



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials Safety  
Administration**

233 Peachtree Street Ste. 600  
Atlanta, GA 30303

## NOTICE OF AMENDMENT

### CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 15, 2018

Ms. Lynn J. Good  
Chairman, President and Chief Executive Officer  
Duke Energy Kentucky, Inc.  
139 East Fourth Street, Mail Drop EX403  
Cincinnati, OH, 45202

**CPF 2-2018-6003M**

Dear Ms. Good:

Between July 31, 2017 and September 21, 2017, 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 Duke Energy Kentucky, Inc.'s (Duke Energy) records in Duke Energy's Cincinnati, Ohio and Erlanger, Kentucky offices, and inspected Duke Energy's facilities in Kenton County, Kentucky.

On the basis of the inspection, PHMSA has identified the apparent inadequacies found within Duke Energy's plans or procedures, as described below:

1. **§195.402 Procedural manual for operations, maintenance, and emergencies.**  
... (c) **Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:**  
... (13) **Periodically reviewing the work done by operator personnel to determine the effectiveness of the procedures used in normal operation and maintenance and taking corrective action where deficiencies are found.**

Duke Energy failed to comply with the regulation because its procedures did not contain sufficient detail to demonstrate that it periodically reviews the work done by operator personnel to determine the effectiveness of the procedures used in normal operation and maintenance and taking corrective action where deficiencies are found. Specifically, Duke Energy's Hazardous Liquid Operations Plan (HLOP) restated the regulatory language, but did not specify how Duke Energy would comply with this requirement, or how it would document the results demonstrating compliance. Duke Energy personnel provided the

following in response to a request for records demonstrating compliance with § 195.402(c)(13), specific to Duke Energy's Line LP03.

- Duke Energy Procedure, titled "Erlanger gas Plant - "Pigging" Liquid Propane Pipeline "LP03"," which included a pigging operation log dated August 12, 2015. Also provided were 2 pre-job checklists associated with the tool run – one from Duke Energy and another from the tool vendor each dated August 12, 2015. These documents do not convey any review of work to determine effectiveness of procedures.
- A Field Observation Report, dated December 5, 2016, described as "Observed Plant Personnel run the plant doing a test run with procedures." Although this document appears to determine the effectiveness of the Erlanger Plant procedures while observing an employee perform work ("Test Run Procedure for Erlanger Gas Plant Yard Person"), the document does not convey how this relates to operation and maintenance of Line LP03.

**2. §195.403 Emergency response training.**

**(a) Each operator shall establish and conduct a continuing training program to instruct emergency response personnel to:**

**(1) Carry out the emergency procedures established under 195.402 that relate to their assignments;**

Duke Energy failed to comply with the regulation because it did not establish and conduct a continuing training program to instruct emergency response personnel on how to carry out the emergency procedures established under § 195.402 that relate to their assignments. The procedures provided to the PHMSA inspector included only a copy of the regulation.

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

**... (h) What actions must an operator take to address integrity issues?—**

**... (4) Special requirements for scheduling remediation—(i) Immediate repair conditions. An operator's evaluation and remediation schedule must provide for immediate repair conditions. To maintain safety, an operator must temporarily reduce the operating pressure or shut down the pipeline until the operator completes the repair of these conditions. An operator must calculate the temporary reduction in operating pressure using the formulas referenced in paragraph (h)(4)(i)(B) of this section. If no suitable remaining strength calculation method can be identified, an operator must implement a minimum 20 percent or greater operating pressure reduction, based on actual operating pressure for two months prior to the date of inspection, until the anomaly is repaired. An operator must treat the following conditions as immediate repair conditions:**

**(A) Metal loss greater than 80% of nominal wall regardless of dimensions.**

**(B) A calculation of the remaining strength of the pipe shows a predicted burst pressure less than the established maximum operating pressure at the location of the anomaly. Suitable remaining strength calculation methods include, but are not limited to, ASME/ANSI B31G (incorporated by reference, see §195.3) and PRCI PR-3-805 (R-STRENG) (incorporated by reference, see §195.3).**

**(C) A dent located on the top of the pipeline (above the 4 and 8 o'clock positions) that has any indication of metal loss, cracking or a stress riser.**

**(D) A dent located on the top of the pipeline (above the 4 and 8 o'clock positions) with a depth greater than 6% of the nominal pipe diameter.**

**(E) An anomaly that in the judgment of the person designated by the operator to evaluate the assessment results requires immediate action.**

**(ii) 60-day conditions. Except for conditions listed in paragraph (h)(4)(i) of this section, an operator must schedule evaluation and remediation of the following conditions within 60 days of discovery of condition.**

**(A) A dent located on the top of the pipeline (above the 4 and 8 o'clock positions) with a depth greater than 3% of the pipeline diameter (greater than 0.250 inches in depth for a pipeline diameter less than Nominal Pipe Size (NPS) 12).**

**(B) A dent located on the bottom of the pipeline that has any indication of metal loss, cracking or a stress riser.**

**(iii) 180-day conditions. Except for conditions listed in paragraph (h)(4)(i) or (ii) of this section, an operator must schedule evaluation and remediation of the following within 180 days of discovery of the condition:**

**(A) A dent with a depth greater than 2% of the pipeline's diameter (0.250 inches in depth for a pipeline diameter less than NPS 12) that affects pipe curvature at a girth weld or a longitudinal seam weld.**

**(B) A dent located on the top of the pipeline (above 4 and 8 o'clock position) with a depth greater than 2% of the pipeline's diameter (0.250 inches in depth for a pipeline diameter less than NPS 12).**

**(C) A dent located on the bottom of the pipeline with a depth greater than 6% of the pipeline's diameter.**

**(D) A calculation of the remaining strength of the pipe shows an operating pressure that is less than the current established maximum operating pressure at the location of the anomaly. Suitable remaining strength calculation methods include, but are not limited to, ASME/ANSI B31G and PRCI PR-3-805 (R-STRENG).**

**(E) An area of general corrosion with a predicted metal loss greater than 50% of nominal wall.**

**(F) Predicted metal loss greater than 50% of nominal wall that is located at a crossing of another pipeline, or is in an area with widespread circumferential corrosion, or is in an area that could affect a girth weld.**

**(G) A potential crack indication that when excavated is determined to be a crack.**

**(H) Corrosion of or along a longitudinal seam weld.**

**(I) A gouge or groove greater than 12.5% of nominal wall.**

**(iv) Other conditions. In addition to the conditions listed in paragraphs (h)(4)(i) through (iii) of this section, an operator must evaluate any condition identified by an integrity assessment or information analysis that could impair the integrity of the pipeline, and as appropriate, schedule the condition for remediation. Appendix C of this part contains guidance concerning other conditions that an operator should evaluate.**

Section D2 of Duke Energy Procedure GD75.06-017, titled "Pipeline Evaluation and Remediation," and Procedure GD75.06-018, titled "Schedule of Repair Requirements (Time Lines)," include descriptions of repair conditions that are not consistent with § 195.452(h)(4). Section D2 of Procedure GD75.06-017 specifies that § 195.452(h)(4) defines repair conditions, and Duke Energy's Integrity Management (IM) Program

procedures reference the correct definitions from the Code of Federal Regulations (CFR). Procedure GD75.06-017, however, does not consistently define repair conditions as delineated by the regulations. A comparison of various CFR definitions to those incorporated in Duke Energy Procedure GD75.06-017 is included below.

<b>§195.452(h)(4)</b>	<b>GD75.06-017</b>
<p>An operator must treat the following conditions as immediate repair conditions:</p> <p>(A) Metal loss greater than 80% of nominal wall regardless of dimensions.</p> <p>(B) A calculation of the remaining strength of the pipe shows a predicted burst pressure less than the established maximum operating pressure at the location of the anomaly. Suitable remaining strength calculation methods include, but are not limited to, ASME/ANSI B31G (incorporated by reference, see §195.3) and PRCI PR-3-805 (R-STRENG) (incorporated by reference, see §195.3).</p> <p>(C) A dent located on the top of the pipeline (above the 4 and 8 o'clock positions) that has any indication of metal loss, cracking or a stress riser.</p> <p>(D) A dent located on the top of the pipeline (above the 4 and 8 o'clock positions) with a depth greater than 6% of the nominal pipe diameter.</p> <p>(E) An anomaly that in the judgment of the person designated by the operator to evaluate the assessment results requires immediate action.</p>	<p><i>Immediate Repair Conditions – Indication shows that defect is at failure point.</i></p>
<p>(ii) 60-day conditions. Except for conditions listed in paragraph (h)(4)(i) of this section, an operator must schedule evaluation and remediation of the following conditions within 60 days of discovery of condition.</p> <p>(A) A dent located on the top of the pipeline (above the 4 and 8 o'clock positions) with a depth greater than 3% of the pipeline diameter (greater than 0.250 inches in depth for a pipeline diameter less than Nominal Pipe Size (NPS) 12).</p> <p>(B) A dent located on the bottom of the pipeline that has any indication of metal</p>	<p><i>Scheduled/60 day Remediation – Indication shows defect significant but not at failure point.</i></p>

loss, cracking or a stress riser.	
<p>(iii) 180-day conditions. Except for conditions listed in paragraph (h)(4)(i) or (ii) of this section, an operator must schedule evaluation and remediation of the following within 180 days of discovery of the condition:</p> <p>(A) A dent with a depth greater than 2% of the pipeline's diameter (0.250 inches in depth for a pipeline diameter less than NPS 12) that affects pipe curvature at a girth weld or a longitudinal seam weld.</p> <p>(B) A dent located on the top of the pipeline (above 4 and 8 o'clock position) with a depth greater than 2% of the pipeline's diameter (0.250 inches in depth for a pipeline diameter less than NPS 12).</p> <p>(C) A dent located on the bottom of the pipeline with a depth greater than 6% of the pipeline's diameter.</p> <p>(D) A calculation of the remaining strength of the pipe shows an operating pressure that is less than the current established maximum operating pressure at the location of the anomaly. Suitable remaining strength calculation methods include, but are not limited to, ASME/ANSI B31G and PRCI PR-3-805 (R-STRENG).</p> <p>(E) An area of general corrosion with a predicted metal loss greater than 50% of nominal wall.</p> <p>(F) Predicted metal loss greater than 50% of nominal wall that is located at a crossing of another pipeline, or is in an area with widespread circumferential corrosion, or is in an area that could affect a girth weld.</p> <p>(G) A potential crack indication that when excavated is determined to be a crack.</p> <p>(H) Corrosion of or along a longitudinal seam weld.</p> <p>(I) A gouge or groove greater than 12.5% of nominal wall</p>	<p><i>Scheduled/180 day Remediation – Indication shows defect significant but not near failure point.</i></p>
(iv) Other conditions. In addition to the conditions listed in paragraphs (h)(4)(i)	<p><i>Other Conditions – Indication shows defect will not fail before next inspection.</i></p>

through (iii) of this section, an operator must evaluate any condition identified by an integrity assessment or information analysis that could impair the integrity of the pipeline, and as appropriate, schedule the condition for remediation. Appendix C of this part contains guidance concerning other conditions that an operator should evaluate.	
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**4. §195.452 Pipeline integrity management in high consequence areas.**

**... (j) What is a continual process of evaluation and assessment to maintain a pipeline's integrity?**

**... (5) Assessment methods. An operator must assess the integrity of the line pipe by any of the following methods. The methods an operator selects to assess low frequency electric resistance welded pipe or lap welded pipe susceptible to longitudinal seam failure must be capable of assessing seam integrity and of detecting corrosion and deformation anomalies.**

**... (iv) Other technology that the operator demonstrates can provide an equivalent understanding of the condition of the line pipe. An operator choosing this option must notify OPS 90 days before conducting the assessment, by sending a notice to the address or facsimile number specified in paragraph (m) of this section.**

Duke Energy Procedure GD70.06-006, titled “Assessment Methods Selection Process Flowchart,” dated December 20, 2012, allows for the use of Internal Corrosion Direct Assessment (ICDA) on hazardous liquid pipelines without including the requirement to notify OPS 90 days before conducting this Other Technology assessment, as required by § 195.452(j)(5)(iv). Furthermore, the referenced flowchart was confusing in that component ordering arrows and decision point diamonds are aligned in the wrong direction, or direct the user to an inappropriate decision point.

Moreover, the above-referenced procedure and included flowchart do not adequately distinguish between Parts 192 and 195’s assessment method selection requirements. The flowchart applies to both hazardous liquid and gas transmission pipelines (§195.452 and Part 192 Subpart O, respectively). On November 16, 2011, PHMSA issued a Letter of Concern to Duke Energy expressing concerns that Duke Energy was not “differentiating between Parts 192 and 195” in its procedures (*Duke Energy Kentucky*, CPF 2-2011-6008C, Letter of Concern, November 16, 2011). The letter expressed PHMSA’s hope that Duke Energy would improve its pipeline safety program based on these concerns. As of PHMSA’s 2017 inspection, Duke Energy had not addressed the referenced concerns.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being 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 the receipt of this Notice, you have 30 days to submit written comments, revised procedures, or a request for a hearing under §190.211. 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 an Order Directing Amendment. If your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.206). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 30 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

It is requested (not mandated) that Duke Energy maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to James Urisko, Director, Southern Region, Pipeline and Hazardous Materials Safety Administration. In correspondence concerning this matter, please refer to **CPF 2-2018-6003M** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,



James A. Urisko  
Director, Office of Pipeline Safety  
PHMSA Southern Region

Enclosure: *Response Options for Pipeline Operators in Compliance Proceedings*