



May 18, 2026

(Via Email Only)

US Department of Transportation
Pipeline and Hazardous Materials Safety Administration
840 Bear Tavern Road, Suite 300
West Trenton, New Jersey 08628
ATTN: Robert Burrough

Re: National Fuel Gas Supply Corporation's Response to Amended Notice of Amendment; CPF 1-2026-020-NOA; Bennington and Holland UNGS

Dear Mr. Burrough:

National Fuel Gas Supply Corporation ("National Fuel" or "the Company") is providing this correspondence in response to the Amended Notice of Amendment ("NOA"), CPF 1-2026-020-NOA, received from the Pipeline and Hazardous Materials Safety Administration ("PHMSA") on March 19, 2026. This response addresses an alleged inadequacy related to National Fuel's written maintenance procedures for isolation valves, which PHMSA observed during an inspection of National Fuel's Bennington and Holland Storage Fields between August 26–28, 2025. The Company and its employees are committed to the highest levels of system safety, and the Company would like to take this opportunity to respectfully respond to PHMSA regarding its concerns.

PHMSA asserts that National Fuel's written procedures did not establish adequate maintenance procedures for isolation valves in accordance with section 9.3.2 of API Recommended Practice ("RP") 1171, as incorporated by reference in 49 CFR § 192.12(b)(2). Specifically, the NOA alleges that:

1. Records from the 2024 isolation tests for Wells 1550-I, 1533-I, 1462-I, and 1456-I demonstrate, in PHMSA's view, that National Fuel's then-current 75% threshold did not ensure well isolation.
2. A test permitting a pressure change of up to 75% constitutes a "leak allowance that obscures inadequate valves" rather than a demonstration of the ability to isolate the well.
3. National Fuel's valve maintenance program was insufficiently detailed because it did not establish specific written procedures for effective valve repair and replacement nor documentation standards for those activities.

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National Fuel's Response

Summary:

1. National Fuel believes there may be a misunderstanding in that PHMSA appears to be comparing test results from 2024 Company isolation tests with an actionable leakage threshold that was not established by the Company until 2025.
2. National Fuel made several updates to its procedures as a result of this audit, which were implemented on March 24, 2026. In response to PHMSA's NOA, National Fuel now has additional pending updates to its procedures, which are enclosed with this response, to remove the phrase "leak allowance" and similar terminology to better describe the intent of the isolation test procedure. National Fuel does not believe that the established threshold obscures valve deficiencies but recognizes that the prior terminology and explanation of the threshold could be improved in its procedures and has made changes accordingly.
3. As noted above and as committed to in the Written Preliminary Findings response, dated December 10, 2025, National Fuel has already updated its procedures to detail the process of, and documentation required, for valve maintenance following isolation testing.

Background

On October 16, 2025, in response to a formal data request from PHMSA, National Fuel submitted clarifications, timelines, and supporting information regarding its Valve Isolation Testing Procedure, as documented in the Company's then-current Storage Integrity Management Plan ("STIMP").

National Fuel explained that as part of the March 3, 2025 revision to the STIMP, it established an actionable pressure recovery threshold of 75% (expressed as the percentage of pressure recovered, within the closed space downstream of the closed valve after 5 minutes following the application of a minimum 25% pressure differential across the valve sealing surface). This process is depicted in Diagram 1 and Diagram 2 below. That revision also required additional investigation when pressure recovery exceeded the threshold and required valves that did not pass repeat testing be placed on a risk-prioritized replacement list. In the same revision—and in the absence of a definition in API RP 1171—National Fuel defined valve isolation as "the ability for a valve to limit the flow of gas from the well to the pipeline system within a defined safety threshold."

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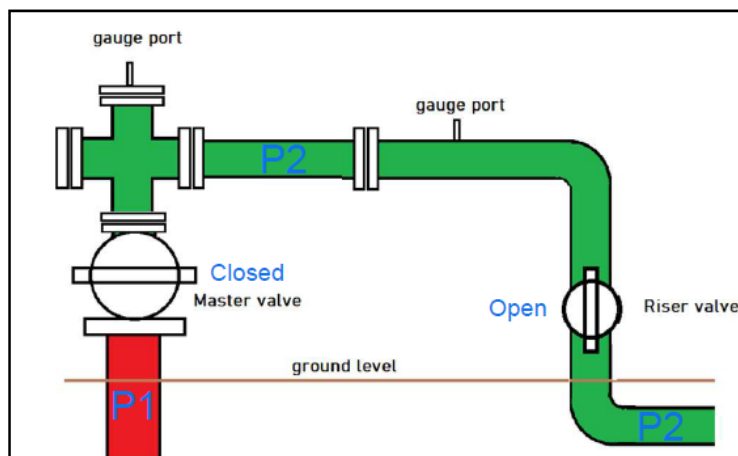


Diagram 1 – Configuration to apply a 25% pressure differential across the Master Valve (Pressure P2 25% less than pressure P1)

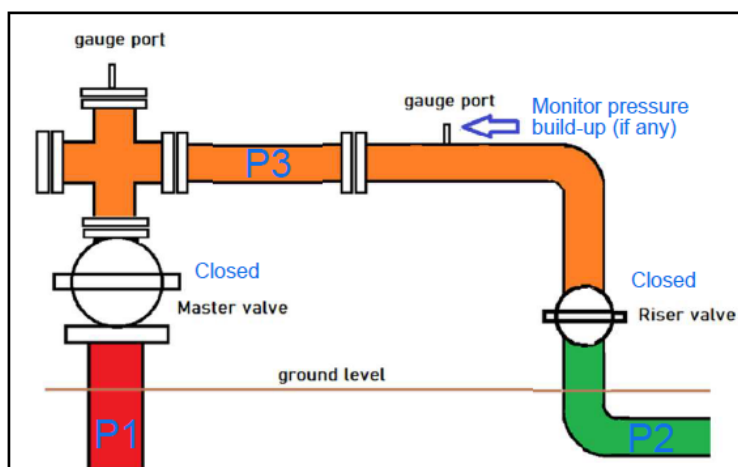


Diagram 2 – Configuration for 5-minute gauging period (Monitor pressure P3 for any pressure build-up)

In the NOA, PHMSA references National Fuel's *Storage Integrity Management Plan V. -2025.3* (7/29/2025) ("V. 2025.3") and notes that records for 2024 isolation test for Wells 1550-I, 1533-I, 1462-I, and 1456-I revealed that the results were not aligned with the 75% threshold in the procedures. National Fuel would like to [re]clarify that the 2024 testing and results were aligned with, and followed, the version of the Company procedure in place at the time the 2024 testing was conducted. The 75% actionable pressure recovery threshold, specified in V. 2025.3, was not yet in place.

In parallel with establishing an actionable threshold in V. 2025.3, National Fuel implemented a valve replacement program to address those valves identified through isolation testing and related evaluations. As detailed in Item 1e of National Fuel's October 16, 2025 data response, certain

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valves replaced in 2024 and 2025 were replaced based on the Company's evaluation of the 2024 test results and subsequent follow-up. Valves identified for replacement generally exhibited significantly higher-pressure recovery than the valves associated with the wells referenced in the NOA, reflecting the Company's risk-based replacement prioritization.

Furthermore, as acknowledged in National Fuel's Written Preliminary Findings response, dated December 10, 2025, National Fuel committed to enhancing its documentation of valve repair and replacement activities and to developing more detailed valve maintenance procedures as part of its continuous improvement efforts. See below for a description of such developments:

Program Updates

In a recently implemented update to the STIMP, *Storage Integrity Management Plan V. 2026.1* (3/24/2026) ("V. 2026.1"), National Fuel revised STIMP Section 11.3.2 (Valve Isolation Testing Procedure), Appendix A9 Valve Isolation Testing Procedure, and added Form F8 Valve Isolation Retesting Data Sheet to further clarify test objectives, define follow-up actions and timelines, and strengthen documentation and recordkeeping controls. These updates have been implemented, and are provided as Exhibit A (STIMP 11.3.2), Exhibit B (STIMP Appendix A9), and Exhibit C (STIMP Form F8).

Key elements of these updates are included below:

- Clarified that valve isolation testing is actually a test of pressure buildup over a timed period intended to evaluate the ability of the valve to isolate the well under defined test conditions, rather than a "leak-by" acceptance test. (Exhibit A and Exhibit D)
- Defined the actionable pressure buildup threshold as pressure buildup downstream of the closed valve equal to or greater than 75% of the initial pressure differential imposed across the closed valve during the test (as calculated in accordance with the procedure) to trigger investigation and retesting. (Exhibit A)
- Required investigation and retesting for valves exhibiting pressure buildup equal to or greater than the actionable threshold, to be completed within 90 days, in accordance with the Valve Retesting Procedure (Exhibit B).
- Implemented a handheld application as the system of record for initial valve isolation testing data collection and retention. (Exhibit A)
- Adopted Form F8, Valve Isolation Retest Form (Exhibit C), to document all retesting activities in a standardized format. (Exhibit A)
- Used a Valve Replacement and Repair List to document valve repair and replacement activities, including traceability to test results, work completion, and supporting records. (Exhibit A)

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In addition to the procedure changes implemented with V. 2026.1 in March of this year, and after reviewing the NOA, National Fuel proposes additional updates to remove the term “leak-by” from V.2026.1 to better clarify the scope and intent of the isolation test. Redlines of these additional proposed changes are provided as Exhibit D (STIMP 11.3.2) and Exhibit E (STIMP Appendix A9).

Clarification of Isolation Threshold

National Fuel would like to provide further clarification, and offers additional explanation, of the actionable threshold established for isolation testing below, explaining why the Company believes it meets regulatory requirements and does not obscure valve deficiencies.

API RP 1171 Framework

API RP 1171 (first and second editions) require that operators test the master valve and wellhead pipeline isolation valve “for proper function and ability to isolate the well” (Section 9.3.2), but does not prescribe a specific acceptance threshold, allowable pressure fluctuation, or leak-by rate. National Fuel therefore defined “valve isolation” and established actionable criteria within its STIMP.

Practical Application

A pressure-based field test on an in-service wellhead isolation valve must be interpreted using defined acceptance and follow-up criteria; a non-zero threshold does not, by itself, render a test invalid or inconsistent with the objective of demonstrating isolation capability under the test conditions. National Fuel established the threshold based on review of historical isolation test data as well as practical applications based on experience gained through operating storage assets for more than 100 years, successfully isolating wells to safely disconnect from the pipeline, and control, including performing downhole inspections. Furthermore, the pressure recovery percentage threshold directly correlates to the parameters of the test, including the capacity of the space being monitored, the imposed pressure differential, and the duration of the test. National Fuel has evolved the well isolation testing procedure over many years to not only develop a test that verifies the effectiveness of isolation, but one that also reduces emissions. National Fuel believes the threshold established for the parameters of the test satisfies the requirements of the RP.

Industry Context

National Fuel is not aware of an industry standard that specifies a universal allowable pressure buildup or flow-rate threshold for wellhead isolation valves in underground storage facility service. By analogy, API RP 14B includes leakage-rate acceptance criteria for subsurface safety valves; National Fuel references this guidance only to provide context for interpreting its calculated leak-by values, not because National Fuel relied on this guidance to develop its isolation valve criteria.

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National Fuel reviewed the 2024 isolation testing results for Wells 1550-I, 1533-I, 1462-I, and 1456-I and evaluated available surface facility data for Well 1550-I (the well with the highest observed pressure recovery among the four). Using the five-minute pressure recovery data, National Fuel calculated an estimated leak-by rate of 3.03 SCF/min, which is substantially lower than the acceptable leakage rate referenced in API RP 14B for subsurface safety valves (the calculated leakage for Well 1550-I was only about 20% of the acceptable leakage rate). These results illustrate that observed pressure recovery is influenced by test volume and configuration and, in this instance, does not indicate a loss of effective isolation under the defined test conditions.

Confidential Treatment of Responsive Materials

The information enclosed with this correspondence is protected from release to the public pursuant to Freedom of Information Act ("FOIA"). The enclosed materials contain confidential information that, if disclosed, may cause serious injury to the Company, its customers, or to the Company's counterparties. National Fuel, by and through its undersigned representative, hereby submits this correspondence in support of the Company's request to protect from public disclosure confidential information. The responsive materials accompanying this correspondence, which have been marked with the applicable FOIA protection contain confidential commercial information for which National Fuel is hereby seeking protection ("Confidential Information").

The Confidential Information should be protected from public disclosure for the following reasons:

- **Exhibit A, Exhibit B, Exhibit C, Exhibit D, and Exhibit E** - These materials contain information that qualify as confidential, commercial information, which is treated as private and submitted under the assurances of privacy pursuant to federal statute 5 U.S.C. § 552(b)(4).

The Confidential Information is not, to the Company's knowledge, publicly available and either contains trade secrets, is proprietary, or is otherwise confidential in nature. As such, National Fuel respectfully requests that PHMSA maintain the confidential treatment designated on each, and, in the event the Confidential Information becomes subject to a FOIA request, National Fuel respectfully reserves the right to provide a redacted version of the Confidential Information before this response or the enclosed materials are released to the public.

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National Fuel appreciates the opportunity to enhance its procedures as well as PHMSA's consideration of this response and the associated valve maintenance program updates. National Fuel remains committed to maintaining procedures that satisfy the requirements of 49 CFR Part 192 and API RP 1171 and will continue to evaluate isolation valve performance and documentation practices as part of its storage integrity management program. If PHMSA would like any additional information or would find a technical discussion helpful, National Fuel is available at PHMSA's convenience.

Respectfully submitted,

Signed by:

Ramon P. Harris, Jr.

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Ramon P. Harris, Jr.

Vice President and Chief Safety Officer
National Fuel Gas Supply Corporation