (1) and (2) in order to identify high consequence areas. [§192.905(a)]

Issues Identified

RECOMMENDATION: Revise the WGS TIMP Plan, Section 3.1.4 to align the language with GO 112-F as it relates to when method 1 or method 2 may be used.

WGS's Response:

WGS agrees with SED's finding. During discussion with SED, it was confirmed that Method 2 can only be utilized for 12" diameter pipe and smaller. Section 3.1 of the WGS IMP, "HCA Identification Method" has been revised by removing section 3.1.4, which previously made reference to utilization of Method 2. Since WGS pipelines are all greater in size, Method 1 must be the only process used for identifying a high consequence area. This point has been further reinforced in section 3.1.1 in the WGS IMP. Please refer to attached copy.

SED's Conclusion:

WGS's response meets the intent of this recommendation. In addition, in Section 3.1.1, WGS references GO112-F in explaining the restriction on using method 2.

2. Protocol Area B: Baseline Assessment Plan

We are past the baseline period. This Protocol Area was skipped.

3. Protocol Area C: Identify Threats, Data Integration, Risk Assessment

C.01.a. If the operator is following the prescriptive or performance-related approaches, verify that the following categories of failure have been considered and evaluated: [§192.917(a) and ASME B31.8S-2004, Section 2.2]

- i. external corrosion,
- ii. ...
- x. cyclic fatigue or other loading condition [§192.917(e)(2)],
- xi. all other potential threats.

Issues Identified

VIOLATION: WGS needs to add more of a justification for the cyclic fatigue threat. WGS should include references to the IM FAQs and generic studies such as "Evaluating the stability of manufacturing and Construction defects in Natural Gas Pipelines" or "Basics of Metal Fatigue in Natural Gas Pipeline Systems – A Primer for Gas Pipeline Operators", both reports by John Kiefner.

WGS's Response:

WGS agrees with SED's finding. On December 5, 2017, WGS performed a further review of cyclic fatigue and the risk of such a situation occurring to the 30" pipeline.

Two papers, written by John Kiefner were reviewed and points addressed during WGS's discussion:

- a. "Basics of Metal Fatigue in Natural Gas Pipeline Systems - A Primer for Gas Pipeline Operators"
J. Kiefner/ M Rosenfeld, June, 2006
- b. "Evaluating the Stability of Manufacturing and Construction Defects in Pipelines"
J. Kiefner/ INGAA, April 27, 2007

In addition, WGS reviewed the industry paper titled, "Fatigue Considerations for Natural Gas Transmission Pipelines", that was submitted to INGAA by BMT Fleet Technology on June 30, 201-6:
<http://www.ingaa.org/File.aspx?id=19846>

"PHMSA Gas Transmission Integrity Management: FAQs" were reviewed to identify any subject matter questions / answers that were applicable (FAQ#78 Risk Ranking, FAQ#166 Subject Matter-Expert Qualification).

Attached please find an updated copy of the cyclic fatigue risk assessment, which provides a more thorough overview of the mitigative measures that are currently in place. After completing the review, it is WGS's belief that the risk level should remain at the same level, and that the current controls in place are adequate.

SED's Conclusion:

WGS's response adequately meets SED's intent in having WGS analyze the cyclic fatigue threat in more detail.

C.01.c. Verify that the operator's threat identification has considered interactive threats from different categories (e.g., manufacturing defects activated by pressure cycling, corrosion accelerated by third party or outside force damage) [ASME B31.8S-2004, Section 2.2].

Issue Identified

RECOMMENDATION: Add extra detail to the WGS IMP plan, Section 4.1.3, for how interactive threats are considered and documented.

WGS's Response:

WGS agrees with SED's finding. Section 4.1.3 of the IMP has been edited by specifically identifying what steps will be performed when evaluating interactive threats. Please refer to attached copy of the WGS IMP.

SED's Conclusion:

The extra detail in section 4.1.3 meets the intent of this recommendation.

C.02.b. Verify that the operator has assembled data sets for threat identification and risk assessment according to the requirements in ASME B31.8S-2004, Section 4.2, ASME B31.8S-2004, Section 4.3, and ASME B31.8S-2004, Section 4.4. At a minimum, an operator must gather and evaluate the set of data specified in ASME B31.8S-2004, Appendix A (summarized in ASME B31.8S-2004, Table 1) and consider the following on covered segments and similar non-covered segments [§192.917(b)]:

- i. Past incident history
- ii. Corrosion control records
- iii. Continuing surveillance records
- iv. Patrolling records
- v. Maintenance history
- vi. Internal inspection records
- vii. All other conditions specific to each pipeline.

Issue Identified

RECOMMENDATION: According to the WGS IMP, Section 4.2.3, WGS tabulates the data in the Master Data Set spreadsheet. Add language to reflect this protocol question, items i-vii into Section 4.2.3.

WGS's Response:

WGS agrees with SED's finding. Section 4.2.3 of the IMP has been edited stating that WGS will gather and evaluate data as specified in ASME B31.8S-2004, Appendix A, and ensure this is performed in advance of the annual risk assessment. The specific requirements for data collection have been identified within this section of the IMP. Please refer to attached copy of the WGS IMP.

SED's Conclusion:

WGS's response meets the intent of this recommendation, listing items i-vii above and identifying the data sources where each category of information can be found.

C.02.f. Verify that individual data elements are brought together and analyzed in their context such that the integrated data can provide improved confidence with respect to determining the relevance of specific threats and can support an improved analysis of overall risk. [ASME B31.8S-2004, Section 4.5]. Data integration includes:

- i. A common spatial reference system that allows association of data elements with accurate locations on the pipeline [ASME B31.8S-2004, Section 4.5];
- ii. Integration of ILI or ECDA results with data on encroachments or foreign line crossings in the same segment to define locations of potential third party damage [§192.917(e)(1)].

Issue Identified

RECOMMENDATION: Update the MDS01 form, row 8 to include a follow up action to update the MDS with encroachments.

WGS's Response:

WGS agrees with SED's finding. Row 9 (previously Row 8) of form MDS-01, has been updated with statement requiring that the date of occurrence, short description of event, and location be identified in MDS sections' "Ongoing Monitoring" and "Activity History" when an overbuild, encroachment, or third party activity in proximity to the pipeline occurs. Please refer to attached copy of form MDS-01, and the MDS for further detail.

SED's Conclusion:

WGS's response meets the intent of this recommendation.

4. Protocol Area D: DA Plan

N/A

5. Protocol Area E: Remediation

No Issues Identified

6. Protocol Area F: Continual Evaluation and Assessment

No Issues Identified

7. Protocol Area G: Confirmatory DA

N/A

8. Protocol Area H: Preventative and Mitigative Measures

H.01.a. Verify that the process for identifying additional measures is based on identified threats to each pipeline segment and the risk analysis required by §192.917. [Note: Protocol H.08 addresses the implementation decision process for additional preventive and mitigative measures.] [§192.935(a)]

Issue Identified

RECOMMENDATION: Add an additional column to the Risk Assessment spreadsheet (HCA-01) to identify potential additional mitigative measures.

WGS's Response:

WGS agrees with SED's finding. Refer to attached copy of form "WGS IMP Form RA-01 Risk Assessment Template", which now includes a column titled "Potential Additional Mitigation Measures Under Consideration". These additional mitigative measures will be considered during the next annual risk assessment I review.

SED's Conclusion:

WGS's response meets the intent of this recommendation.

H.08.a. Verify that a systematic, documented decision-making process is in place to decide which measures are to be implemented, involving input from relevant parts of the organization such as operations, maintenance, engineering, and corrosion control. [§192.935(a)]

Issue Identified

RECOMMENDATION: Put additional general language in Section 6 describing the decision making process.

WGS's Response:

WGS agrees with SED's finding. Section 6.1 of the IMP has been edited by providing a list of steps that will be followed to help identify additional preventive and mitigative measures. This will aid with determination of what actions can / will be taken to minimize the risk of a particular incident from occurring. Please refer to attached copy of the WGS IMP.

SED's Conclusion:

WGS's response meets the intent of this recommendation by providing detailed language for the decision making process.

9. Protocol Area I: Performance Measures

I.01.b. Verify the process to evaluate IM program effectiveness includes an adequate set of performance metrics to provide meaningful insight into IM program performance.

Issue Identified

RECOMMENDATION: Consider "Process/ Activity" and "Operational" metrics to include into WGS's performance metrics. See B31.8S-2004, Sections 9.2.1 and 9.2.2 for details.

WGS's Response:

WGS agrees with SED's finding. Additional performance measures have been added to the "WGS IMP QA-03 Performance Measures Template" to help identify if any anomalies / patterns exist that have potential to impact the safety integrity / integrity of the pipeline. New metrics related to operational / process activity have been incorporated into the template. Some of these include CP system performance, ILI temperature and cleaning pig run results, SCADA system failures, over pressure incidents, operating pressure range, right-of-way encroachments, third party use of 811, near misses related to incorrect procedures. Please refer attached copy of form WGS IMP QA-03 for further detail.

SED's Conclusion:

WGS's response meets the intent of this recommendation by providing additional metrics in addition to the four overall performance metrics and the nine threat specific metrics identified in B31.8S-2004, Section 9.

J.01.a Verify that the following records, as a minimum, are maintained for the useful life of the pipeline: [§192.947, ASME B31.8S-2004, Section 12.1 and ASME B31.8S-2004, Section 12.2(b)(1)]

- i. A written integrity management program [§192.947(a)]
- ii. Threat identification and risk assessment documentation per §192.917 [§192.947(b)]
- iii. A written baseline assessment plan per §192.919 [§192.947(c)]
- iv. Documents to support any decision, analysis, and process developed and used to implement and evaluate each element of the baseline assessment plan and integrity

- management program. Documents include those 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 of the program elements [§192.947(d)]
- v. Training program documentation and training records per §192.915 [§192.947(e)]
 - vi. Remediation schedule and technical basis documentation per §192.933 [§192.947(f)]
 - vii. Direct assessment plan documentation per §192.923 through §192.929 [§192.947(g)]
 - viii. Confirmatory assessment documentation per §192.931 [§192.947(h)]
 - viii. Documentation of Notifications to PHMSA or State/Local Regulatory Agencies. [§192.947(i)]

Issue Identified

RECOMMENDATION: Expand on the training requirements for each category in 192.915.

WGS's Response:

WGS agrees with SED's finding. Section 8.4 of the IMP has been edited by providing greater detail as to the requirements for personnel qualification and training. Each of the categories, in reference to 49CFR 192.915, have been addressed. Please refer to attached copy of the WGS IMP.

SED's Conclusion:

WGS's response meets the intent of this recommendation.

10. Protocol Area J: Record Keeping

K.02.c. Verify the following are provided for by the change procedures: [ASME B31.8S-2004, Section 11(a)]

Issue Identified

RECOMMENDATION: Add "Time Limitations" to the MOC form by defining the "Priority", and the timeline for the priority.

WGS's Response:

WGS agrees with SED's finding. The bottom of page 1 in the MOC formulas been modified to include a section that asks for "Priority (H/M/L)", and "Scheduled Target Date to Implement the Proposed Change". Please refer to attached copy of the MOC.

SED's Conclusion:

WGS's response meets the intent of this recommendation.

11. Protocol Area K: Management of Change (MOC)

No Issues Identified

12. Protocol Area L: Quality Assurance

No Issues Identified

13. Protocol Area M: Communications Plan

No issues identified

14. Protocol Area N: Submittal of Program Documents

No issues identified