



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

901 Locust Street, Suite 480
Kansas City, MO 64106

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

VIA ELECTRONIC MAIL TO: tbrickhouse@bepc.com; cbreiner@bepc.com;
dalej@bepc.com

June 28, 2024

Todd Brickhouse
President & CEO
Dakota Gasification Company
1717 East Interstate Avenue
Bismarck, ND 58503-0564

CPF 3-2024-036-NOPV

Dear Mr. Brickhouse:

From August 15 through 17, and August 22 through 23, 2023, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), pursuant to Chapter 601 of 49 United States Code (U.S.C.), inspected the Dakota Gasification Company's (DGC) carbon dioxide pipeline in North Dakota.

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

1. § 195.54 Accident reports.

- (a) Each operator that experiences an accident that is required to be reported under § 195.50 must, as soon as practicable, but not later than 30 days after discovery of the accident, file an accident report on DOT Form 7000-1.**

DGC failed to report three reportable accidents within the 30-day time frame required by § 195.54(a). DGC experienced three reportable events as follows:

1. Accident Report #20230084 – a release of 95 barrels of CO₂ occurred on October 5, 2021. Per § 195.54 a report was due November 4, 2021, but was not submitted to PHMSA until May 3, 2023.
2. Accident Report #20230092 – a release of 0.5 barrels of CO₂ occurred on December 10, 2021. Per § 154.54 a report was due January 9, 2022, but was not submitted to PHMSA until May 9, 2023.
3. Accident Report #20230093 – a release of 18 barrels of CO₂ occurred on June 15, 2022. Per § 195.54 a report was due July 15, 2022, but was not submitted to PHMSA until May 9, 2023.

Because of the volumes released, all three events meet the criteria for reporting specified in § 195.50(b). Therefore, DGC failed to submit its reports by the due dates required under § 195.54(a).

2. § 195.452 Pipeline integrity management in high consequence areas.

(a)

(f) ***What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:***

(1) **A process for identifying which pipeline segments could affect a high consequence area;**

(2)

(3) **An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);**

DGC's Carbon Dioxide Pipeline Integrity Management Plan (IMP), revised July 2023, did not provide adequate guidance for assessing risk on its pipeline and therefore did not comply with § 195.452(f). Specifically, the IMP established a relative risk ranking model based on a 1997 document titled "A Risk Management Tool for Establishing Budget Priorities," included as Appendix D of the IMP. This document predated the integrity management rules in Part 195 and acknowledged that it "does not provide a true risk assessment." DGC's relative risk approach did not include all relevant information and risk factors and omitted standard threat categories including natural forces, equipment failure, and incorrect operations from its calculation of a likelihood score for adverse events. In assigning a score to consequences, the model assumed that assigning a weight by class location was sufficient to account for human health and safety, ignoring the special hazards of carbon dioxide releases.

DGC's integrity management program failed to integrate all available information and to consider all relevant risk factors in its risk analysis, in violation of § 195.452(f)(1) and (3).

3. § 195.452 Pipeline integrity management in high consequence areas.

(a)

(g) *What is an information analysis?* In periodically evaluating the integrity of each pipeline segment (see paragraph (j) of this section), an operator must analyze all available information about the integrity of its entire pipeline and the consequences of a possible failure along the pipeline. Operators must continue to comply with the data integration elements specified in § 195.452(g) that were in effect on October 1, 2018, until October 1, 2022. Operators must begin to integrate all the data elements specified in this section starting October 1, 2020, with all attributes integrated by October 1, 2022. This analysis must:

(1) Integrate information and attributes about the pipeline that include, but are not limited to:

(4) Identify spatial relationships among anomalous information (e.g., corrosion coincident with foreign line crossings; evidence of pipeline damage where aerial photography shows evidence of encroachment). Storing the information in a geographic information system (GIS), alone, is not sufficient. An operator must analyze for interrelationships among the data.

DGC failed to perform information analysis relevant to pipeline integrity and risk by the October 1, 2022, deadline required by § 195.452(g). Specifically, DGC's implementation was inadequate as outlined in the following ways:

1. All available information pertaining to the integrity of DGC's pipeline had not been integrated, and corresponding spatial relationships among anomalous information had not been identified and analyzed. In the case of a 2016 integrity dig designated "DMA4," severe coating failure was discovered and remediated; the report attributes this to salt contamination on the pipe surface prior to factory-applied coating. However, there was no subsequent analysis of this failure taking into account other integrity-related factors such as the proximity of high-voltage power transmission lines running parallel to the pipeline, the cathodic monitoring history, the likelihood of other pipe segments being vulnerable due to the same manufacturing defect, etc.
2. The risk model spreadsheets provided by DGC employed a rudimentary relative risk calculation weighted based on subject matter expert opinion, rather than a more objective and quantitative approach.
3. The risk model provided by DGC failed to include and consider standard threat categories including natural forces, equipment failure, and incorrect operations.
4. The "consequences" portion of the risk spreadsheets did not address threats to human safety and health, despite this being a significant hazard of carbon dioxide releases.

5. As a result of DGC's deficient risk model, there is insufficient basis for determining (1) whether assessment methods and intervals are appropriate for the potential threats and (2) the most effective preventative and mitigative measures.

By failing to integrate all available data in its information analysis and failing to employ an adequate risk model, DGC did not comply with the provisions of the integrity management regulations, as required by § 195.452(g).

4. § 195.577 What must I do to alleviate interference currents?

- (a) For pipelines exposed to stray currents, you must have a program to identify, test for, and minimize the detrimental effects of such currents.**

DGC failed to protect its pipeline which was exposed to stray currents by not having an effective program to minimize the detrimental effects of such currents, as required by § 195.577(a).

In March 2021, an alternating current (AC) interference and mitigation report prepared by DGC's contractor discussed the threat posed to the pipeline by AC interference and made a number of recommendations for mitigative actions. Due to low soil resistivity and the proximity and number of high-voltage power lines paralleling the CO₂ line, the report recommended installing a total of 26,300 feet of grounding electrode wire distributed across several locations in order to achieve a conservative 50 amperes per square meter (A/m²) current density criterion and ensure adequate protection. In its March 19, 2024, written statement on AC mitigation, DGC expressed its intent to apply a less rigorous 100 A/m² criterion. The model provided by DGC's contractor predicted that some locations would still require mitigation to achieve this level of protection.

DGC's 2022 annual cathodic protection (CP) survey data showed several locations where elevated AC voltage poses a potential risk to the pipeline. The report showed "elevated" (meaning greater than 5 volt) AC influence at test points 5, 5A, 5B, 6, 9, 10, and 174 on the 14-inch SynFuels to Tioga segment of the line, all eight listed test points at the Tioga station, and test points 175, 176, 180, 181, 201-212, 218, 219, 222-227, 229, and 231A. In some of these locations (test points 5A, 5B, 6, 203, 207, and 209), the AC potential exceeded 10 volts. During the field portion of PHMSA's inspection, AC potentials of 7.3 volts and 8.0 volts were measured at test points 206 and 207, respectively, confirming the continued presence of stray currents affecting the pipeline.

DGC's 2022 CP survey indicated that its existing AC mitigation measures (three 250-foot lengths of zinc ribbon installed after a 2005 study) were still working as intended. However, at the time of the inspection DGC had not installed additional AC mitigation for other at-risk portions of the pipeline, despite (1) the 2021 report recommendations, (2) the elevated AC voltages measured during the CP surveys, and (3) the fact that installation of such mitigation was the only needed preventive or mitigative measure identified in the operator's integrity management process in 2021 and 2022.

Based on the available information, it was reasonable to foresee interference currents at these locations, but DGC did not take mitigative measures to protect its pipeline. Thus, DGC failed to protect its pipeline, which was exposed to stray currents, by not having an effective program to minimize the detrimental effects of such currents, as required by § 195.577(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 documentation involved for the above probable violations and recommend that you be preliminarily assessed a civil penalty of \$78,600 as follows:

<u>Item number</u>	<u>PENALTY</u>
1	\$ 19,100
4	\$ 59,500

Proposed Compliance Order

With respect to Items 2, 3, and 4, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to DGC. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

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 3-2024-036-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

GREGORY ALAN OCHS

Digitally signed by GREGORY ALAN OCHS
Date: 2024.06.28 15:00:52 -05'00'

Gregory A. Ochs
Director, Central Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

cc: Christopher Breiner, Compliance Supervisor, Dakota Gasification Company
(cbreiner@bepc.com)
Dale Johnson, Sr. VP & Plant Manager, Dakota Gasification Company (dalej@bepc.com)

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

PROPOSED COMPLIANCE ORDER

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

- A. In regard to Item 2 of the Notice, pertaining to pipeline integrity management procedures, DGC must:
 - 1. Revise and amend its Carbon Dioxide Pipeline Integrity Management Plan and any relevant associated procedures in order to comply with the requirements of § 195.452, and provide the revisions to PHMSA for review within **90** days of receipt of the Final Order. Specifically, procedures must be revised to provide adequate guidance for performing a valid risk analysis of sufficient sophistication to address all relevant risk factors, including but not limited to those in § 195.452(i)(2).
- B. In regard to Item 3 of the Notice, pertaining to pipeline integrity management, DGC must:
 - 1. Develop a risk model, in accordance with the updated procedures of requirement A above, which incorporates all available information and considers all threats and consequences, and provide it to PHMSA for review within **90** days of receipt of the Final Order.
 - 2. Apply the risk model and use the new risk analysis to review its assessment methods, assessment intervals, preventive and mitigative measures and submit results within **30** days of PHMSA approval of the risk model.
- C. In regard to Item 4 of the Notice, pertaining to AC interference, DGC must:
 - 1. Consider and prioritize the need for AC mitigation in the areas identified as having an elevated AC risk, develop a schedule for mitigation work in the location(s) having the highest priority, and submit the plans to PHMSA for review within **90** days of receipt of the Final Order.
 - 2. After PHMSA's approval of the plan, implement the applicable AC mitigation measures in accordance with the schedule and submit documentation to PHMSA within **30** days of completion.
- D. It is requested that DGC maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Gregory A. Ochs, Director, Central 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.