



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

1200 New Jersey Ave, S.E.  
Washington, D.C. 20590

**MAR 20 2015**

Ms. Rosemary Chiavetta  
Secretary  
Commonwealth of Pennsylvania  
Pennsylvania Public Utility Commission  
P. O. Box 3265  
Harrisburg, PA 17105-3265

REF: Pennsylvania Public Utility Commission Docket Number: P-2014-2457138

**Docket #: PHMSA-2015-0008**

Dear Secretary Chiavetta:

On January 20, 2015, the Pipeline and Hazardous Materials Safety Administration (PHMSA) received your request to review the Pennsylvania Public Utility Commission (PaPUC) issued State Waiver to Johnstown Regional Energy, LLC (JRE), for variance from certain Federal regulations contained in 49 CFR Part 192, regarding the design and usage of plastic pipe (Fiberspar), and requesting that PHMSA initiate a review of the waiver as required under 49 U.S.C. § 60118(d).

The State Waiver segments consist of three buried Fiberspar pipelines, the Raeger, Shade, and Southern Alleghenies Pipelines in Cambria and Somerset Counties of Pennsylvania.

PHMSA has completed its technical review of the request and accompanying documents and has no objections to the state waiver, provided the following additional conditions and limitations are met:

**Conditions:**

- 1) The State Waiver waives compliance with the following sections of the Pipeline Safety Regulations (49 CFR Part 190-199):
  - a. 192.53(c);
  - b. 192.121;
  - c. 192.123; and
  - d. 192.619(a).

## 2) Class Location, High Consequence Areas, and General Design Requirements:

- a. JRE shall design and operate the State Waiver segments as follows:
  - i. At or below the maximum allowable operating pressure (MAOP) as calculated per these Conditions as identified below in Condition 2d, or 225psig for Class 2 locations, whichever is lower.
  - ii. With a design factor (DF) of 0.32 or less as in Condition 2d.
  - iii. If any portion of the *state waiver segments* are currently (this includes original construction pipe), or in the future become, a Class 3 or 4 location, or a high consequence area, at any time, JRE shall remove and replace that portion of Fiberspar pipe with steel line pipe. If any portion of the *state waiver segments* currently (this includes original construction pipe) or in the future have one or more residences within a 125 foot radius of the segment, JRE shall remove and replace that portion of Fiberspar pipe with steel line pipe. Those steel portions will no longer be a part of the *state waiver segments* and must follow Part 192, as applicable, in its entirety. JRE shall have one year from determination of a class location, high consequence area or proximity change, or from the grant of this state waiver if determination was made prior to the grant, to comply with this Condition.
- b. **Branches:** JRE shall not tap, branch, or split the *State Waiver segments* of Fiberspar pipe except as necessary to comply with Condition 3(g) or JRE Petition "Attachment G" - "Verified Statement - Proposed Testing/Analysis Protocol."
- c. **Minimum Separation:** The separation between the *State Waiver segments* and other pipelines shall be a minimum of 12 inches.
- d. **Pipe Design:** JRE shall comply with the following language, in place of § 192.121, for pipe within the State Waiver segments within 180 days of a grant of the revised State Waiver. If MAOP pressure calculations by this method result in more conservative (lower) values than those being utilized by the operator currently, JRE must immediately communicate this to PaPUC and must adopt the lowest MAOP values into their Design and Operations. Design parameters as determined under Condition 3c may be applicable here. Note that not all of the requirements are applicable to reinforced thermosetting pipe (Fiberspar):

*Design of plastic pipe.*

*Subject to the limitations of § 192.121, the design pressure for plastic pipe is determined by either of the following formulas:*

$$P = 2S \frac{t}{(D - t)} (DF)$$

$$P = \frac{2S}{(SDR - 1)} (DF)$$

*Where:*

*P = Design pressure, gauge, psig (kPa).*

*S = The HDB is determined in accordance with the listed specification at a temperature equal to 73 °F (23 °C), 100 °F (38 °C), 120 °F (49 °C), or 140 °F (60 °C). In the absence of an HDB established at the specified temperature, the HDB of a higher temperature may be used in determining a design pressure rating at the specified temperature by arithmetic interpolation using the procedure in Part D.2 of PPI TR-3/2004, HDB/PDB/SDB/MRS Policies (incorporated by reference, see §192.7). [Note: Arithmetic interpolation is not allowed for PA-11 pipe.]*

*t = Specified wall thickness, inches (mm).*

*D = Specified outside diameter, inches (mm).*

*SDR = Standard dimension ratio, the ratio of the average specified outside diameter to the minimum specified wall thickness, corresponding to a value from a common numbering system that was derived from the American National Standards Institute preferred number series 10.*

*DF = 0.32 or*

*= 0.40 for PA-11 pipe produced after January 23, 2009 with a nominal pipe size (IPS or CTS) 4-inch or less, and a SDR of 11 or greater (i.e. thicker pipe wall).*

### **3) Material and Testing Requirements:**

**a. Pigging:** JRE shall work with the pipe manufacturer to ensure that any in-line inspection (ILI) tools and maintenance pigs will not damage or degrade the pipe.

**i.** JRE shall document and implement detailed Operation and Maintenance (O&M) procedures for use of ILI tools along with Operator Qualifications (OQ), Construction OQ requirements, lessons learned documents, and best

practice findings with related presentations. This shall be completed before further non-emergency ILI or maintenance pigs are utilized.

- ii. JRE shall conduct any necessary research & development (R&D) necessary to comply with this condition. JRE shall present the findings of such R&D to PaPUC within 180 days of completion.
- b. **Material Standards:** JRE shall comply with ASTM D-2517 (2000), or an equivalent standard, for the pipe used.
- c. **Calculation of Pipe Design Parameters:** For each Fiberspar product used (includes differences in dimensions, variations in layers, fiberglass, etc.). JRE shall, within 180 days of a grant of the State Waiver, determine the hydrostatic design basis and long term hydrostatic strength information used for the calculation of design parameters in accordance with ASTM D-2992 (2006) “Standard Practice for Obtaining Hydrostatic or Pressure Design Basis for ‘Fiberglass’ (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Fittings” Paragraph 14.1 for a representative sized pipe, using the same compositions as the pipe used within the State Waiver segment.
- d. **Factory Pressure Testing:** From finalizing the grant of the State Waiver, JRE shall have all Fiberspar pipe that is currently used in the *State Waiver segments* (for repair or replacement) factory pressure tested to a minimum of 1.5 times MAOP for a minimum of one (1) hour. JRE shall maintain records of such that are traceable to all line pipe used within the *State Waiver segments*, or purchased for subsequent pipe repairs or replacement, and shall include at a minimum: pressure test reports and all pressure testing parameters (pressure, time, procedure and/or standard number, date, etc. and test acceptance parameters) and pressure testing recorders with current calibration records. JRE shall also provide a certification from the pipe manufacturer that the tests were completed and that all pipe was visually checked for leaks during the pressure tests.
- e. **Hydrostatic test:** Within 180 days of grant of the revised State Waiver, the pipe, connections, and appurtenances, including those previously installed and pressure tested, shall be field hydrostatically tested at 1.5 times the MAOP (as revised, if necessary, per these Conditions) for a minimum of 24 hours with recording charts (pressure chart, temperature chart, dead weights and log, and calibration records of equipment, calibrated within 30 days of test), the results of which shall be presented to the PaPUC for review, including determination parameters of an acceptable test, within 90 days of test completion. JRE shall compensate for temperature and elevation variations and such compensation shall be documented on test records. For state waiver segments which contain Class 2 locations, test pressures shall be determined based on the calculated MAOP and not on the imposed 225 psig limitation.

- f. Long-Term Integrity:** JRE shall consider and plan for all pipeline risk factors, including, but not limited to: pressure and temperature cycling; performance of multilayer composite pipe in freezing temperatures (including during excavations), during line stoppling, and repairs under a range of ambient conditions; long term performance of composite material and mechanical fittings; cathodic protection of metallic appurtenances; coating performance; fiber migration over time; long term failure prediction of line pipe; risk of inter-lamellar or inter-layer intrusion of gas and the possible effect on integrity; and methods for assessment of buried or excavated pipe. This shall be documented within JRE's Integrity Management Plan.
- g.** JRE shall supplement the JRE Petition "Attachment G" - "Verified Statement - Proposed Testing/Analysis Protocol," with the following, and make changes as necessary:
- i.** JRE shall schedule and perform Fiberspar pipe and connector inspections during which non-destructive and destructive testing must be performed on the pipe material after installation. At a minimum, nondestructive testing shall focus on the composition and degradation of the pipe material and destructive testing shall include a hydrotest to Burst Pressure and Axial Compression testing. Following JRE's initial testing to be performed in 2015, as proposed, each future Periodic Test shall be no more than 2 years from the previous Initial or Periodic Test. JRE must revise its test schedule to accommodate these changes.
  - ii.** JRE testing and inspections must be developed and implemented to better understand potential and actual degradation mechanisms, and other material related phenomena, and must develop a plan to mitigate for these threats, maintaining adequate levels of pipeline safety. Test protocols shall be adapted over time as these threats are better characterized.
  - iii.** Any test results which indicate possible time dependent changes of properties below the acceptable values for factory tested pipe must be immediately discussed with PaPUC. Careful attention must be made to Burst Pressure and Axial Compression properties if they fall below the minimum criteria as set up by the manufacturer for new or in service pipe. Any changes in properties below these minimum criteria may be an indication of time dependent degradation and must be treated as such, and must be immediately reported to and discussed with PaPUC. Operating pressure reductions, temporary or permanent, must be considered as appropriate.
  - iv.** Perform removal, replacement, and installation of pipe and fittings, and other actions related to the removal of test segments, in accordance with the requirements of this State Waiver.

- v. JRE shall report to the PaPUC the results of the inspections and tests within 90 days of completion of testing.

4) **Pipe - Inspection for Damage:** JRE shall, within 90 days of the approval of the revised State Waiver, verify that the following conditions, or a reasonable equivalent, have been met or were met during past construction, and where they have not or cannot be met, or cannot be verified in a safe and reasonable manner. JRE shall propose alternative measures to PaPUC, above and beyond the current regulatory and State Waiver requirements in order to maintain an equal or better level of safety, as a pipeline built and operated to these requirements. These requirements also apply to all future repair, and replacement activities:

- a. JRE shall inspect the pipeline during offloading at the storage yard, offloading on location, during uncoiling, placement into the ditch, backfill, and right-of-way grading and clean up.
- b. JRE shall survey the pipe location and depth of cover at 50-foot intervals.
- c. JRE shall certify and document all inspections with date, time, pipeline station, and pipe spool number.
- d. JRE shall remove and replace any pipe with the following conditions:
  - i. Cuts, scrapes, abrasions, or gouges that at any place exceed 50% of the outer High Density Polyethylene (HDPE) layer thickness and in the case that no outer layer was used, 0% is the applicable threshold;
  - ii. Discolorations of the outer HDPE layer that may indicate material degradation or inhomogeneity (based on manufacturer product recommendations);
  - iii. Any section of pipe that appears to contain cracking or crazing (this may require laboratory testing to determine any widespread materials issue with the pipe); and
  - iv. Other possible signs of material damage or unsoundness shall be reviewed by qualified personnel, and if the integrity of the pipeline would be less than undamaged pipe, JRE shall remove and replace such pipe.
- e. JRE shall document its repair and replacement procedures and standards within the comprehensive written specifications or standards required under § 192.303 and the O&M Manual required under § 192.605.
- f. JRE shall hand dig or hand shovel dig whenever excavation operations are within two (2) feet of the *State Waiver segments* pipeline or any associated communications cables. Careful attention shall be paid to Fiberspar pipe connectors and components whenever they are exposed, and they must be subject to, at a minimum, a visual inspection.

- g. Careful attention shall be paid to Fiberspar pipe connectors and components whenever they are exposed, and they must be subject to, at a minimum, a visual inspection.
- h. JRE shall prepare and follow a damage prevention program in accordance with § 192.614. JRE shall make this program part of its O&M Manual within 180 days of grant of a state waiver. JRE shall train its personnel on damage prevention.

**5) Corrosion Control**

- a. JRE shall apply protective coatings and cathodic protection (CP) on all buried metallic pipe, components, and joints within the State Waiver area in accordance with Part 192. This includes those that are currently installed.
- b. Test stations: JRE shall install CP test stations at each metallic connector.
- c. JRE shall perform external corrosion control monitoring on each buried metallic fitting in accordance with § 192.465(a). JRE shall perform such monitoring at least once each calendar year, not exceeding 15 months. Corrosion control monitoring of the buried metallic fittings by a sampling basis is not permitted.
- d. JRE shall determine the native structure-to-electrolyte potential for each buried metallic fitting prior to energizing the cathodic protection system.

**6) Pressure and Temperature Control and Monitoring:** Within 180 days of the grant of the State Waiver, JRE must comply with the following:

- a. **Overpressure Protection:** JRE shall install overpressure protection equipment necessary to keep the pipeline pressure from exceeding the recalculated and approved MAOP (per Condition d2) at any time.
- b. **Pressure Monitoring:** JRE shall monitor operating pressures by the installation of pressure transmitters and switches in the piping system that report to the facility's Supervisory Control and Data Acquisition (SCADA) system. JRE shall also provide a means to inform operator personnel performing work on the pipeline of the pressure on the line.
- c. **Gas Temperature:** JRE shall continuously monitor natural gas temperature in order that the pipeline is not exposed to temperatures exceeding 120 degrees F. As soon as practicable, JRE shall inform the PaPUC for review, any condition that leads to exposure of Fiberspar pipe to greater than 120 degrees F. If the Fiberspar line pipe is exposed to temperatures exceeding 140 degrees F, the *State Waiver segments* pipeline shall be immediately shut down, and JRE shall contact the PaPUC for their review within 24 hours of the detection.

**d. SCADA:**

- i. JRE shall continuously monitor the *State Waiver segments* with a SCADA system. If communication is lost for over 3 hours, JRE shall have personnel onsite to continue operations and monitoring of the *State Waiver segments* pipeline.
- ii. JRE shall document SCADA operating procedures and Control Room Management procedures within the O&M Manual for the *State Waiver segments pipeline*.

**7) Operations:**

- a. **Repair criteria:** JRE shall develop pipe repair criteria and document them within the O&M Manual. Repair criteria shall be submitted to the PaPUC within 180 of grant of the revised State Waiver.
- b. **Leakage detection surveys:** In Class 1 locations, JRE shall conduct leakage detection surveys two (2) times per calendar year at a minimum, not to exceed 7 ½ months between surveys, utilizing industry standard leak detection equipment capable of parts per million detection of gas in air (flame ionization or similar). In Class 2 locations, JRE shall conduct leakage detection surveys four (4) times per calendar year at a minimum, not to exceed 100 days between surveys, utilizing industry standard leak detection equipment capable of parts per million detection of gas in air (flame ionization or similar). JRE shall repair all leaks as they are found, and notify the PaPUC of any leaks found as soon as it is safe to do so. Leak testing procedures, equipment, and scheduling shall be documented within the O&M Manual.

**8) Communication and Records:**

- a. If at any time JRE becomes aware of a threat to the integrity of the *State Waiver segments* pipe that poses a risk to the public, or a failure risk, JRE shall immediately notify the PaPUC. Concurrent with such notification, JRE shall outline the potential mitigative and integrity measures that will be used to address the threat or risk, including replacement with steel line pipe currently approved by Part 192.
- b. JRE shall notify the PaPUC as soon as practicable if:
  - i. Repairs and modifications are required or made to the Fiberspar pipe, including fittings;
  - ii. A *State Waiver segments* is at any time damaged or hit; or
  - iii. The pipe or fitting manufacturer modifies or discontinues any items used in the *State Waiver segments*.

**9) Gas Quality:**

- a. JRE shall develop and implement a program to monitor and mitigate the presence of deleterious gas stream constituents. At a minimum, the monitoring equipment must include moisture analyzer, chromatograph, and quarterly hydrogen sulfide monitoring.
- b. If it is determined that the commodity transported in this pipeline *State Waiver segments* is not compatible with, and proves detrimental to this pipe material, PaPUC reserves the right, as a condition of this waiver, to curtail or discontinue the use of this pipe material.

**10) Right-of-Way Management Program:**

- a. JRE shall install and maintain line-of-sight markings, not to exceed 100 feet from marking-to-marking, on the pipeline in the state waiver segments except in agricultural areas or large water crossings such as lakes where line-of-sight signage is not practical.
- b. Each calendar year, not to exceed 15 months, JRE shall complete an overland terrain survey over the *State Waiver segments* to ensure the depth of cover has not changed. For any pipe in the *State Waiver segments* that does not meet the cover requirements of Part 192, JRE shall restore the required depth of cover, or, if restoration is impracticable, shall implement additional safety measures in areas with reduced depth of cover. Within 30 days of implementation, JRE shall submit to the PaPUC a description of such additional safety measures. JRE shall base such measures, such as lowering the pipeline, increased pipeline patrols and/or additional line markers, upon the threat.
- c. JRE shall perform ground or aerial right-of-way patrols on a monthly basis, not to exceed 45 days, in the *State Waiver segments*. JRE shall document findings from all patrols and all required remediation.

**11) Annual Reporting:** Annually<sup>1</sup> following the grant of the revised State Waiver, JRE shall report the following to the PaPUC, with copies to the PHMSA Director of Engineering and Research: (note that requirements for annual reporting do not excuse JRE from other more immediate reporting requirements of this State Waiver or Pipeline Regulations):

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<sup>1</sup> Annual reports shall be received by PaPUC by the last day of the month in which the grant of the State Waiver is dated. For example, the annual report for a State Waiver dated September 15, 2015, shall be received by PaPUC no later than September 30, each year beginning in 2016.

- a. The number of new residences, other structures intended for human occupancy and public gathering areas built or identified within 220 yards of the pipeline centerline and along the *State Waiver segments*.
- b. Any new integrity threats identified during the previous year and the results of any excavations or other integrity assessments performed during the previous year in the *State Waiver segments*.
- c. Any reportable incident, any leak normally indicated on the U.S. Department of Transportation Annual Report, and all repairs that occurred on the pipeline in the *State Waiver segments* during the previous year.
- d. Any ongoing damage prevention initiatives affecting the *State Waiver segments* and a discussion of the success of the initiatives.
- e. Any mergers, acquisitions, transfer of assets, or other events affecting the regulatory responsibility of the company operating the pipeline.

**12) Certification:** A Senior Executive Officer, Vice President or higher of JRE, shall certify in writing that:

- a. JRE pipeline meets the conditions described in this State Waiver and Part 192 for the *State Waiver segments*.
- b. JRE has maintained the following records for the *State Waiver segments* and included these requirements in JRE's O&M Manual:
  - i. Documents (material test reports) certifying that the pipe in the *State Waiver segments* meets the requirements of ASTM D-2517 or equivalent as required by these Conditions and the State Waiver, and all related material standards in this State Waiver and Part 192.
  - ii. Documentation of compliance with all Conditions of this State Waiver shall be retained for the applicable life of this State Waiver for the referenced *State Waiver segments*.
- c. That all written manuals for the JRE pipeline have been updated to include all additional construction, and O&M requirements of the State Waiver and Conditions and Part 192 applicable sections; and
- d. That JRE has reviewed and modified its damage prevention program relative to the JRE pipeline to include any additional conditions required by State Waiver.

JRE shall send the certifications required in Condition 12 (a) through (d) with completion date, compliance documentation summary, and the required senior executive signature and date of signature to PaPUC, with copies to the PHMSA Director of Engineering and Research within one (1) year of the grant date of the revised State Waiver.

**Limitations:**

- 1) Should JRE fail to comply with any of the specified conditions of this State Waiver, PaPUC may revoke this State Waiver and require JRE to comply with the regulatory requirements in §§ 192.53(c), 192.121, 192.123, and 192.619(a).
- 2) The terms and conditions of any corrective action order, compliance order or other order applicable to a pipeline facility covered by this State Waiver will take precedence over the terms of this State Waiver.

If the PaPUC includes all of the above conditions and limitations in its final grant of the State Waiver and posts the State Waiver to PaPUC Docket Number P-2014-2457138, then PaPUC does not need to resubmit the State Waiver request for PHMSA's review. However, PHMSA requests that the PaPUC forward a copy of the revised PaPUC Waiver to PHMSA within 30 days after the PaPUC's approval.

If you wish to discuss this or any other pipeline safety matter, my staff would be pleased to assist you. Please contact Mr. John Gale, Director, Division of Standards and Rulemaking, at 202-366-0434 for regulatory matters, or Kenneth Lee, Director, Division of Engineering and Research, at 202-366-2694, for technical matters. Thank you for your continued efforts in pipeline safety.

Sincerely,



Jeffrey D. Wiese  
Associate Administrator for Pipeline Safety