



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

12300 W. Dakota Ave., Suite 110
Lakewood, CO 80228

**NOTICE OF PROBABLE VIOLATION
and
PROPOSED COMPLIANCE ORDER**

VIA ELECTRONIC MAIL TO: mitch.samuelian@nrgenergy.com

December 10, 2024

Mr. Mitchell Samuelian
General Manager
NRG Energy Services
100302 Yates Well Rd.
Nipton, CA 92364

CPF 5-2024-026-NOPV

Dear Mr. Samuelian:

On October 12, 2023, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA), completed an onsite inspection pursuant to Chapter 601 of 49 United States Code, of NRG Energy Services (NRG) Ivanpah fuel gas line which supplies fuel gas to the Ivanpah Solar Power Facility in Nipton, California.

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

1. § 191.17 Transmission systems; gathering systems; liquefied natural gas facilities; and underground natural gas storage facilities: Annual report.

(a) *Pipeline systems* —

(1) *Transmission, offshore gathering, or regulated onshore gathering.* Each operator of a transmission, offshore gathering, or regulated onshore gathering pipeline system must submit an annual report for that system on DOT Form PHMSA F 7100.2-1. This report must be submitted each year, not later than March 15, for the preceding calendar year.

NRG failed to provide an accurate DOT Form PHMSA F 7100.2-1 as required since the commissioning of the Ivanpah system in 2014. The DOT Form PHMSA F 7100.2-1 requires an operator to list the number of miles the pipeline totals in various sections throughout the report. The Ivanpah fuel gas line is a transmission pipeline that originates at the Kern River-Ivanpah Valve Station facility where it takes gas from the Kern River transmission line and transports it to three separate units at the Ivanpah solar electric power generation facility. Specifically, three sections of 4-inch diameter lateral lines, downstream of the 6-inch Ivanpah transmission line, have not historically been reported as DOT regulated pipelines. Upon review of the Piping & Instrumentation Diagrams (P&IDs) and during the field inspection, PHMSA observed that the 4-inch laterals for Units 2 and 3, and piping at Unit 1 from the road berm to the Unit 1 flow meter, were incorrectly classified as unregulated facility piping. As such, NRG did not consider these segments to be PHMSA jurisdictional transmission pipelines. As a result, these sections of pipeline were not reflected on any of NRG's annual reports. The missing mileage was estimated to be approximately 1.7 miles.

PHMSA's jurisdictional boundary extends to the point where transportation ends, even if the point is on plant property. If a measurement meter is on the plant grounds, the end-point would be the meter, and at Units 1, 2 and 3, this point is at the meters that measure the flow volumes delivered to each unit. This includes the pigging facilities which are within the transmission pipeline system.

Due to the aforementioned mileage inaccuracies discovered, NRG failed to accurately report the regulated onshore transmission line mileage of its Ivanpah system within the required annual reports in violation of § 191.17(a)(1).

2. § 191.29 National Pipeline Mapping System.

(a) Each operator of a gas transmission pipeline or liquefied natural gas facility must provide the following geospatial data to PHMSA for that pipeline or facility:

(1) Geospatial data, attributes, metadata and transmittal letter appropriate for use in the National Pipeline Mapping System . Acceptable formats and additional information are specified in the NPMS Operator Standards Manual available at www.npms.phmsa.dot.gov or by contacting the PHMSA Geographic Information Systems Manager at (202) 366-4595.

(2) ...

(b) The information required in paragraph (a) of this section must be submitted each year, on or before March 15, representing assets as of December 31 of the previous year. If no changes have occurred since the previous year's submission, the operator must comply with the guidance provided in the NPMS Operator Standards manual available at www.npms.phmsa.dot.gov or contact the PHMSA Geographic Information Systems Manager at (202) 366-4595.

NRG failed to provide accurate geospatial data to PHMSA appropriate for the use of the National Pipeline Mapping System (NPMS) since commissioning of the Ivanpah pipeline system in 2014. Specifically, NRG submitted data that contained inaccuracies regarding the location of the pipeline's diameter change.

During inspection PHMSA discovered in the field inaccuracies in the location data of the pipeline's change in pipeline diameter when compared to NPMS data. Field observations by the PHMSA inspector determined that the location of the diameter reduction from a 6-inch diameter pipe to a 4-inch diameter pipe was actually located within pig launcher station #4, approximately 4.4 miles downstream from the transfer point between the Kern River pipeline and the Ivanpah pipeline. However, the NPMS geographical data of this pipeline showed the reducer was located approximately 5 miles downstream from the transfer point between the Kern River pipeline and the Ivanpah pipeline. The estimated geospatial difference from the actual reducer location to the reported NPMS reducer location was approximately 3,000 feet. The NPMS Operator Standards manual requires a plus or minus 500-foot accuracy.

Due to the aforementioned geospatial inaccuracies discovered, NRG failed to accurately report regulated onshore transmission line mileage to the NPMS in violation of § 191.29(a)(1).

3. § 192.199 Requirements for design of pressure relief and limiting devices.

Except for rupture discs, each pressure relief or pressure limiting device must:

(a) ...

(h) Except for a valve that will isolate the system under protection from its source of pressure, be designed to prevent unauthorized operation of any stop valve that will make the pressure relief valve or pressure limiting device inoperative.

NRG failed to prevent possible unauthorized operation of a valve affecting its emergency shut-down (ESD) valve. Specifically, during the field inspection, PHMSA observed an isolation valve on the sensing line to the ESD that had a manual operating lever that was unsecured and within an area openly accessible to the public. Unauthorized closure of this isolation valve would prevent the ESD's pilot valve from sensing downstream pressure, thereby defeating the ESD valve's ability to actuate during an overpressure emergency event.

NRG failed to prevent unauthorized operation of a pressure safety device in violation of § 192.199(h).

4. **§ 192.317 Protection from hazards.**

(a) ...

(b) Each aboveground transmission line or main, not located offshore or in inland navigable water areas, must be protected from accidental damage by vehicular traffic or other similar causes, either by being placed at a safe distance from the traffic or by installing barricades.

NRG failed to protect the aboveground portion of the Ivanpah transmission line from accidental damage by vehicular traffic or other similar causes. Specifically, outside of the Kern River-Ivanpah Valve Station facility, the aboveground portion of the Ivanpah pipeline system was unprotected and observed to be susceptible to vehicle strikes. During the field inspection, PHMSA observed the aboveground portion of the Ivanpah pipeline system to be located within approximately 20 feet of the public access road and located at a curve in the road. NRG had not installed barricades to prevent accidental damage to the pipeline by a vehicle or other similar causes.

NRG therefore, failed to protect its aboveground transmission line from accidental damage by vehicular traffic or similar causes in violation of § 192.317(b).

5. **§ 192.465 External corrosion control: Monitoring and remediation.**

(a) ...

(d) Each operator must promptly correct any deficiencies indicated by the inspection and testing required by paragraphs (a) through (c) of this section. For onshore gas transmission pipelines, each operator must develop a remedial action plan and apply for any necessary permits within 6 months of completing the inspection or testing that identified the deficiency. Remedial action must be completed promptly, but no later than the earliest of the following: prior to the next inspection or test interval required by this section; within 1 year, not to exceed 15 months, of the inspection or test that identified the deficiency; or as soon as practicable, not to exceed 6 months, after obtaining any necessary permits.

NRG failed to take action to correct identified deficiencies within the cathodic protection (CP) system. Specifically, consistent low CP potentials were measured at Test Station #2 of the 6-inch mainline and NRG did not remediate or plan to remediate the inadequate CP. PHMSA reviewed records from an External Corrosion Direct Assessment (ECDA) on the Ivanpah pipeline system completed on December 23, 2021. The ECDA documented inadequate levels of CP from readings taken at Test Station #2.

The documents in the ECDA stated various CP readings along the pipeline were below -850mV and the CP reading around Test Station #2 was roughly -700mV. The document stated "past depolarized reading at the test stations indicate that the pipeline native readings are in the -200 mV to -350 mV range. This indicates that pipeline is still maintaining at least 400 mV or 500 mV of polarization, which greatly exceeds the 100 mV criterion for protection." PHMSA was not provided with records or other documentation substantiating the claim that adequate levels of CP

meeting the 100mV criteria were reaching the Ivanpah fuel gas line. No date was noted in the ECDA report of when the referenced depolarization survey was completed, or other supporting data was provided to PHMSA. Therefore, PHMSA was unable to verify the 100mV criteria had been met based on insufficient records documenting depolarization measurements.

The report stated the area near Test Station #2 was subsequently investigated, excavated, and repainted. CP readings improved, with new CP potential measurements in the -1.026mV range or better. However, during PHMSA's field inspection on October 12, 2023, the CP reading taken at Test Station #2 displayed a voltage potential value of -0.818 volts with protective current applied. The readings demonstrated that the Ivanpah fuel gas pipeline was again not receiving enough CP at the Test Station #2 location, to meet the minimum -850mV criteria. The operator did not provide any other form of evidence, consistent with alternative acceptable criteria noted in Appendix D of Part 192, to demonstrate adequate levels of CP were present on the pipeline. Moreover, NRG did not provide PHMSA with remediation plans regarding the CP.

Because records demonstrated inadequate CP potentials were measured at the same location near Test Station #2, before and after remediation, PHMSA determined the operator did not correct the CP deficiency identified during inspections. Therefore, NRG is in violation of § 192.465(d). Additionally, no verifiable supplementary records were provided to demonstrate the Ivanpah pipeline was still in compliance with other alternative acceptance criteria, and no plans were provided to remediate the issue.

6. § 192.603 General provisions.

(a) ...

(b) Each operator shall keep records necessary to administer the procedures established under § 192.605.

NRG failed to provide accurate construction records, maps, or drawings demonstrating valve locations along the Ivanpah pipeline, as required. Similarly, NRG failed to provide records or maps illustrating the corrosion control system, specifically, galvanic anode bed locations along the Ivanpah pipeline.

49 CFR § 192.605(b)(3) states in part, "The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations. Making construction records, maps, and operating history available to appropriate operating personnel." During the records and procedures inspection, PHMSA requested a map of the Ivanpah CP system, however no documents were provided. During the field inspection, NRG's representative did not possess a map of the CP system. PHMSA verified the existence of test stations and active anodes evidenced by obtaining field measurements taken at several test stations along the pipeline right-of-way. PHMSA was provided documentation from a 2016 installation of four anode test stations. This document stated two anode boreholes would be placed 5 feet off the pipe, however no other information was documented to illustrate the actual location of the buried anodes. PHMSA was later provided with an overhead map depicting the generic locations of each CP test station along the Ivanpah pipeline system.

PHMSA was not provided any other documentation to demonstrate the locations of buried galvanic anode beds across the Ivanpah pipeline system.

The lack of access to and availability of records, maps, or drawings was further evidenced by an emergency response training drill of 2017 that PHMSA reviewed. Documentation from that drill included testimony from employees who stated, "No maps of pipeline with valve details" and "NRG OQ Employees need to be more familiar with pipeline route & valve locations".

After PHMSA's inspection was finished, NRG provided P&IDs to PHMSA, however these records were inaccurate. Specifically, some of the valves and pipeline features on the pipeline were absent from these P&IDs. Photographic evidence taken by PHMSA showed an Emergency Slam-Shut (ESD) valve as well as four other vertical taps adjacent to the ESD at the Kern River-Ivanpah Valve Station facility. None of these features were present on P&ID 009-M6-FG-00001.

Due to NRG's inability to produce accurate construction records, maps or drawings of the Ivanpah pipeline system, NRG is in violation of § 192.603(b).

7. § 192.605 Procedural manual for operations, maintenance, and emergencies.

(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.

NRG failed to conduct annual reviews of its emergency response procedures at intervals not exceeding 15 months, as required. Specifically, during inspection, PHMSA reviewed the control room procedure regarding emergency response. PHMSA found that the procedure had not been reviewed on an annual basis by observing that the revision history log of that procedure did not contain any evidence demonstrating the procedure had been reviewed for years of 2015, 2019, 2020, 2022, and 2023.

Therefore, NRG failed to conduct a review of the control room emergency response procedures on an annual basis, at intervals not exceeding 15 months in violation of § 192.605(a).

8. § 192.615 Emergency plans.

(a) ...

(b) Each operator shall:

(1) ...

(2) Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective.

NRG failed to train emergency response personnel, as required. Specifically, during inspection, NRG could not provide any documentation of training for emergency response personnel after the Emergency Tabletop Drill from August 15, 2017.

Due to NRG's inability to produce any records, PHMSA could not verify personnel at the Ivanpah facility were properly trained for emergency response. NRG is therefore in violation of § 192.615(b)(2).

9. § 192.615 Emergency plans.

(a) ...

(c) Each operator must establish and maintain liaison with the appropriate public safety answering point (i.e., 9-1-1 emergency call center) where direct access to a 9-1-1 emergency call center is available from the location of the pipeline, as well as fire, police, and other public officials, to:

NRG failed to establish and maintain a liaison with appropriate fire, police, public officials, and utility owners, as required. Specifically, during inspection, NRG could not produce any records of communications, meetings, drills, or any other type of liaison with appropriate emergency responders within the past five years. Due to the lack of records, PHMSA could not verify liaison had been established and maintained with the appropriate emergency responders and public officials near the Ivanpah pipeline. NRG is therefore in violation of § 192.615(c).

10. § 192.616 Public awareness.

(a) ...

(d) The operator's program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities on:

(1) Use of a one-call notification system prior to excavation and other damage prevention activities;

(2) Possible hazards associated with unintended releases from a gas pipeline facility;

(3) Physical indications that such a release may have occurred;

(4) Steps that should be taken for public safety in the event of a gas pipeline release; and

(5) Procedures for reporting such an event.

NRG's public awareness program failed to educate the public, appropriate government organizations, and persons engaged in excavation activities, in multiple instances, as required.

1) NRG failed to specify to emergency responders the type of equipment required to respond to a fire. Specifically, the public awareness mailouts sent to emergency officials directed first-responders to use a "spray" to extinguish a fire. However, another section within the brochure contained language which specifically stated, "don't use water or other chemicals." Upon discussion with NRG, it was determined the intent of the brochure was to suggest the best means to extinguish a fire would be foam spray, however the brochure did not mention the use of foam.

2) NRG failed to clearly educate the public about the Ivanpah pipeline. Specifically, the public awareness mailout for the general public for year 2023 had numerous errors and inconsistencies. The title for the section "How Do I know Where The Pipeline Is Located?" was misspelled in the Spanish version of the brochure. Additionally, NRG failed to explain to the public, in both English and Spanish versions of mailers, that the Ivanpah transmission pipeline was non-odorized and therefore a leak cannot be readily detected by smell. The Spanish version for the "Right-of-Way Encroachment Prevention" section had numerous misspelled words such that the paragraph was illegible. Further, the brochure that NRG sent to the stakeholders associated with Ivanpah fuel gas line included a statement that said the, "Nippon Dynawave pipeline lies within a High Consequence Area (HCA)". This statement was referring to a different pipeline asset that had a different pipeline location and different release consequences. Moreover, the Ivanpah fuel gas line is not located in an HCA, and therefore is not under an Integrity Management (IM) program. The brochure inaccurately indicated to its audience that the Ivanpah fuel gas line is under an IM program.

Because NRG's public awareness program did not educate stakeholders of the dangers involved with the Ivanpah gas transmission pipeline as required, NRG is therefore in violation of § 192.616(d).

11. § 192.619 Maximum allowable operating pressure: Steel or plastic pipelines.

(a) No person may operate a segment of steel or plastic pipeline at a pressure that exceeds a maximum allowable operating pressure (MAOP) determined under paragraph (c), (d), or (e) of this section, or the lowest of the following:...

NRG failed to establish a Maximum Allowable Operating Pressure (MAOP), for the Ivanpah pipeline, by means consistent with the pipeline safety regulations. Specifically, the origination and determination of the MAOP value, 1,333 psi, could not be explained or demonstrated through calculations or analysis by NRG and was not commensurate to any documentation provided. Federal code requires the MAOP to be determined from the lowest of the design pressure of the weakest element in the segment, the pressure obtained by dividing the pressure to which the pipeline segment was tested after construction by the applicable factor, operating pressure records for applicable pipelines, or records of verified records of material properties. None of these aforementioned methods were consistent with the 1,333 psi MAOP value.

Due to NRG's inability to produce records for the determination of the Ivanpah pipeline's MAOP, PHMSA could not verify the MAOP of 1,333 psig was determined by the requirements of § 192.619. NRG is therefore in violation of § 192.619(a).

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed \$266,015 per violation per day the violation persists, up to a maximum of \$2,660,135 for a related series of violations. For violation occurring on or after January 6, 2023, and before December 28, 2023, the maximum penalty may not 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 \$2,391,412 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.

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to propose a civil penalty assessment at this time.

Proposed Compliance Order

With respect to items **2** and **7 through 10** pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to NRG Energy Services. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Warning Items

With respect to items **1**, **3 through 6**, and **11** 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 promptly correct these items. Failure to do so may result in additional enforcement action.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Enforcement Proceedings*. Please refer to this document and note the response options. All material you submit in response to this enforcement action may be 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).

Following your receipt of this Notice, you have 30 days to respond as described in the enclosed *Response Options*. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. The Region Director may extend the period for responding upon a written request timely submitted demonstrating good cause for an extension.

In your correspondence on this matter, please refer to **CPF 5-2024-026-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

Dustin Hubbard
Director, Western Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Enforcement Proceedings

cc: PHP-60 Compliance Registry
PHP-500 M. Yeager & B. Brown (#23-265653)
PHP-500 Marion Garcia, Operations Supervisor, Western Region
Christina (Chrissy) Villarreal, Everline Manager, christina.villarreal@everlineus.com

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to NRG Energy Services a Compliance Order incorporating the following remedial requirements to ensure the compliance of NRG Energy Services with the pipeline safety regulations:

- A. In regard to Item 2 of the Notice pertaining to inaccurate NPMS geospatial data, NRG Energy Services must resubmit its 2024 NPMS geospatial data to accurately reflect the Ivanpah fuel gas transmission pipeline system within **180** days of receipt of the Final Order and submit documentation demonstrating that this action was completed to the Western Region Director.
- B. In regard to Item 7 of the Notice pertaining to annual reviews of its emergency response procedures, NRG Energy Services must complete a review of the emergency response procedures within **60** days of receipt of the Final Order and submit documentation demonstrating that this action was completed to the Western Region Director.
- C. In regard to Item 8 of the Notice pertaining to training for emergency response personnel, NRG Energy Services must demonstrate emergency response personnel are knowledgeable regarding emergency procedures as well as provide documentation verifying the training was effective within **90** days of receipt of the Final Order. Submit documentation demonstrating that these actions were completed to the Western Region Director.
- D. In regard to Item 9 of the Notice pertaining to liaison with emergency response entities, NRG Energy Services must demonstrate liaison has been established with all appropriate fire, police, public officials, and utility owners via documented two-way communications, scheduled meetings, or planned emergency drills, and ensure liaison will be maintained with these entities within **180** days of receipt of the Final Order. Submit documentation demonstrating that these actions were completed to the Western Region Director.
- E. In regard to Item 10 of the Notice pertaining to public awareness brochures, NRG Energy Services must update and distribute the emergency responder and the public awareness mail-out brochures with consistent and accurate information within **180** days of receipt of the Final Order. Submit documentation demonstrating that this action was completed to the Western Region Director.
- F. It is requested (not mandated) that NRG Energy Services maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Dustin Hubbard, Director, Western Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with

preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.