



FEDERAL ENERGY REGULATORY COMMISSION FIELD INSPECTION REPORT

Date June 8, 2016

Project Texas Eastern Transmission, L.P.

Appalachia to Market 2014 (TEAM 2014) Project

Berks, Dauphin, Fayette, Huntingdon, Indiana, Lebanon, Perry, and Westmoreland Counties, Pennsylvania; and various counties in West Virginia, Ohio, Kentucky, Tennessee, Alabama, and Mississippi

Docket No.: CP13-84-000 Authority: Section 7(b) and 7(c)

Personnel FERC Contractor: Tetra Tech, Inc.

FERC Contractor Staff: Brian Rod

Company Staff: Rich Yencha (Environmental Coordinator)

Inspection Summary	
<u>0</u>	Problem Areas
0	Noncompliances
<u>No</u>	Follow-Up Letter Required
<u>No</u>	Refer to Enforcement

Introduction

On June 8, 2016, Brian Rod of Tetra Tech performed a restoration inspection of the Texas Eastern Transmission, L.P. (Texas Eastern) Texas Eastern Appalachia to Market 2014 Project (TEAM 2014 or Project), under contract to the Federal Energy Regulatory Commission (FERC or Commission) and per the request of the FERC Project Manager, Eric Howard.

The Project consists of a total of 33.6 miles of pipeline loop and aboveground modifications on various segments of its system in Pennsylvania, West Virginia, Ohio, Kentucky, Tennessee, Alabama, and Mississippi.

Specifically, Texas Eastern constructed the following pipeline facilities in Pennsylvania:

- 6.7 miles of new 36-inch-diameter pipeline loop in Fayette County, downstream of Texas Eastern's existing Holbrook Compressor Station (Holbrook Loop);
- 8.1 miles of new 36-inch-diameter pipeline loop in two segments (a 2.7-mile-long segment and a 5.4-mile-long segment) in Perry County, downstream of Texas Eastern's existing Perulack Compressor Station (Perulack East Loop and Perulack West Loop);

- 7.1 miles of new 36-inch-diameter pipeline loop in Dauphin County, downstream of Texas Eastern's existing Shermans Dale Compressor Station (Shermans Dale Loop);
- 6.1 miles of new 36-inch-diameter pipeline loop in two segments (a 2.3-mile-long segment and a 3.8-mile-long segment) in Lebanon County, downstream of Texas Eastern's existing Grantville Compressor Station (Grantville East Loop and Grantville West Loop); and
- 5.6 miles of new 36-inch-diameter pipeline loop in Berks County, downstream of Texas Eastern's existing Bernville Compressor Station (Bernville Loop).

In addition, the TEAM 2014 Project involved the following compressor station modifications in Pennsylvania:

- uprate of one existing 16,000-horsepower (hp) electric unit to 20,000 hp (by removing the software restriction, allowing the unit to operate at its full service factor) and uprate of two existing 12,250-hp units to 13,300 hp each (by exchanging existing engines for new engines capable of greater horsepower) at Texas Eastern's existing Uniontown Compressor Station in Fayette County;
- installation of one new 26,000-hp gas-turbine compressor unit and one new 26,000-hp electric-motor-driven compressor unit at Texas Eastern's existing Delmont Compressor Station in Westmoreland County;
- abandonment-in-place of one existing 18,500-hp gas-turbine compressor unit and four 2,000-hp reciprocating gas compressor units for a total abandonment of 26,500 hp at the Delmont Compressor Station;
- installation of one new 18,100-hp gas-turbine compressor unit at Texas Eastern's existing Armagh Compressor Station in Indiana County;
- installation of one new 26,000-hp gas-turbine compressor unit at Texas Eastern's existing Entriken Compressor Station in Huntingdon County; and
- installation of associated facilities, such as aero assemblies and cooling equipment, on existing gas compressor units at the Delmont, Uniontown, Armagh, and Entriken Compressor Stations.

Texas Eastern also installed associated facilities (i.e. pig launchers, pig receivers¹, and valves to support the pipeline expansion, as well as minor modifications and maintenance work) at 41 existing sites along Texas Eastern's transmission system between Pennsylvania and Mississippi to allow for bidirectional flow. The Project enables Texas Eastern to provide a total of 600,000 dekatherms per day of additional incremental transportation service to markets in the Northeast, Midwest, Southeast, and Gulf Coast.

FERC granted a partial in-service authorization for all Project facilities (except the Delmont Compressor Station) on October 24, 2014, and in-service approval for the Delmont Compressor Station on November 7, 2014.

The purpose of the inspection was to determine Texas Eastern's compliance with the environmental conditions of the Commission's February 11, 2014 Order for the Project and to inspect the restoration conditions of the pipeline right-of-way (ROW) and facilities.

¹ A "pig" is a tool that moves through the pipeline, and is used for cleaning, internal inspections, or other purposes. A launcher/receiver is an aboveground structure to install/retrieve pigs from the pipeline.

The findings of the inspection were that no instances of noncompliance or problem areas were identified, and that overall, restoration and revegetation were successful for the project segments inspected.

Site maps and a photographic record are presented in this report.

Inspection

On June 8, 2016, weather conditions were mostly cloudy with occasional rain showers and temperatures ranging from the mid-50s to mid-60s°F in nearby Harrisburg, Pennsylvania. A total of approximately 1.3 inches of precipitation was recorded during the two weeks preceding the inspection, including more than 0.6 inch of rain on June 5, 2016. Ground conditions were generally wet, but stable.

This inspection focused on three loops, including various ROW locations along the Grantville West Loop (Photo Numbers [Nos.] 1 to 4), followed by the Shermans Dale Loop (Photo Nos. 5 to 9), and ending along the Perulack West Loop (Photo Nos. 10 to 14). These photos are a representative selection of the sites that were inspected. Another inspection for other Project facilities in western Pennsylvania is planned for later in the summer.

Construction along these loops was completed in 2014, so this inspection occurred during the second growing season after construction. Texas Eastern reported that there had not been any construction or restoration (e.g., reseeding) activity along these loops in 2016, other than at a remote-control valve on the Grantville East Loop. Texas Eastern planned to remove temporary erosion control devices (ECDs), and planned to rework slope breakers near Shermans Dale Loop Station Number (Sta. No. 115+00) later in the summer, per the request of the landowner (the Pennsylvania Game Commission), to better line up with slope breakers on the adjacent ROW. Texas Eastern reported that there were no outstanding landowner issues.

Overall, restoration and revegetation along the three loops were successful (Photo Nos. 1 to 7, 9, 10, 12, and 13). A few small and scattered patches of poor-to-moderate revegetation were encountered along each of the loops; but in general, little-to-no erosion or off-ROW accumulated sediment was identified (Photo Nos. 6, 8, 10, and 12). One small area of rill and gully erosion was identified (Photo No. 7), but temporary super silt fence prevented sediment from reaching the nearby wetland. Revegetation was also successful or progressing acceptably along steep slopes, including the rocky upper slope of Perulack West Loop (Photo No. 10). However, gully erosion may be present along the center of the steep, rocky, upper slope near Shermans Dale Loop Sta. No. 140+00 (Photo No. 5); which was inaccessible at the time of inspection. Texas Eastern stated that they will assess the rocky slope when work on the middle slope begins in several weeks.

Inspection participants discussed the maintenance or removal of temporary ECDs (e.g., silt fence, compost filter sock [CFS], and hay bale J-hooks at the ends of slope breakers) along the Shermans Dale Loop and Perulack Loop (Photo Nos. 6, 7, 11, and 13). In most cases, revegetation was sufficient to warrant the removal of the temporary ECDs, and Texas Eastern stated that they were already planning to remove the ECDs during the summer of 2016. Other temporary ECDs may be repaired or replaced, and at least some will be left or reinforced for planned construction (unrelated to the Project) this summer (Photo No. 6). In some instances, it appeared that the temporary ECDs had helped manage stormwater during winter and spring runoff events. Texas Eastern noted that environmental inspectors had marked the locations of all remaining temporary ECDs to facilitate their removal during clean-up.

Several waterbody crossings, from minor streams to two major stream crossings of Swatara Creek (Waterbodies GW_S03 and GW_S06), were inspected (Photo Nos. 1, 3 to 5, and 13). In all cases, the waterbody crossings were acceptably restored, banks were stabilized and well vegetated, and all construction debris was removed.

Wetlands were generally well vegetated with a mix of wetland and upland species (Photo Nos. 3, 5, 7, 12, and 13). Texas Eastern reported that a wetland restoration survey had been conducted during the summer of 2015, but the Texas Eastern representative was unsure when results of the survey would be available. These survey results will determine the relative rate of successful revegetation with wetland plant species compared to pre-construction conditions.

Several residential yard crossings were inspected along the Grantville West Loop and Shermans Dale Loop. These areas were acceptably restored and well vegetated, and no construction debris or other environmental issues were observed (Photo Nos. 2, 6, 8, and 9). A narrow area, directly along the trench line in a cultivated field, was heavily vegetated with grass, possibly following a neighboring gas pipeline repair after construction was complete (Photo No. 14). No erosion or other concerns were noted within the repaired area. However, the corn crop along the adjacent ROW was inconsistent yield compared to off-ROW areas, suggesting that there may be crop productivity issues, such as soil compaction. Texas Eastern reported it was not aware of any active landowner complaints (Photo No. 14).

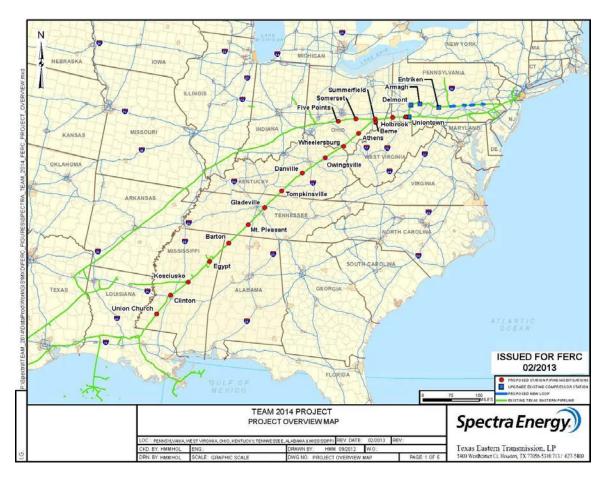
Valve stations along the Grantville Loop and Perulack Loop were stabilized with a gravel groundcover, and the surrounding temporary workspaces were well vegetated. Mitigation tree plantings on the Shermans Dale Loop appeared healthy. Lastly, a sensitive resource area found along the Grantville West Loop was acceptably restored and well vegetated.

Conclusions and Recommendations

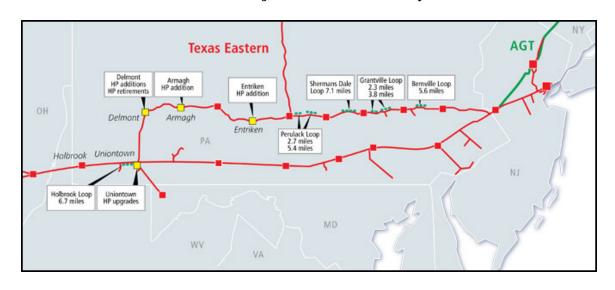
A follow-up letter is not required at this time, because no instances of noncompliance were identified. Overall, construction was progressing acceptably, and no environmental concerns were identified. Another restoration inspection is tentatively planned for later in the summer of 2016 to inspect Project facilities in the western part of the state (e.g., the Delmont Compressor Station and Holbrook Loop).

SITE MAPS

TEAM 2014 Project Location Overview



TEAM 2014 Project Activities in Pennsylvania



Company: Texas Eastern Transmission, L.P.Docket No.: CP13-84-000Project: TEAM 2014Loop: Grantville West Loop



Photo No.: 1

MP/Sta. No.: 72+00

Direction: East

Assessment: Acceptable

Comments: Open ROW, Grantville West Loop, Waterbody GW_S06 (Swatara Creek). The eastern crossing of Swatara Creek was acceptably restored, and the banks were well vegetated and stable. No construction debris or other environmental concerns were identified. The steep hill beyond was stable and well vegetated.



Photo No.: 2

MP/Sta. No.: 47+00

Direction: West

Assessment: Acceptable

Comments: Open ROW, Grantville West Loop. The ROW, which passes through the backyards of several residences, was acceptably restored and well vegetated. No construction debris or other environmental issues were observed.

Docket No.: CP13-84-000

Company: Texas Eastern Transmission, L.P.

Project: TEAM 2014 Loop: Grantville West Loop



Photo No.: 3

MP/Sta. No.: ~4+50

Direction: East

Assessment: Acceptable

Comments: Forested ROW, Grantville West Loop, Wetland GW_W03, Waterbody GW_S04. The ROW and wetland were generally well vegetated, as was a small waterbody within the wetland (Waterbody GW_S04). The nearby Sensitive Resource Area was acceptably restored and well vegetated.



Photo No.: 4

MP/Sta. No.: ~9+50

Direction: East

Assessment: Acceptable

Comments: Open ROW, Grantville West Loop, Waterbody GW_S03 (Swatara Creek). The western crossing of Swatara Creek was acceptably restored. Contours were restored, and the stream banks were well vegetated and stable. Fences on the far (eastern) side were restored.

Company: Texas Eastern Transmission, L.P. Docket No.: CP13-84-000

Project: TEAM 2014 Loop: Shermans Dale Loop



Photo No.: 5

MP/Sta. No.: 91+00
Direction: Southeast

Assessment: Acceptable

Comments: Open ROW, Shermans Dale Loop, Waterbody SD_S12 (Stony Creek), Wetland SD_W10. The ROW was adequately restored, and the wetland on the left (north) side in the foreground appeared well vegetated. The middle slope appeared well vegetated with no erosion visible. Texas Eastern reported that slope breakers along the middle slope will be reworked, per the request of the landowner (the Pennsylvania Game Commission), to better line up with slope breakers on the adjacent ROW. Viewed through binoculars, gully erosion may be present along the center of the steep, rocky, upper slope (arrow). The base of the steep section was inaccessible and could not be clearly viewed, so it was unclear whether there was any sediment or off-ROW impacts. Texas Eastern stated that they will assess the rocky slope when work on the middle slope begins in several weeks.

Company: Texas Eastern Transmission, L.P. Docket No.: CP13-84-000

Project: TEAM 2014 Loop: Shermans Dale Loop



Photo No.: 6

MP/Sta. No.: 103+00

Direction: East

Assessment: Acceptable

Comments: Forested ROW. Shermans Dale Loop. The ROW was generally well vegetated with a few small patches of poor-tomoderate revegetation. Inspection participants discussed the removal of ECDs, now that vegetation was more established, but the temporary ECDs at the road crossing may have helped during spring runoff. Texas Eastern stated that the ECDs were slated for removal, but some may be left or reinforced for planned construction in this area (unrelated to the Project) this summer. All of the nearby mitigation tree plantings appeared healthy.



Photo No.: 7

MP/Sta. No.: 102+00

Direction: Northwest

Assessment: Acceptable

Comments: Forested ROW, Shermans Dale Loop, Wetland SD_W11. Revegetation along the short, steep slope was fair, with some rill and gully erosion. Super silt fence along the right (north) side of the ROW was partially knocked over from a previous storm, but still effectively controlled sediment. Texas Eastern planned to repair the erosion and repair or remove the ECD this summer. The wetland was well vegetated with a variety of wetland species.

Company: Texas Eastern Transmission, L.P. Docket No.: CP13-84-000

Project: TEAM 2014 Loop: Shermans Dale Loop



Photo No.: 8

MP/Sta. No.: 284+00

Direction: South

Assessment: Acceptable

Comments: Open and Forested ROW, Shermans Dale Loop. Overall, revegetation along this residential backyard was successful, except for this area along the top of a short, steep bank where the soil was thin and rocky. No erosion or accumulated sediment was observed.



Photo No.: 9

MP/Sta. No.: 285+00

Direction: East

Assessment: Acceptable

Comments: Open and Forested ROW, Shermans Dale Loop. The ROW along residential backyards, including the far slope, was well vegetated with no erosion or other environmental concerns. Similarly, the residential backyards west of the Fishing Creek Valley Road crossing were acceptably revegetated.

Company: Texas Eastern Transmission, L.P. Docket No.: CP13-84-000

Project: TEAM 2014 Loop: Perulack West



Photo No.: 10

MP/Sta. No.: ~50+00

Direction: West

Assessment: Acceptable

Comments: Forested ROW, Perulack West Loop. The steep and very rocky upper slope was revegetating acceptably, despite some small patches of poor-tomoderate revegetation. No significant erosion or accumulated sediment was observed.



Photo No.: 11

MP/Sta. No.: ~71+00

Direction: Southeast

Assessment: Acceptable

Comments: Forested ROW, Perulack West Loop. Slope breakers were installed along the ROW, many with temporary hay bale J-hooks at the ends. Inspection participants again discussed the removal of these temporary ECDs, but also noted that these may have helped control stormwater runoff during the winter and spring. No off-ROW sediment was noted.

Company: Texas Eastern Transmission, L.P. **Docket No.:** CP13-84-000

Project: TEAM 2014 **Loop:** Perulack West



Photo No.: 12

MP/Sta. No.: ~71+50

Direction: West

Assessment: Acceptable

Comments: Forested ROW, Perulack West Loop. Volunteer wetland vegetation species were mixed with upland species within this apparent upland. Although revegetation was more moderate along this area compared to other areas, no erosion or accumulated sediment was noted, and the ROW appeared stable.



Photo No.: 13

MP/Sta. No.: ~75+75

Direction: West

Assessment: Acceptable

Comments: Forested ROW, Perulack West Loop, Waterbody PW_S07, Wetland PW_W09. The resource crossing was restored, and the banks were well vegetated. Temporary ECDs remained, but inspection participants discussed their removal. Texas Eastern already planned to remove the ECDs during the summer of 2016. No environmental concerns were identified.

Company: Texas Eastern Transmission, L.P. Docket No.: CP13-84-000

Project: TEAM 2014 Loop: Perulack West



Photo No.: 14

MP/Sta. No.: 110+00 **Direction:** Southeast

Assessment: Acceptable

Comments: Agricultural ROW, Perulack West Loop. A narrow area, directly along the trench line, was heavily vegetated with grass, possibly following a neighboring gas pipeline repair after construction was complete. The surrounding cultivated field was planted in corn. No erosion or other concerns were noted. The corn crop was patchy within the surrounding ROW, suggesting potential crop productivity issues, such as soil compaction, etc. compared to the adjacent field. Texas Eastern reported that there were no landowner complaints.