



ORBIT GAS TRANSMISSION, INC. 

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September 21, 2022

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

RE: Notice of Amendment: CPF 1-2022-065-NOA
Revised Orbit Response

Dear Mr. Burrough:

This is in response to the subject notice to Orbit dated August 18, 2022 with responses due no later than September 17, 2022 (30 days). Orbit's first response was issued per its letter dated September 6, 2022. However, Orbit misinterpreted the regulations and this was discussed with PHMSA auditing team via a Teams call on September 21 where they clarified to Orbit the full and true meaning of the regulations subject to these NOAs. Below are Orbit's revised responses.

NOA 1

RE: API RP 1171, Section 9.3.2: "the operator shall monitor for presence of annular gas measuring and recording annular pressure and/or annular gas flow."

The inspection results indicate Century Aluminum's SIMP plan was reviewed and did not include provisions for measuring and recording annular pressure and/or annular gas flow.

Orbit Response: Orbit discussed this issue with the PHMSA inspection team and described that all four storage wells do not produce through tubing and this is described in the SIMP plan Sec. 2.4 and is shown in the well drawings in Appendix 1 of the SIMP plan. The wells produce through the casing and therefore an "annulus" does not physically exist between a tubing and the casing, and therefore a tubing annulus cannot be measured.

However there does exist an annulus between the production casing and the surface casing, albeit filled with cement. Per the typical wellhead drawing provided, the surface casing does not protrude above the ground and this annulus is cemented to the top. There are no fittings or plugs allowing the direct measurement of any gas that may migrate up from a lower production casing

leak and enter this annulus. However, any gas that does penetrate this area should present itself at the surface and be detectable via Orbit's current leak detection surveys described in the SIMP plan and results provided in Appendix 5. To focus more directly on gas in this annulus area, Orbit will add leak surveys to the top of this annulus area. This new procedure is described in the SIMP sections 2.4, 4.1, 4.3 and to the ERP section 3.6.7. and also in Orbit's O&M manual section 3.4 and to table 3.6A. These are attached with the new language in blue.

NOA 2

RE: API RP 1171, Section 9.3.2: "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."

The inspection results indicate Century Aluminum's SIMP plan was reviewed and failed to establish an annual frequency requirement for testing of the operation of the master valve and wellhead isolation valve for proper function and ability to isolate the well.

Orbit Response: A wellhead sketch of the wells is provided in Appendix 2 of the SIMP plan: It shows no master valves on the wells, only a wellhead isolation valve. These well valves are also shown in the SIMP Figure 2.1B. Century's SIMP plan in Section 2.5 references comprehensive procedures to ensure safe and reliable operations that are per Orbit's Operations and Maintenance Manual and that manual was provided to the inspection team. The SIMP plan identifies in its ERP Section 1.3 each wellhead valve as key valves. Orbit's O&M manual page 5 states it applies to the Century (CAS) storage field and Section 3.14 describes the testing of those valves and timing (intervals not exceeding 15 months, but at least once each calendar year). Annual test records of these valves for 2019, 2020 and 2021 were provided to the inspection team via email on 12-9-21.

However, these tests were carried out per typical key transmission valve procedures that allow for only partial operation to satisfy the requirement. RP1171 states that the valve must be tested to also prove proper ability to "isolate" the well, meaning the procedure for testing the well key valve must involve closing the valve fully and evaluating the valve's ability to in fact isolate the well's flow. These well key valves are referred to in the SIMP ERP in table 1.2.1, section 1.3 schematic and subsequent sub-sections and listed in table 6.2.1. The test procedures are added to Orbit's O&M manual section 3.14. These are attached with the new language in blue.

NOA 3

RE: API RP 1171, Section 9.3.2: "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."

The inspection results indicate Century Aluminum's SIMP plan was reviewed and did not include a process for determining threshold levels from well integrity evaluation and from risk assessment. The SIMP also failed to include a process for evaluating each annular gas occurrence that exceeds operator- or regulator-defined thresholds.

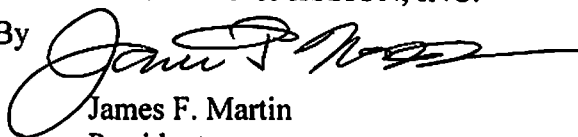
Orbit Response: As discussed in NOA 1, these wells have no tubing annulus and therefore a tubing annular gas occurrence cannot physically ever develop and a threshold is moot.

However, there does exist an annulus between the production casing and the surface casing. Orbit has amended its procedures to focus on detecting any leaks that may emit from the top of this annulus at ground level, as described in NOA 1. By the wells' design, any leaking gas cannot be captured and enclosed emitting from this annulus so, therefore, an appropriate pressure threshold cannot be defined. What is appropriate is to establish that "any" gas leak detection meets or exceeds the threshold of investigation. This new definition and procedures have been added to the SIMP and to Orbit's O&M manual in the areas described in NOA 1.

I sincerely hope the above addresses PHMSA's concerns with Century's plans and procedures managed by Orbit. Please advise if more clarification is needed on any of these issues.

Very truly yours,
ORBIT GAS TRANSMISSION, INC.

By

A handwritten signature in black ink, appearing to read "James F. Martin", with a long horizontal flourish extending to the right.

James F. Martin
President