

Resource Report 11 Reliability and Safety

FERC Docket No. CP22-____-000

Equitrans, L.P.
Ohio Valley Connector Expansion Project
Greene County, Pennsylvania; Wetzel
County, West Virginia; and Monroe County, Ohio

January 2022



Public Information

RESOURCE REPORT 11 - RELIABILITY AND SAFETY	
SUMMARY OF FERC FILING INFORMATION	
Information	Found In
Minimum Filing Requirements	
1. Describe how the project facilities would be designed, constructed, operated, and maintained to minimize potential hazard to the public from the failure of project components as a result of accidents or natural catastrophes - Title 18 Code of Federal Regulations (CFR) part (§) 380.12 (m)	Section 11.1 Section 11.2
Additional Information Often Missing and Resulting in Data Requests	
2. Identify by milepost and in table form, all U.S. Department of Transportation class locations and areas of concern (for example, high consequence areas) as defined in Title 49 of the Code of Federal Regulations, Section 192.903 for the proposed route, alternative routes, and compressor stations and explain the basis for high consequence area identification.	Section 11.1.2 Section 11.1.3 Section 11.1.4
3. Discuss the outcome of the consultations with local fire departments and emergency response agencies relative to whether additional equipment, training, and support are needed in the project area.	Section 11.1.1

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Acronyms and Abbreviations

CFR	Code of Federal Regulations
Equitrans	Equitrans, L.P.
FERC	Federal Energy Regulatory Commission
HCA	High Consequence Area
LNG	Liquefied Natural Gas
MLV	mainline valve
OH	Ohio
OVC	Ohio Valley Connector
PA	Pennsylvania
PHMSA	Pipeline Hazardous Materials Safety Administration
Project	Ohio Valley Connector Expansion Project
ROW	right-of-way
USDOT	United States Department of Transportation
WV	West Virginia

11.0 Reliability and Safety

A detailed description and overview map of Equitrans, L.P.'s (Equitrans') Ohio Valley Connector Expansion Project (Project) are provided in Resource Report 1, General Project Description.

Resource Report 11 describes the reliability and safety of the proposed Project through design, construction, operation, and maintenance. This report includes measures used to minimize potential hazard to the public from the failure of Project components as a result of accidents or natural catastrophes. Procedures and design features utilized to avoid undue hazards and effects are described below. Resource Report 11 is required for applications involving new or re-commissioned liquefied natural gas (LNG) facilities as defined within 18 Code of Federal Regulations (CFR) 380.12(m). The Project does not involve the construction of or modification to LNG facilities; therefore, this Resource Report is abbreviated.

The Project is designed to meet current federal and state regulatory standards and safety requirements during construction and operation. Should an accident or rupture occur during operation of the Project, Equitrans will adhere to their existing emergency response and contingency plans for the Project areas, which are designed to protect human life and the environment in accordance with § 192.615. Equitrans will also employ proactive measures designed to minimize or eliminate the occurrence of a release. Equitrans is committed to safe operation of Project facilities and will continue to meet or exceed monitoring requirements.

11.1 Pipeline Facilities

11.1.1 Pipeline Safety Regulations

The proposed Project facilities will be designed, constructed, operated, and maintained in accordance with the United States Department of Transportation (USDOT) Minimum Federal Safety Standards in Title 49, CFR Part 192. The regulations are intended to provide adequate protection for the public from natural gas pipeline failures. Part 192 specifies material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion. These federal safety standards, together with Equitrans' pipeline integrity management programs and recent advances in pipeline manufacturing, construction and inspection techniques minimize the potential for pipeline failure. These measures include improved public awareness initiatives such as the "811" program "Call Before You Dig" and other "One Call" programs that promote public awareness and are intended to reduce third-party damage to underground utilities, including buried high pressure natural gas pipelines.

In accordance with §192.615, Equitrans will maintain its existing Emergency Response Plan for the Project's facilities. Equitrans' Emergency Response Plan is in accordance with the USDOT regulations and audited for compliance. Key elements of this plan include procedures for:

- ▶ receiving, identifying, and classifying emergency events (e.g., natural disasters, gas leakage and other releases, and fires);
- ▶ establishing and maintaining communications with local fire, police, and public officials and coordinating emergency response;
- ▶ prompt and effective response to a notice of each type of emergency, including the following: (i) gas detected inside or near a building, (ii) fire located near or directly involving a pipeline facility, (iii) explosion occurring near or directly involving a pipeline facility, (iv) natural disasters;
- ▶ making personnel, equipment, tools, and materials available at the scene of an emergency;
- ▶ protecting people first and then property from actual or potential hazards;

- ▶ implementing emergency shutdown and pressure reduction of the system and the safe restoration of service;
- ▶ beginning action under §192.617, if applicable, as soon after the end of the emergency as possible; and
- ▶ actions required to be taken by a controller during an emergency in accordance with §192.631.

Should the need arise, Equitrans will have field service personnel and repair contractors that are capable of completing emergency repairs and restoration.

Local contact phone numbers, external contact information, equipment or resources available for mobilization, and emergency-specific procedures to be followed will be incorporated into Equitrans' Emergency Response Plan prior to placing new facilities into service.

Pipeline operators are required to establish and maintain ongoing liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a gas pipeline emergency, and the operators must coordinate mutual assistance in responding to emergencies. Pipeline operators also must establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials.

Key elements of Equitrans' liaison program will include:

- ▶ periodic meetings with emergency agencies to coordinate emergency response in the event of an incident;
- ▶ periodic tabletop emergency exercises and mock emergency drills;
- ▶ annual communications about:
 - potential hazards associated with Equitrans' facilities located in their service area and prevention measures undertaken;
 - types of emergencies that may occur at those facilities;
 - how to recognize and respond to pipeline emergencies; and
 - how to contact Equitrans for additional information;
- ▶ special information meetings and training at the invitation of the municipalities; and
- ▶ circulation of literature listing emergency telephone numbers and other pertinent data.

11.1.2 Class Locations

Part §192.5 defines area classifications, based on population density in the vicinity of the pipeline, which specify more rigorous safety requirements for populated areas. The class location unit is an area that extends 220 yards (660 feet) on either side of the centerline of any continuous one-mile length of pipeline (sliding mile). The four area classifications are as follows:

- ▶ Class 1 - A location that is offshore or with 10 or fewer buildings intended for human occupancy;
- ▶ Class 2 - A location with more than 10 but fewer than 46 buildings intended for human occupancy;
- ▶ Class 3 - A location with 46 or more buildings intended for human occupancy or where the pipeline lies within 100 yards of either a building or small, well-defined outside area (such as a playground, recreation area, or other

place of public assembly) occupied by 20 or more people on at least five days a week for 10 weeks in any 12-month period; and

- ▶ Class 4 - where buildings with four or more stories aboveground are prevalent.

Pipelines constructed in Class 1 areas must be installed with a minimum depth of cover of 30 inches in normal soil and 18 inches in consolidated rock. Pipelines constructed in Class 2, 3, and 4 locations, and under drainage ditches of public roads and railroad crossings, must be installed with a minimum depth of cover of 36 inches in normal soil and 24 inches in consolidated rock (49 CFR §192.327).

Class locations also specify requirements for sectionalizing block valves. Each point on the pipeline must be within 10 miles of a valve in a Class 1 location, within 7.5 miles in Class 2, within four miles in Class 3, and within 2.5 miles in Class 4. There are more rigorous standards in more populated areas for pipeline design pressures, hydrostatic test pressures, maximum allowable operating pressure, inspection and testing of welds, and frequency of pipeline patrols and leak surveys. Equitrans will adhere to the USDOT Minimum Federal Safety Standards in 49 CFR §192. The Project will be located within class locations as identified in Table 11.1-1 below.

One proposed MLV is located on the Project within the existing Corona Compressor Station. The proposed H-326 pig receiver at the OVC Interconnect will have a 24-inch valve on the receiver, which will operate as an MLV for the line. Additionally, interconnect/metering stations will have the capability to shut down the pipeline remotely or manually.

Table 11.1-1
Class Locations by Milepost

Milepost Start ¹	Milepost End ¹	Class Location
H-327/H-328 Pipeline, Greene County, PA²		
0	0.46	Class 1
H-326 Pipeline, Wetzel County, WV³		
0	3.71	Class 1
H-329 Pipeline, Wetzel County, WV		
0	0.02	Class 1
H-330 Pipeline, Wetzel County, WV³		
0	0.69	Class 1
H-330 Spur, Wetzel County, WV		
0	0.09	Class 1
Logansport Spur, Wetzel County, WV⁴		
0	0.03	Class 1

Notes:

- 1 Mileposts reflect 2D mileage of the pipeline.
- 2 H-327 and H-328 are parallel pipelines located within shared permanent pipeline right-of-way (ROW).
- 3 Portions of H-326 and H-330 Pipelines share ROW for 0.20 mile.
- 4 Logansport Spur consists of 0.03-mile of pipeline located within existing fenced facility area.

If population densities near the pipeline increase after construction resulting in a change in class location, 49 CFR §192.609 and §192.611 require confirmation or revision to the MAOP to match the new class. If revisions are needed, they may be achieved by reducing the operating pressure, by pressure testing the segment of pipe using the applicable class location multiplier, or by replacing the segment of pipe for the class change, if required, with one that complies with the USDOT minimum PHMSA code for that class location.

11.1.3 High Consequence Areas

The Pipeline Safety Improvement Act (H.R.3609) required the USDOT to issue regulations establishing standards for risk analysis and to develop an integrity management program to strengthen overall pipeline safety. The act also established minimum requirements for integrity management programs for gas pipelines located in high consequence areas (HCAs).

49 CFR § 192.903 defines HCAs and methods for identifying them, based on structure types and human occupancy within potential impact radii along the pipeline. An HCA is defined as the area within the radius of a circle within which potential failure of a pipeline could have a significant impact to 20 or more buildings intended for human occupancy or to an area where people congregate (an "identified site" within 49 CFR § 192.903).

The term HCA is used to identify an area where pipeline releases could have greater consequences to health and safety or the environment. As required by the act, the Pipeline Hazardous Materials Safety Administration (PHMSA) issued its final rule in 2003, requiring operators to develop integrity-management programs for gas transmission pipelines located in HCAs. HCAs are defined in 49 CFR 192.903 as follows:

High consequence area means an area established by one of the methods described in paragraphs (1) or (2) as follows:

- (1) An area defined as-
 - (i) A Class 3 location under §192.5; or
 - (ii) A Class 4 location under §192.5; or
 - (iii) Any area in a Class 1 or Class 2 location where the potential impact radius is greater than 660 feet (200 meters), and the area within a potential impact circle contains 20 or more buildings intended for human occupancy; or
 - (iv) Any area in a Class 1 or Class 2 location where the potential impact circle contains an identified site.
- (2) The area within a potential impact circle containing-
 - (i) 20 or more buildings intended for human occupancy, unless the exception in paragraph (4) applies; or
 - (ii) An identified site.
- (3) Where a potential impact circle is calculated under either method (1) or (2) to establish a high consequence area, the length of the high consequence area extends axially along the length of the pipeline from the outermost edge of the first potential impact circle that contains either an identified site or 20 or more buildings intended for human occupancy to the outermost edge of the last contiguous potential impact circle that contains either an identified site or 20 or more buildings intended for human occupancy.
- (4) If in identifying a high consequence area under paragraph (1)(iii) of this definition or paragraph (2)(i) of this definition, the radius of the potential impact circle is greater than 660 feet (200 meters), the operator may identify a high consequence area based on a

prorated number of buildings intended for human occupancy with a distance of 660 feet (200 meters) from the centerline of the pipeline until December 17, 2006. If an operator chooses this approach, the operator must prorate the number of buildings intended for human occupancy based on the ratio of an area with a radius of 660 feet (200 meters) to the area of the potential impact circle (i.e., the prorated number of buildings intended for human occupancy is equal to $20 \times (660 \text{ feet})$ [or 200 meters]/potential impact radius in feet [or meters]).

Identified site means each of the following areas:

- (a) An outside area or open structure that is occupied by twenty (20) or more persons on at least 50 days in any twelve (12)-month period. (The days need not be consecutive.) Examples include but are not limited to, beaches, playgrounds, recreational facilities, camping grounds, outdoor theaters, stadiums, recreational areas near a body of water, or areas outside a rural building such as a religious facility; or
- (b) A building that is occupied by twenty (20) or more persons on at least five (5) days a week for ten (10) weeks in any twelve (12)-month period. (The days and weeks need not be consecutive.) Examples include, but are not limited to, religious facilities, office buildings, community centers, general stores, 4-H facilities, or roller skating rinks; or
- (c) A facility occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate. Examples include but are not limited to hospitals, prisons, schools, day-care facilities, retirement facilities or assisted-living facilities.

49 CFR § 192, Subpart O requires a facility-specific Integrity Management Plan be developed to document procedures under which a pipeline will be monitored and maintained for those areas where the pipeline crosses HCAs. No HCAs were identified along the Project; therefore, an Integrity Management Plan is not needed. In accordance with the pipeline integrity management rule, Equitrans will monitor the Project during operation to assess whether HCAs become present and will inspect the pipeline at minimum every seven years. Also, HCAs identified along pipeline facilities will be incorporated into the integrity management program as required by 49 CFR Part 192, Subpart O, and Pipeline Integrity Management.

11.1.4 Moderate Consequence Areas

In addition to HCAs, moderate consequence areas are defined in 49 CFR 192.3 as follows:

Moderate consequence area means:

- (1) An onshore area that is within a potential impact circle, as defined in § 192.903, containing either:
 - (i) Five or more buildings intended for human occupancy; or
 - (ii) Any portion of the paved surface, including shoulders, of a designated interstate, other freeway, or expressway, as well as any other principal arterial roadway with 4 or more lanes, as defined in the Federal Highway Administration's Highway Functional Classification Concepts, Criteria and Procedures, Section 3.1 (see: https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf), and that does not meet the definition of high consequence area, as defined in § 192.903.
- (2) The length of the moderate consequence area extends axially along the length of the pipeline from the outermost edge of the first potential impact circle containing either 5 or more buildings intended for human occupancy; or any portion of the paved surface,

including shoulders, of any designated interstate, freeway, or expressway, as well as any other principal arterial roadway with 4 or more lanes, to the outermost edge of the last contiguous potential impact circle that contains either 5 or more buildings intended for human occupancy, or any portion of the paved surface, including shoulders, of any designated interstate, freeway, or expressway, as well as any other principal arterial roadway with 4 or more lanes.

No moderate consequence areas were identified along the Project. Equitrans will monitor the Project during operation to assess whether moderate consequence areas become present.

11.2 Measures to Protect the Public

The safety and reliability of the Project will be based on safe design, appropriate equipment selection, code compliance, thorough review, careful construction, and competent maintenance and operation.

Measures to protect the public are generally passive, active, or procedural. Passive protection refers to measures incorporated during pipeline design and construction. Active measures include the use of monitoring controls, valves, and emergency shutdown systems during operations, as well as maintenance smart pigging for early identification of pipeline anomalies. Procedural measures include management approaches to reduce the potential for, or minimize the occurrence of, incidents during operation, including staff training, aerial surveillance, participating in the One-call system for pre-excavation notifications, and an Emergency Response Plan coordinated with local fire departments and other agencies as discussed in Section 11.1 above.

The Project will include pipeline design and equipment features, in addition to routine inspection and maintenance programs, which will be implemented to increase the overall safety of the system and protect the public from system failures due to operations, incidents, or natural catastrophes. Project facilities will be designed, constructed, operated, and maintained in accordance with the USDOT federal safety standards found in 49 CFR Part 192. The regulations set forth minimum safety requirements and specify design and construction requirements for pipeline facilities, the transportation of gas, liquid removal, emergency shutdown procedures, pressure limiting devices, additional safety equipment, and ventilation requirements for compressor station facilities.

Operating personnel will be thoroughly trained to perform their activities in accordance with Equitrans' operating policies and procedures, which will be established and reviewed periodically by the USDOT. These policies and procedures provide specific directions in inspection and preventative maintenance of facilities, as well as procedures to follow in the event of an accident. Periodic training sessions and review of operating and emergency procedures are conducted for affected operations' employees. This training includes safe operation of pipeline valves and equipment, facilities including interconnect/metering stations, hazardous material handling procedures, public liaison programs, and general operating procedures. The proposed Project facilities will be operated and maintained in accordance with these procedures.

11.2.1 Design Specifications

A deep anode groundbed and rectifier for cathodic protection is required for the H-327 and H-328 pipelines in Greene County, PA. The new deep anode bed is proposed within the existing Cygrymus Compressor Station. The cathodic protection system will be installed to mitigate corrosion of the pipeline facility. No additional land impacts are required for construction or operation of the deep anode groundbed. The cathodic protection system impresses a low voltage current to the pipeline to offset natural soil and groundwater corrosion potential. The functional capability of cathodic protection systems are inspected frequently for proper operating conditions for corrosion mitigation. Existing system rectifiers at nearby existing facilities will be used to protect the remaining proposed pipeline facilities.

Design specifications related to class locations are included in Section 11.1.2 above. Equitrans' proposed pipeline system will include equipment features, such as shut-off valves designed to increase the overall safety of the system and protect the public from a potential failure within the system due to accidents or natural disasters. As described in Section 11.1.2 above, one remote controlled MLV is proposed for the Project within the existing Corona Compressor Station. The proposed H-326 pig receiver at the OVC Interconnect will have a 24-inch valve on the receiver, which will operate as a MLV for the line. Once a MLV is closed, the system can be purged, if necessary.

The metering/regulating equipment at the compressor station sites could be isolated by a shut-off valve that would be managed by control room operation or programmed system protocol. In the event of an emergency, the station's shut-off valve would close to isolate the incident.

11.2.2 Construction Procedures

During pipeline construction, the selected contractor will be required to develop and implement a Project specific safety plan in accordance with federal safety requirements for construction activities. Prior to construction, Equitrans will review and have approval authority over the selected contractor's safety plan. Prior to commencement of the Project, staff will be required to undergo safety trainings, including Equitrans' Safety and Environmental Awareness Program training.

As discussed in Resource Report 6, blasting is not currently proposed for the Project. If blasting becomes necessary, Equitrans will adhere to the Blasting Plan provided in Resource Report 6, Appendix 6-B. In the event of a fire, Equitrans plans to adhere to the Fire Prevention and Suppression Plan provided in Appendix 11-A.

Equitrans plans to keep construction in proximity to residences and buildings limited to the shortest timeframe required to safely construct the pipeline. As discussed in Resource Report 8, no occupied residences have been identified within 50 feet of construction workspaces. As a minimum, Equitrans will place safety fences along the construction corridor at these locations in an effort to keep non-workers out of the workspace.

11.2.3 Operation and Maintenance Procedures

In addition to the design measures previously described, Equitrans will operate and maintain the new Project facilities in accordance with USDOT requirements for safe and reliable operation. In accordance with USDOT regulations, 49 CFR Part 192, the facilities will be regularly inspected for leakage as part of scheduled operations and maintenance. Inspection and patrol measures that may be used along the permanent ROW include:

- ▶ Physically walking and inspecting the ROWs;
- ▶ Inspecting the ROWs by vehicle;
- ▶ Conducting fly-over inspections of the ROW;
- ▶ Inspecting and maintaining MLVs;
- ▶ Conducting leak surveys as required by PHMSA regulations;
- ▶ Conducting tests to verify the effectiveness of cathodic protection systems; and/or
- ▶ Pigging with an internal inspection tool to identify corrosion and other anomalies, during which Equitrans will look for signs of unusual activity on the ROWs that deviate from normal conditions.

Inspection/patrol intervals are described in Table 11.2-1.

Table 11.2-1

Inspection Schedule for Major Components of the Project

Pipe Class	Inspection/Patrol Interval ¹
Highway Crossings	
Class 1	7.5 months but at least two per year
Other Locations	
Class 1	15 months but at least one per year

Note:

¹ Intervals comply with 49 CFR § 192.705.

11.2.4 Pipeline Facilities

Equitrans' pipeline system is designed to safely handle the gas volumes and pressures proposed for the Project. Equitrans will implement procedures to operate and maintain its underground pipeline facilities in accordance with USDOT regulations to include:

- ▶ upgrading pipeline facilities, as necessary, to comply with pipe class location requirements defined in 49 CFR § 192.5;
- ▶ protecting metallic pipelines from external, internal, and atmospheric corrosion in accordance with 49 CFR § 192.451; buried pipelines will be cathodically protected and monitored by qualified personnel;
- ▶ conducting periodic field patrols and leak detection surveys; patrols will include aerial patrols and surface patrols utilizing leak detection equipment where warranted to investigate possible leaks; and
- ▶ participating in the One-call system for pre-excavation notifications through the national "811" call center and the applicable "Dig-Safe" call systems for the Project states. The One-Calls of WV and PA require a 72-hour minimum notice, and the OHIO811 requires a notice of at least 48 hours prior to digging.

11.2.5 Aboveground Facilities

In addition to pipeline safety standards for pipelines, 49 CFR 192.731 through 192.736 establish guidelines for inspections, hazardous materials storage, and monitoring at compressor stations. Equitrans' planned modifications at existing compressor stations will be designed, constructed, and operated to meet or exceed applicable specifications. The piping at the stations will be manufactured in accordance with Equitrans specifications, and wall thickness will conform to the PHMSA safety regulations contained in 49 CFR Part 192.

Each compressor station will be surrounded by a chain-link perimeter fence that restricts access to authorized personnel only. The compressor buildings consist of noncombustible material and will be sufficiently ventilated to minimize the potential for gas to accumulate within enclosed areas. The existing compressor stations are equipped with automatic emergency detection and shutdown systems. Equitrans tests these safety and emergency systems routinely to maintain safe operation. The emergency shutdown systems force a shut down and isolate areas of the compressor station in the event of a fire before a flammable mixture of gas can develop.

Equitrans maintains first aid and safety equipment at the facilities. Equitrans' operations personnel receive training in proper equipment use and first aid. Hand-held dry chemical fire extinguishers are maintained at the stations.

PHMSA defines the potential impact radius (PIR) as the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property (Section

192.903). The equation used to calculate the PIR relies on inputs that do not apply to aboveground facilities (i.e., pipeline diameter and MAOP); therefore, the PHMSA PIR definition does not encompass aboveground facilities.

11.3 Emergency Procedures

The Project has been designed to meet current federal and state safety regulations during construction and operation. As previously stated in Section 11.2.5, Equitrans maintains first aid and safety equipment at their facilities. However, if an emergency were to occur, Equitrans would adhere to their Emergency Response Plan, and staff would have access to medical centers, hospitals, and emergency rooms. The following lists the medical facilities closest to the Project and their contact information.

- ▶ Southwest Regional Medical Center: 350 Bonar Avenue, Waynesburg, PA 15370
 - Emergency Department: 724-627-3101
 - Located approximately 27 miles (45 minutes) from the Project facilities in PA.
 - Provides 24-hour emergency services.
- ▶ Wetzel County Hospital: 3 East Benjamin Drive, New Martinsville, WV 26155
 - Phone: 304-455-8000
 - Located approximately 35 miles (1 hour) from the Project facilities in WV.
 - Located approximately 20 miles (30 minutes) from the Project facilities in OH.
 - Provides 24-hour emergency services.
- ▶ Reynolds Memorial Hospital: 800 Wheeling Avenue, Glen Dale, WV 26038
 - Phone: 304-845-3211
 - Located approximately 18 miles (30 minutes) from the Project facilities in OH.
 - Provides 24-hour emergency care

APPENDIX 11-A
Fire Prevention and Suppression Plan

Fire Prevention and Suppression Plan

FERC Docket No. CP22-____-000

Equitrans, L.P.
Ohio Valley Connector Expansion Project
Greene County, Pennsylvania,
Wetzel County, West Virginia,
and Monroe County, Ohio

January 2022



Public Information

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Acronyms and Abbreviations

AO	Authorized Officer
CFR	Code of Federal Regulations
EI	Environmental Inspector
Equitrans	Equitrans, L.P.
FERC	Federal Energy Regulatory Commission
Fire Plan	Fire Prevention and Suppression Plan
Forest Plan	Land and Resource Management Plan
FS	United States Forest Service
FSO	Field Safety Officer
OH	Ohio
OSHA	Occupational Safety Health Association
PA	Pennsylvania
Project	Ohio Valley Connector Expansion Project

1.0 Introduction

The objective of this Fire Prevention and Suppression Plan (Fire Plan) is to prevent a fire from occurring during and after the installation of Equitrans, L.P.'s (Equitrans) Ohio Valley Connector Expansion Project (Project) facilities. It describes the hazardous fuel sources and material that could initiate or contribute to the spread of a fire, as well as the communication plan and procedures to suppress the spread of fire.

The Project recognizes the potential for fire from hot work and developed a program to protect the public, employees, property, and the environment from fire resulting from hot work operations. The Project has potential to impact sensitive environmental resources and, as a result, environmental protection measures have been developed to minimize potential impacts on these resources and will be applied, as applicable, to the Project.

2.0 Purpose

The purpose of this Fire Plan is to identify best management practices for preventing fires and responding to inadvertent fires that could occur during construction of the Project. The Fire Plan identifies responsibilities and procedures for suppressing fire ignitions, responding to, and reporting fire emergencies, and working with emergency response agencies in the event of fire, regardless of cause. The Fire Plan is designed to be consistent with applicable federal and state/commonwealth laws, regulations, plans, and policies, including Chapter 14 of the 2003 International Fire Code (Combustible Dust-Producing Operations) and Section A104 of the International Wildland-Urban Interface Code (Ignition Source Control).

The Fire Plan provides an implementation strategy to ensure immediate and aggressive action to suppress inadvertent fires that occur during construction of the Project and establishes protocols and lines of communication for reporting fires that occur. Implementation of the Fire Plan will ensure that proper types and quantities of safety and fire extinguishing equipment are available in construction areas to suppress fires and that construction workers are adequately trained for response to fires. The Fire Plan will be used to familiarize Equitrans personnel with basic fire emergency planning, response, and evacuation procedures and their individual roles in fire prevention and suppression. Planning and training will help Equitrans personnel respond effectively in the event of a fire, thereby avoiding or minimizing injuries and/or damage to property or the environment.

All employees and personnel have the authority and responsibility to stop work if conditions become unsafe or appear to be unsafe at any time.

3.0 Training

Prior to the start of construction, Equitrans will conduct environmental and safety training for Equitrans and contractor personnel. The training program will focus on the Federal Energy Regulatory Commission's (FERC's) *Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures*; other construction, restoration, and mitigation plans, including this Fire Plan; and applicable permit conditions. In addition, Equitrans will provide large-group training sessions before each work crew begins construction with periodic follow-up training for groups of newly assigned personnel.

Training for fire suppression and response will include:

- ▶ the chain of command and fire reporting process;
- ▶ emergency contacts and numbers;
- ▶ basic fire prevention behavior controls;
- ▶ basic uses of hand tools, water backpacks, and other fire suppression equipment;
- ▶ fire suppression procedures and precautions; and
- ▶ emergency response and evacuation procedures.

Equitrans' Contractor Safe Work Rules will also provide a general overview of specific Equitrans policies and procedures and highlights of relevant Occupational Safety and Health Administration (OSHA) standards for General Industry and Construction. This document does not include all of the standards or procedures that may be applicable to a job or task, nor is it inclusive of all of the information that may be necessary to be in compliance.

Fire prevention is extremely important at Equitrans. Aside from natural gas, there are additional fire hazards posed by hydrocarbons, liquids, crude oil, and condensate. Also, there may be flammable compressed gases and ordinary combustibles depending on the work site and the jobs being performed. Contractors must comply with OSHA 29 Code of Federal Regulations (CFR) § 1910.39, Fire Prevention Plans, and 1926.151, Fire Prevention. Contractors must take appropriate steps and preventive measures to minimize the potential for a fire. These steps include, but are not limited to, the following:

- ▶ only smoke in designated areas;
- ▶ do not allow trash or flammable materials to accumulate;
- ▶ identify and protect or eliminate potential sources of fuel, if possible;
- ▶ recognize and eliminate potential ignition sources, including static electricity;
- ▶ keep flammable liquids in approved, self-closing containers;
- ▶ learn the location of firefighting equipment, emergency shutdowns, and alarms;
- ▶ equip each piece of construction equipment with a fire extinguisher; and
- ▶ ensure that all inspectors and managers on site have fire extinguishers with their vehicles.

4.0 Coordination

Equitrans' contractors will be responsible for fire prevention during construction. The Project, along with the appropriate emergency response or jurisdictional agencies, will be responsible for fire suppression and investigation. All Project personnel, including contractors, will be responsible for complying with applicable laws and regulations for fire prevention and suppression as well as the measures described in this Fire Plan.

4.1 Chief Inspector

The Chief Inspector(s) will be responsible for oversight of all activities along the pipeline spreads and above ground facilities, including fire prevention and suppression.

4.2 Spread Superintendents

Spread Superintendent(s) (if applicable) will be responsible for general construction operations associated with their individual spreads including compliance with this Fire Plan. Spread Superintendents will be in communication with Chief Inspector(s), Field Safety Officer(s), Environmental Inspector(s), Authorized Officer(s), and local emergency response, as necessary, to ensure that construction personnel are aware of fire hazards and prevention methods. Spread Superintendents will coordinate with Federal, State/Commonwealth, and local emergency responders during periods of high or severe fire conditions to ensure that appropriate preventive measures are in place during construction. Spread Superintendents also will be responsible for:

- ▶ monitoring construction areas to identify fire hazards and risks;
- ▶ developing and implementing fire protection strategies;
- ▶ ensuring adequate firefighting equipment is deployed to high risk areas and that equipment is visible and accessible; and
- ▶ ensuring that all firefighting equipment is inspected on a regular basis and maintained in good condition.

4.3 Field Safety Officers

Field Safety Officer(s) (FSO)s will be responsible for managing on-site fire suppression documentation, ensuring that fire suppression equipment is available and maintained, ensuring that construction personnel are trained to use equipment properly, and communicating fire hazards and threat levels to construction personnel. Additional responsibilities of the FSOs include:

- ▶ reporting all uncontrolled fires within or in the vicinity of the construction area, regardless of source, to the Spread Superintendent, emergency responders, and nearest fire dispatch;

- ▶ conducting weekly inspection of tools, equipment, personal protective equipment, and first-aid kits;
- ▶ developing and maintaining a register of emergency equipment;
- ▶ conducting weekly inspections of flammable materials;
- ▶ posting “No Smoking” and “Designated Smoking Area” signs and fire rules at appropriate locations within the construction area;
- ▶ providing initial response support in the event of a fire and supervising fire suppression activities until relieved;
- ▶ providing and gaining approval of site-specific burn and smoke management plans for pre-planned controlled fires that will be implemented in accordance with federal, state/commonwealth, and local requirements;
- ▶ providing written burning and blasting schedules, as required, to the appropriate federal, state/commonwealth, and local fire control jurisdiction;
- ▶ monitoring construction areas where activities may present safety issues, such as blasting;
- ▶ complying with regulatory requirements in the storage and handling of flammable substances and maintaining a registry of flammable substances;
- ▶ establishing facilities for on-site chemical management and maintaining Safety Data Sheets (formally known as Material Safety Data Sheets) for flammable materials;
- ▶ establishing controls that minimize exposure to flammable materials;
- ▶ ensuring that flammable substances are removed from the construction area when not in use or when the location is unattended;
- ▶ training and instructing workers in the use, handling, and storage of flammable materials;
- ▶ ensuring that construction personnel have been trained in the requirements of this Fire Plan; and
- ▶ monitoring compliance with applicable federal, state/commonwealth, and local laws, ordinances, and regulations regarding fire prevention and suppression.

4.4 Facility Superintendents

Facility Superintendent(s) (if applicable) at aboveground facility sites will have the same responsibilities as the Spread Superintendents as described above.

4.5 Environmental Inspectors

Environmental Inspector(s) (EI)s provide environmental regulatory guidance and oversight. This oversight includes fire prevention and suppression within and in the vicinity of construction areas. EIs will be familiar with Federal, State/Commonwealth, and Local rules and regulations pertaining to fire prevention and response. In the event of a fire emergency, EIs will assist with fire suppression.

4.6 Authorized Officers

Authorized Officers (AO)s (if applicable) are agency representatives who supply information or provide direction regarding potential hazard conditions or changes in prevention methods. AO’s may include Interagency Dispatch Centers or staff from land managing agencies. AO’s will provide information on current fire danger ratings, the presence of other fires in the vicinity of construction areas, natural disaster warnings, and temporary restrictions on construction activities due to fire or other emergencies. If extreme fire danger is identified by a land managing agency, the AO may direct the Chief Inspector or Spread Superintendents to increase the level of fire monitoring, install additional fire prevention or suppression equipment, or stop work, if necessary. The Chief Inspector, Spread Superintendents, FSOs, EIs, AOs, and local fire authorities have the authority to stop or reduce construction activities or operations that pose a fire hazard until appropriate measures are implemented to minimize risk. The FSOs will accompany Spread Superintendents, AOs, or third-party compliance monitors on fire inspections and take corrective action when observing or having been notified that fire protection measures have not been properly installed or maintained.

5.0 Emergency Notification

In the event of a fire or other emergency, construction personnel on the scene will notify the appropriate Spread Superintendent and FSO immediately. The Spread Superintendent will be responsible for immediately notifying the appropriate fire dispatch center and AO or land- managing agency, where appropriate. The FSO or another supervisor will coordinate with local emergency responders if additional support is required. In the

event of a fire emergency, personnel will contact 911 or the nearest emergency response center. Contact information for emergency responders will be appended to this Fire Plan prior to construction. A fire emergency is defined as an incident requiring a coordinated response from one or more agencies. When a response is required, the Spread Superintendent or person in charge will communicate the location and extent of the fire and steps underway to control or suppress the fire.

6.0 Fire Danger Ratings

Fire danger ratings based on standard vegetation fuel models will be used by land- managing agencies (if applicable) or local fire authorities to determine required fire prevention, control, and monitoring efforts. Based on the fire danger ratings, certain activities such as blasting, welding, or grinding may be restricted at the discretion of a land-managing agency or local fire authority. Additionally, the land-managing agency (if applicable) or local fire authority may modify or change requirements based on changes in fire restriction notices or localized hazards or risks. Standard practice Industrial Fire Protection Levels are:

- ▶ Closed Season, when fire season requirements are in effect;
- ▶ Partial Shutdown, which prohibits activities except as indicated by the State/Commonwealth; and
- ▶ General Shutdown when all operations are prohibited.

Fire danger ratings and associated precautions include:

- ▶ No Fire Restrictions – normal fire precautions.
- ▶ Stage 1 Fire Restrictions – normal fire precautions, except that designated smoking areas and permits for burning are required.
- ▶ Stage 2 Red Flag Warning – special fire precautions including:
 - Extra precautions are required such as designating a fire watch, using a spark shield, or wetting work areas down prior to active construction.
 - Machine treatment of slash, skidding, yarding, blasting, welding, metal cutting, and offloading are subject to land-managing agency requirements.
 - No slash burning is allowed.
 - Power saws must be shut down from 1:00 p.m. to 8:00 p.m. local time.
 - Hauling trucking must stay on the right-of-way or surfaced roads after 6:00 p.m. local time.
 - Additional personnel, equipment, and prevention measures are required.
- ▶ Stage 3 Fire Restrictions – special fire precautions including:
 - All restrictions listed above.
 - Shutdown of all construction activities except operations on soil or graded areas, watering, grading, trench excavation, padding, backfilling, and clean- up.
 - Activities such as blasting and welding require an exemption from the AO unless these activities are completed on the graded portions of the right-of-way.

State/Commonwealth and local fire agencies may authorize their own restrictions within jurisdictions for private lands (if applicable). Requirements identified in agency-issued fire restrictions will be followed at all times.

The FSOs will contact the appropriate federal, state/commonwealth, or local fire management office to obtain information on fire danger ratings. Contacts will be daily when conditions are favorable for fires and weekly at other times. The FSOs will communicate the fire danger ratings to the Chief Inspector, Spread Superintendents, Facility Superintendents, EIs, and construction crews.

7.0 Fire Prevention

7.1 Blasting

Procedures for blasting are discussed in Equitrans' Blasting Plan, provided in Resource Report 6. Additional measures to be implemented in blasting areas are described below. When fire danger is high, a two- person fire watch will patrol the blast area for a period of one hour after the completion of blasting. If blasting occurs when the fire danger rating is Stage 1, an FSO will be on site during the operation and remain on site for one hour after the completion of blasting. At least one Size 0 or larger shovel and one water-filled backpack pump

or fire extinguisher will be on site. In addition, a fire watch will be assigned to each crew utilizing blasting equipment. When the fire danger rating is Stage 2 or 3, blasting will be prohibited unless an exemption is granted by the local fire authority. If an exemption is granted, additional fire prevention equipment and personnel will be on site prior to blasting. Equipment may include water trucks, fire tankers, shovels, backpack pumps, bulldozers, etc. A fire watch will remain on site for at least two hours after the completion of blasting activities.

7.2 Welding

During fire season, welding, cutting, or drilling of metal components of the Project will require the approval of the Spread Superintendent and the Chief Inspector. In areas where approval has been granted, vegetation will be cleared at a minimum diameter of 30 feet around the center of the work area unless the area has been watered to eliminate the fire danger. Each welding crew will be outfitted with at least one Size 0 or larger shovel, one water-filled backpack pump, and one five-pound dry powder class ABC fire extinguisher.

When the fire danger rating is Stage 1, a fire watch will be assigned to each crew utilizing cutting and welding equipment. The fire watch will remain on site for one hour after the completion of welding activities.

When the fire danger rating is Stage 2, an exemption by the AO will be required prior to welding activities unless the activities are performed within the graded portions of the right-of-way or other work areas. If an exemption is granted, all Stage 1 measures will be implemented. In addition, a water tanker and bulldozer will be required to be on site during welding operations, and a fire watch will remain on site for at least two hours after the completion of welding activities.

When the fire danger rating is Stage 3, welding activities will require approval from the AO. If an approval is granted, all Stage 1 and Stage 2 measures will be implemented. Fire restriction measures also apply to welding operations performed for equipment maintenance. All welding activities require a permit from the jurisdictional agency as per 29 CFR Part 1910 Subpart Q (welding) and 29 CFR Part 1910 Subpart I (personal protective equipment).

7.3 Equipment

The construction contractor will develop a list of equipment to be used during construction. Equipment used in the construction area may be inspected by the AO or other third-party compliance monitor prior to use on the Project. The equipment may be used only while in good operating order.

7.3.1 Fire Extinguishers

The FSOs will inspect fire extinguishers on a monthly basis to verify that:

- ▶ each extinguisher is in its designated place, clearly visible, and not blocked by equipment or other objects that could interfere with access to the fire extinguisher during an emergency;
- ▶ the nameplate with operating instructions is legible and facing outwards;
- ▶ the pressure gauge is showing that the extinguisher is fully charged;
- ▶ the pin and tamper seal are intact; and
- ▶ the extinguisher is in good condition, showing no signs of physical damage, corrosion, or leakage.

The FSO performing the monthly inspection will initial and date each extinguisher inspection tag. Defective units will be taken out of service and replaced immediately. Fire extinguishers will be used in accordance with 29 CFR § 1910.157. Use of fire extinguishers by construction personnel to suppress fires will only be undertaken if:

- ▶ the fire is small and is not spreading to other areas;
- ▶ escaping the area is possible;
- ▶ the fire extinguisher is in working condition, and the individual understands how to use it; and
- ▶ the fire extinguisher has been professionally inspected and tagged annually.

7.3.2 Spark Arrestors

Spark arresters used for portable equipment, such as chainsaws, will be in good working condition. Light trucks and cars with factory-installed or equivalent mufflers, in good condition, may be used on roads where the roadway is cleared of vegetation. Vehicles equipped with catalytic converters, modern diesel engines with “regeneration systems,” or diesel particulate filters are potential fire hazards. These vehicles will be inspected and cleaned, as necessary, and parked on areas cleared of vegetation. All vehicles operating in vegetation-covered areas will maintain clean and clear undercarriage and exhaust systems, with no chaff, grass, or brush lodged in the exhaust system and skid plates. Cross-country driving outside designated work areas will be prohibited.

7.3.3 Equipment Parking and Storage

Equipment parking areas and small stationary engine sites will be cleared of all extraneous flammable materials. Gas and oil storage areas will be cleared of extraneous flammable material, and “No Smoking” signs will be posted within these areas. All used and discarded oil, oil filters, oily rags, or other waste will be disposed of in approved and marked containers. Containers will be stored in approved locations and removed from the site by licensed contractors or approved personnel and disposed of or recycled at approved facilities. Glass containers will not be used to hold gasoline or other flammable materials.

7.3.4 Power Saws

All gasoline-powered saws will be provided with approved spark arresters/mufflers and maintained in good operating condition. Chainsaw operation will comply with the following:

- ▶ the arrester/muffler will contain a 0.023-inch mesh, stainless-steel screen;
- ▶ chainsaw operators will have available either (1) a fire extinguisher or (2) water backpack and shovel;
- ▶ chainsaws will be moved at least 10 feet from the place of fueling before starting; and
- ▶ chainsaw fuel and oil will be carried in safety cans designed for that purpose.

7.4 Warning Devices

Highway flares or other devices with open flames will not be allowed in the construction area because of the danger for fire. Contractors will only use electric or battery- operated warning devices within the construction area. Smoke detectors will be provided in all buildings constructed for the Project. These detectors will provide a distinctive and recognizable signal to ensure timely evacuation from the area of fire or to perform actions designated by this plan or by the FSO. The FSO will test smoke detectors to ensure their safe operation.

7.5 Warming and Cooking Fires

Warming and cooking fires will be prohibited on the right-of-way.

7.6 Smoking

Smoking is allowed only in areas designated by the FSO. Smoking signs visible to all personnel will be posted at designated areas. The supervisory personnel will be responsible for enforcing smoking restrictions. “No Smoking” signs will be posted in all refueling areas and in areas where flammable materials are used, stored, or discarded.

7.7 Refueling

All fuel trucks will be equipped with a 35-pound minimum ABC fire extinguisher. Storage areas will be cleared of all extraneous flammable materials. All discarded oil, oil filters, oily rags, or other potentially flammable wastes will be disposed of or as described in Section 8.3.3 above. Only approved and properly maintained containers will be used to store or transport flammable liquids.

7.8 Burning

Prior to burning brush, Equitrans will apply for and adhere to all local ordinances in addition to acquiring all applicable permits from the proper agencies. Notifications will be given to local fire departments about the locations and durations that burning activities will be taking place. All burning activities will be supervised by a qualified fire watch, equipped with a fire extinguisher, and other applicable suppression equipment and materials such as sand or water. The fire watch will monitor all burning activities until all fire or smoldering debris is extinguished. All debris will be extinguished prior to leaving the work area each day. All brush that will be burned will be started using a propane torch only. There will not be any additives used to enhance the start of the fire or to maintain the fire.

8.0 Fire and Emergency Response Equipment

8.1 Construction Vehicles

All foreman vehicles and crew buses assigned to the construction area will be equipped with one 10-pound ABC fire extinguisher, one shovel, and an operable backpack water pump of four-gallon capacity. One water truck per construction spread during blasting “red flag warnings” and a fire danger rating Stage 2 will be outfitted with a pressure pump, adjustable nozzle, threaded rubber-lined hose with a minimum of 300 feet of 1½-inch cotton jacket and have a minimum water storage capacity of 1,500 gallons. Water trucks on the right-of-way will be able to help with wildfire fighting in the vicinity of the Project. The construction companies use water trucks that typically have a 4,000-gallon capacity and 150 feet of 1½-inch water hose that would support fire suppression activities. Many of these vehicles have water cannons mounted on the roof. All vehicles and auxiliary equipment will be equipped with properly functioning and baffled exhaust systems.

8.2 Fire-Fighting Tools

At least three 10-person tool caches will be maintained per spread. One cache will be placed in an EI’s vehicle. The second cache will be located with the Spread Superintendent or Facility Superintendent. The third cache will be assigned to the FSO. Toolboxes will be red in color, sealed with metal box-car-type seals, and labeled “For Fire Fighting Only.” The tool caches will contain the following:

- 10 electric headlamps with batteries;
- one first aid kit, 10-person unit;
- two knapsacks;
- five pulaskis with sheaths;
- five long-handled, round-point, size 0 shovels;
- five fire rakes; and
- 10 one-gallon canteens, filled with water.

The Spread Superintendent will expedite delivery of the tool caches upon request of the FSO or AO or when alerted to an emergency requiring the tools. In case a tool cache or first aid kit has been used, it will be immediately replenished. All replenished tool caches or first aid boxes will be inspected by the FSO. These will then be resealed before being returned to the construction site.

9.0 Evacuation

During an emergency evacuation, Equitrans will depend upon response teams, consisting of trained personnel, to attend to injured and/or trapped victims. Construction workers providing medical attention will not help beyond their capability. Equitrans will establish a site-specific emergency communications system utilizing cell phones, hand-held radios, and/or satellite phones to notify workers of emergencies and contact local law enforcement and fire departments. If an immediate evacuation of a construction work area is required, the Chief Inspector, Spread Supervisor, FSO, EI, or other supervisor will direct the evacuation via the nearest escape route to a “safe area.” Otherwise, evacuations will be directed by local emergency responders. Designated evacuation wardens will be assigned to each spread or station to account for all personnel present before, during, and after the evacuation. Construction workers will not return to an evacuated work area until emergency responders have deemed it safe and the Chief Inspector, Spread Supervisor, or Facility Superintendent has given an “all clear” signal.