

**Office of
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Transwestern Pipeline Company, LLC

Docket No. CP21-4-000

LINAM RANCH PROJECT

ENVIRONMENTAL ASSESSMENT

Washington, DC 20426

**LINAM RANCH PROJECT
ENVIRONMENTAL ASSESSMENT**

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TECHNICAL ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
APE	area of potential effect
Authorization	Authorization to Abandon
BIA	Bureau of Indian Affairs
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH ₄	methane
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	CO ₂ equivalents
Commission	Federal Energy Regulatory Commission
dba	decibel on the A-weighted scale
DOT	US Department of Transportation
EA	Environmental Assessment
EI	Environmental Inspector
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FWS	US Fish and Wildlife Service
GHG	Greenhouse Gases
HAP	hazardous air pollutants
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NGA	Natural Gas Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOS	<i>Notice of Scoping Period Requesting Comments on Environmental Issues for the Proposed Linam Ranch Project</i>
NO _x	nitrogen
NPS	National Park Service
NRHP	National Registry of Historic Places
NSA	noise sensitive area
OEP	Office of Energy Projects
Plan	<i>Upland Erosion Control, Revegetation, and Maintenance Plan</i>
PM	particulate matter
Project	Linam Ranch Project
SHPO	State Historic Preservation Office

SO₂
SPAR Procedures
Transwestern
VOC

sulfur dioxide
Spill Prevention and Response Procedures
Transwestern Pipeline Company, LLC
volatile organic compounds

A. PROPOSED ACTION

1. Introduction

The staff of the Federal Energy Regulatory Commission (Commission or FERC) has prepared this environmental assessment (EA) to assess the environmental impacts of the Linam Ranch Project (Project). On October 8, 2020, Transwestern Pipeline Company, LLC (Transwestern) filed an application in Docket No. CP21-4-000 requesting an Authorization to Abandon (Authorization) specific interstate natural gas transmission facilities pursuant to Section 7(b) of the Natural Gas Act (NGA). Transwestern proposes to abandon in-place the Linam Ranch meter station and approximately 2,446 feet of associated 10-inch-diameter natural gas transmission pipeline, all of which are located in Lea County, New Mexico.

We¹ prepared this EA in compliance with the requirements of the National Environmental Policy Act (NEPA); the Council on Environmental Quality's (CEQ) regulations for implementing NEPA (Title 40 Code of Federal Regulations (CFR), and the Commission's regulations at 18 CFR 380. On July 16, 2020, CEQ issued; *Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act* (Final Rule, 85 Fed. Reg. 43,304), which was effective as of September 14, 2020. We are using these new regulations to prepare this EA.

The FERC is the lead federal agency for authorizing interstate natural gas transmission facilities under the NGA, and the lead federal agency for preparation of this EA, in accordance with NEPA (40 CFR 1501) and the Energy Policy Act of 2005. No other agencies elected to become cooperating agencies for the preparation of this EA.

The assessment of environmental impacts is an integral part of the Commission's decision-making process to determine whether to authorize Transwestern's proposal. Our principal purposes in preparing this EA are to:

- identify and assess potential impacts on the natural and human environment that could result from implementation of the proposed action; and
- identify and recommend reasonable alternatives and specific mitigation measures, as necessary, to avoid or minimize Project-related environmental impacts.

¹ "We," "us," and "our" refer to the environmental staff of the FERC's Office of Energy Projects.

2. Purpose and Need

The purpose of the Project is to abandon natural gas facilities that are now underutilized due to changes in the natural gas supply environment. According to Transwestern, abandoning these facilities is necessary because the facilities have no firm transportation agreements and their maintenance expenses are excessive and cannot be recovered by the current revenue stream.

Section 7(b) of the NGA specifies that no natural gas company shall abandon any portion of its facilities subject to the Commission's jurisdiction without the Commission first finding that the abandonment would not negatively affect the present or future public convenience and necessity.

3. Public Review and Comment

On November 13, 2020, the Commission issued in Docket No. CP21-4-000 a *Notice of Scoping Period Requesting Comments on Environmental Issues for the Proposed Linam Ranch Project* (NOS). The NOS was sent to the affected landowner; federal, state, and local government agencies; elected officials; Native American tribes; and other interested parties. In response to the NOS, the Commission received one comment from the National Park Service (NPS) stating its support for the proposed abandonment. The NPS comment was considered and is addressed in the relevant section of this EA.

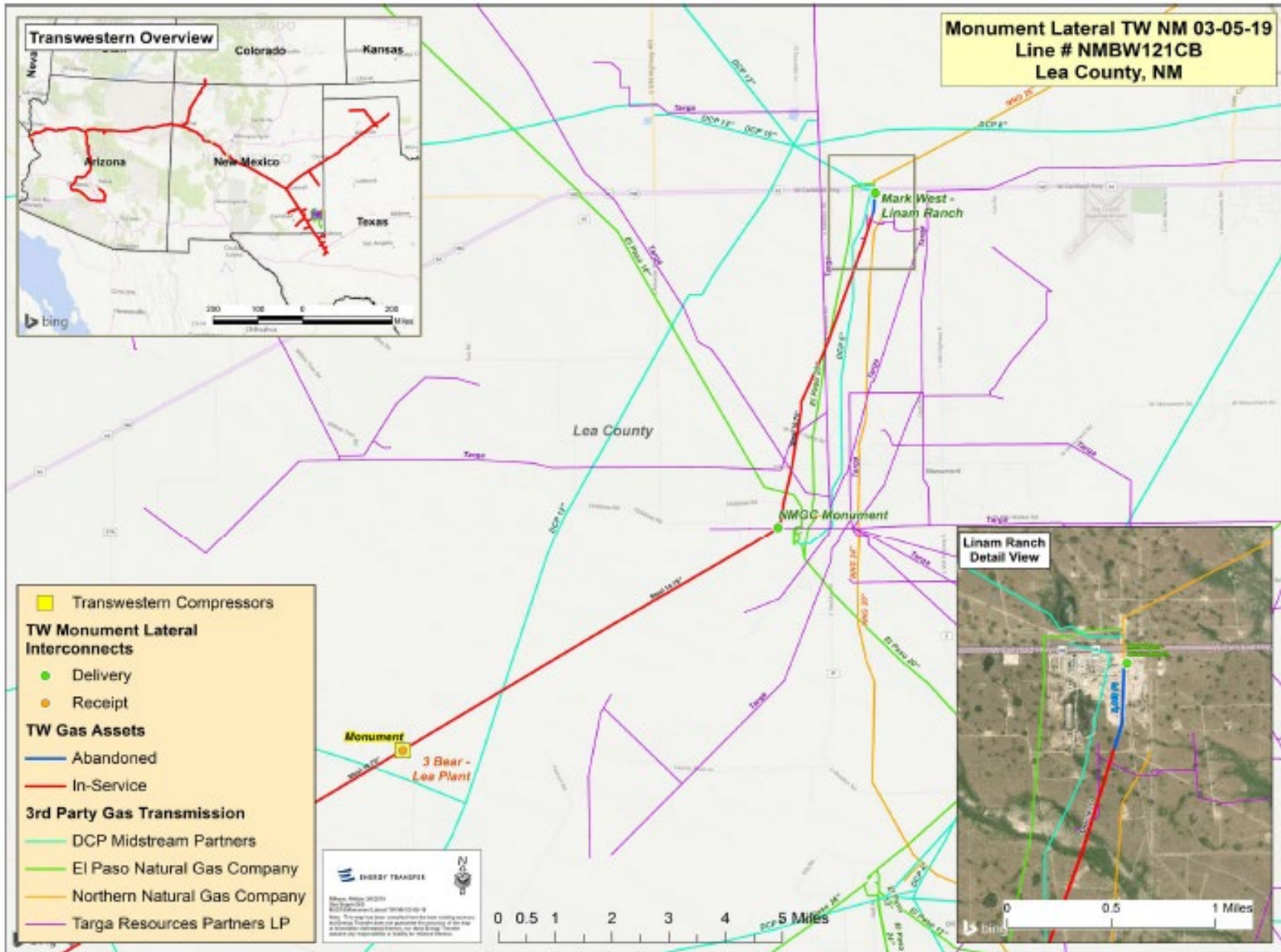
4. Proposed Facilities

Transwestern proposes to abandon in-place the Linam Ranch meter station and approximately 2,446 feet of associated 10-inch-diameter natural gas transmission pipeline, both of which are located in Lea County, New Mexico. Transwestern may use certain aboveground Project components at other locations in the future. The location of the facilities to be abandoned is depicted below in Figure 1.

5. Land Requirements

Ground disturbing activities would require the use of less than one acre of land, comprised of existing natural gas transmission pipeline right-of-way (0.44 acre) outside the fenced southern boundary of the DCP Linam Ranch Gas Plant and lands within the DCP Linam Ranch Gas Plant (0.44 acre) where the Linam Ranch meter station is sited.

Figure 1. Project Location



6. Abandonment Procedures

As described previously, the proposed facilities would be abandoned in-place. Transwestern would install a blind flange on the pipeline to be abandoned, aboveground, at the fenceline of the DCP Linam Ranch Gas Plant. Transwestern would also excavate a segment of the 10-inch-diameter pipeline to be abandoned, cut the pipeline, and install, below-ground, caps to isolate the facilities from other existing and operational facilities. No other ground disturbing activities would occur. Transwestern would then purge the isolated facilities and pack them with nitrogen. Transwestern would conduct its ground disturbing activities (and support activities) in accordance with our *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan)² and its *Spill Prevention and Response Procedures* (SPAR Procedures).

Abandonment activities are anticipated to be completed within one week, but may require additional time due to weather, equipment and/or staffing issues, or other unforeseen events.

7. Environmental Compliance, Inspection, and Monitoring

To ensure compliance with all federal and state permitting and approval requirements, Transwestern would provide its staff and contractors copies of project-specific procedures, drawings (approved for abandonment), and all environmental permits, certificates, and clearances. Transwestern would conduct environmental training for its field personnel and contractors. This training would focus on implementation of our Plan and its SPAR Procedures and other mitigation measures, as appropriate. Additionally, and consistent with our Plan, Transwestern would also employ/designate an environmental inspector (EI) who would be responsible for ensuring environmental compliance. Lastly, should the Project be authorized, FERC staff would maintain compliance oversight of the Project to ensure compliance with any environmental conditions of the Authorization.

8. Permits, Approvals, and Regulatory Consultations

Table 1 lists the major federal and state permits, approvals, and consultations applicable to the Project. Transwestern would be responsible for obtaining and abiding by all permits and approvals required regardless of whether they appear in the table or not.

² The FERC Plan is a set of construction and mitigation measures developed to minimize the potential environmental impacts of the construction of pipeline projects in general. The FERC Plan can be viewed on the FERC website at www.ferc.gov/industries/gas/enviro/plan.pdf.

Table 1 Permits, Approvals, and Regulatory Consultations		
Agency	Permit, Approval, Consultation	Status
Federal Permits		
FERC	Authorization to Abandon	Pending
US Fish and Wildlife Service (FWS)	Endangered Species Act (ESA) Consultation	Complete - <i>No effect</i>
State Permit		
New Mexico Historic Preservation Division	National Historic Preservation Act (NHPA) Consultation	Complete

B. ENVIRONMENTAL ANALYSIS

The Linam Ranch meter station and the 2,446 feet of associated 10-inch-diameter natural gas transmission pipeline to be abandoned are located in Lea County, New Mexico. Lea County is located within the High Plains ecoregion in the southeastern corner of New Mexico, approximately 325 miles southeast of Albuquerque, New Mexico.³ Lea County is situated at an average elevation of 4,000 feet above sea level and is characterized by mostly flat topography. Lea County covers 4,393 square miles or approximately 2,822,522 acres and is sparsely populated. According to the 2010 census, the total population of Lea County was 64,727 residents. Lea County has a generally moderate four-season climate. According to the Lea County Regional Water Plan,⁴ annual participation ranges between 14 and 18 inches with most rainfall occurring between June and September. Average temperatures range between 40 degrees Fahrenheit (F) in the winter and 80 degrees F in the summer.

Oil and gas production represent a significant share of Lea County's economy with agriculture, cattle, dairy, and a state correctional institution also contributing. According to the Lea County Comprehensive Plan,⁵ the oil and gas industries are responsible for much of the wealth and job creation within the county. Land cover in the county is primarily shrubland; however, based on aerial imagery, oil and gas development and associated infrastructure are prominent features on the landscape. A significant amount of land within the county is owned by the State of New Mexico and the Bureau of Land Management.

Abandoning the proposed facilities would result in temporary and short-term impacts on the environment. As discussed throughout this EA, temporary impacts are defined as occurring only during the ground disturbing phase and short-term impacts are defined as lasting between two to five years. Our analysis also addresses direct effects by resource.

Based on our review of the Project, there would be no permanent adverse impacts on the environment. Ground disturbing activities would be limited to the excavation of the pipeline (and installation of the pipeline caps). Due to location of the Project

³ Lea County, New Mexico – About Lea County <https://www.leacounty.net/p/open-government/about>

⁴ Lea County Regional Water Plan
https://www.ose.state.nm.us/Planning/RWP/Regions/16_Lea%20County/2016/Reg%2016_Lea%20County_Regional%20Water%20Plan%202016_December%202016.pdf

⁵ Lea County Comprehensive Plan
https://d38trduahtodj3.cloudfront.net/files.ashx?t=fg&rid=LeaCounty&f=2005_Lea_County_Comprehensive_Plan.pdf

facilities, the limited amount of work to be performed, and the nature of this work, we conclude that geology and mineral resources, surface water, wetlands, and fisheries would not be affected; and therefore, these resources are not addressed further in this analysis.

The analysis contained in this EA is based upon Transwestern's application and supplemental filings, and our experience with the abandonment of natural gas transmission infrastructure. Additionally, if the Project is approved and proceeds, it is not uncommon for a project proponent to request minor modifications (e.g., minor changes in workspace configurations). These changes are often identified by a project proponent once on-the-ground implementation of work is initiated. Any Project modifications would be subject to review and approval by FERC and any other applicable permitting/authorizing agencies with jurisdiction.

1. Soils

The Project area consists of well-drained, gravelly loam soils (Kimbrough-Lea soil complex) occurring on 0-3 percent slopes. Abandoning the proposed facilities would involve excavating and disturbing less than one acre of soils within previously disturbed natural gas transmission pipeline right-of-way and across industrial land. Disturbing these soils would affect the soil profile, increase the potential for erosion, and could modify other soil characteristics. However, these impacts would be temporary and minor and reduced by the implementation of measures identified in our Plan. Therefore, we conclude that abandoning the proposed facilities would not result in a significant impact on soils.

2. Groundwater

According to the Lea County Regional Water Plan, the county relies entirely on groundwater derived primarily from the High Plains Aquifer. In Lea County, groundwater is considered good quality. In the Project area, depth to water table varies and is generally considered to be more than 80 inches and in some areas is up to more than 200 feet. Exposing the buried pipeline to install the pipeline caps would not likely encounter the water table and operating equipment to complete the abandonment would not likely result in an advertent release of equipment-related fluids. Should an inadvertent release of fluids occur, impacts on groundwater are not likely to occur given the depth to water table. However, to reduce the potential for an inadvertent release of fluids to occur and to minimize the impacts of a release should one occur, Transwestern would implement measures identified in its SPAR Procedures. These measures address fluid storage, refueling, vehicle/equipment inspections, spill response actions and clean-up, spill related materials and equipment, and reporting. Based on the scope of the Project including limited ground disturbance and duration of work, groundwater characteristics in the area, and Transwestern's measures to reduce and minimize impacts,

we conclude that abandoning the proposed facilities would not result in a significant impact on groundwater.

3. Vegetation, Wildlife, and Protected Species

The High Plains ecoregion contains naturally-occurring shortgrass prairie and buffalo grasses in the Project area. Additionally, mesquite and lotebush are known to occur in disturbed areas including areas disturbed by the presence of natural gas infrastructure. Furthermore, the shrublands of New Mexico are generally dominated by honey mesquite, broom snakeweed, plains yucca, and sand sagebrush; with grass cover dominated by bush muhly, alkali sacaton, black gramma grass, little bluestem, and purple three-awn. Abandoning the proposed facilities would result in a small amount of vegetation clearing. This clearing would result in the temporary and short-term loss of vegetation due to the arid conditions in the Project area and the subsequent time for natural revegetation to occur. Furthermore, ground disturbance and the increase in vehicular traffic could increase the potential for the introduction and spread of non-native, invasive plant species. However, due to the limited scope of the Project, we conclude impacts on vegetation would be minor and not significant.

Wildlife occupying the Project area includes species that are accustomed to the arid conditions and limited vegetation present, and tolerant of existing natural gas transmission infrastructure. These species include reptiles, raptors, and other birds. Abandoning the proposed facilities would result in the loss of wildlife habitat and the displacement and avoidance of wildlife. These impacts would increase the rates of stress, injury, and mortality experienced by wildlife. However, given the limited scope of the Project and the availability of similar habitat adjacent to and in the vicinity of the Project, we conclude these impacts would be minor and not significant. We have also determined that the Project would not result in population-level impacts on migratory birds or measurable negative impacts on their habitat.

The Commission is required by Section 7 of the ESA to ensure that the Project would not jeopardize the continued existence of a federally-listed threatened or endangered species or result in the destruction or adverse modification of the designated critical habitat of a federally listed species. Using FWS' Information for Planning and Consultation tool, the endangered Northern aplomado falcon (*Falco femoralis septentrionalis*) was identified as potentially occurring in the Project area. The Northern aplomado falcon is also a state-listed endangered species in New Mexico. Northern aplomado falcons require open grassland or savannah habitat with scattered trees or shrubs where they are most often seen in pairs; they are also known to use stick nests built by other birds. Suitable habitat for this species does not occur within the Project area and although a transitory falcon could occur, we have determined, based on the limited scope of the Project that abandoning the proposed facilities would result in *no effect* on this species.

4. Land Use and Visual Resources

Due to the presence of existing natural gas infrastructure, industrial lands used for abandoning the proposed facilities would be temporarily disturbed, but would not be permanently affected, and would continue to be industrial post-abandonment. Access to workspace would be via existing right-of-way and existing access to the Linam meter station.

Abandoning the proposed facilities would require the temporary use of construction equipment. This equipment may be visible from the nearby highway. Any visual impact would be minor and temporary. Furthermore, the use of this equipment would be consistent with the industrial nature of the Project area. Lastly, no residential or commercial development is located in the immediate vicinity of the proposed facilities. The closest residence is located approximately one-mile from the Project area and there are only three residences within a two-mile radius of the Project facilities.

In comments on the NOS, the NPS noted that a reduction in industrial lighting would benefit its “dark-sky” initiative and thus the NPS is supportive of the abandonment. However, due to the nature of the facilities to be abandoned, only a minor reduction in industrial lighting, if any, would occur.

5. Cultural Resources

Section 101(d)(6) of the National Historic Preservation Act (NHPA) states that properties of traditional religious and cultural importance to Indian tribes⁶ may be determined eligible for the National Register of Historic Places (NRHP). In carrying out our responsibilities under the NHPA, we identified Indian tribes that may attach religious and cultural importance to properties in the area of potential effect (APE), in accordance with the NHPA Section 106 implementing regulations at Title 36 CFR Part 800.2(c)(2)(ii) and informed them about the Project. We define the direct APE as all areas subject to ground disturbance which as described previously includes excavations at two locations, totaling less than one acre.

Section 106 of the NHPA requires that FERC take into account the effect of its undertakings⁷ (including authorizations under Section 7 of the NGA) on historic

⁶ Indian tribes are defined in 36 CFR 800.16(m) as: “an Indian tribe, band, nation, or other organized group or community, including a Native village, Regional Corporation, or Village Corporation, as those terms are defined in Section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their special status as Indians.”

⁷ “Undertaking means a project activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on

properties,⁸ and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. The steps in the 106 compliance process, as outlined in the implementing regulations at 36 CFR Part 800, include: consultations; identification of historic properties; assessment of effects; and resolution of adverse effects, if necessary.

Transwestern, as a non-federal applicant, is assisting FERC staff in meeting our obligations under Section 106 by providing data, analyses, and recommendations in accordance with 36 CFR 800.2(a)(3), and FERC's regulations at 18 CFR 380.12(f). Cultural resources⁹ information was gathered for Transwestern by its consultant (Four Corners Research, Inc). FERC remains responsible for all final determinations under the NHPA.

As described previously, the FERC sent the NOS for the Project to a wide range of stakeholders, including other federal agencies, such as the ACHP, U.S. Army Corps of Engineers, Environmental Protection Agency (EPA), U.S. Department of the Interior Bureau of Indian Affairs, and NPS; state and local government agencies, such as the State Historic Preservation Office of New Mexico (SHPO); affected landowners; and Indian tribes that may have an interest in the Project area. The NOS contained a paragraph about Section 106 of the NHPA, which stated that we use the notice to initiate consultations with the SHPO as well as to solicit their views and those of other government agencies, interested Indian tribes, and the public on the Project's potential effects on historic properties. No Indian tribes responded to our NOS. The New Mexico SHPO did not respond to our NOS.

behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency," as defined in 36 CFR 800.16(y).

⁸ Historic properties include prehistoric or historic sites, districts, buildings, structures, objects, landscapes, or properties of traditional religious or cultural importance listed on or eligible for listing on the NRHP, as defined in 36 CFR 800.16(l).

⁹ Cultural resources are locations of human activity, occupation, or use. According to the FERC's Office of Energy Projects "Guidelines for Reporting on Cultural Resources Investigations for National Gas Projects," cultural resources include any prehistoric or historic archaeological site, district, object, cultural feature, building or structure, cultural landscape, or traditional cultural property. Although "cultural resources" are not defined in 36 CFR 800, it is a "term-of-art" in the field of historic preservation and archaeological research. Indian tribes believe that cultural resources could include natural resources, such as plants and animals of traditional importance to tribes, topographic features that may be sacred, and viewsheds.

In its application, Transwestern filed a copy of a Blanket Clearance agreement signed by the SHPO on May 6, 2020. As the agreement stated, it was intended to be used for projects under FERC's Blanket Certificate Program, per 18 CFR 157. However, this project does not fall under the Blanket Certificate Program; and therefore, the agreement is not applicable.

In its application, Transwestern filed the results of an overview site file search and literature review (Greenwald 2019).¹⁰ However, the original overview report did not accurately describe the proposed action. To address this inconsistency, FERC staff requested that the overview report be revised to properly reflect the application to FERC, that the revised report be submitted to the New Mexico SHPO and FERC, and that Transwestern should file a copy of the SHPO's review of the report. The revised report should document the portions of the Project area that were previously inventoried for cultural resources and/or indicate if the SHPO would require further investigations. In its response to our request, Transwestern indicated that it would comply with our requests. Subsequently, Transwestern filed a revised overview report.

The revised overview report stated that a search of the National Register of Historic Places and the New Mexico State Historic Property listings conducted on February 17, 2021 did not identify any listed properties nearby. Additionally, no previously recorded sites currently fall within 500 meters of the proposed activities. The Southern cap location appears to have been previously inventoried; with no cultural resources identified. However, the Northern cap and blind flange locations, within the DCP Linam Ranch Gas Plant have not been previously surveyed (Four Corners Research, Inc).¹¹

Transwestern submitted the supplemental overview report to the New Mexico SHPO for review and comment on February 23, 2021. In a letter dated March 4, 2021, the SHPO stated that it: "concur[s] with the recommendations as proposed in the report."

No traditional cultural properties or properties of religious or cultural importance to Indian tribes were identified in the APE by Transwestern or its consultants (Four Corners Research), the BIA, the NPS, the New Mexico SHPO, or Indian tribes contacted. Therefore, we have complied with the intent of Section 101(d)(6) of the NHPA.

¹⁰ Greenwald, D. 10 May 2019. Linam Ranch Pipeline Abandonment: Lea County, New Mexico, New Mexico State Trust and Private Lands, Cultural Resource Records Review. Four Corners Research, Las Cruces, New Mexico.

¹¹ Four Corners Research, Inc. *Supplemental Report: 2019 Linum Ranch Pipeline Abandonment: Lea County, New Mexico, New Mexico State Trust and Private Lands, Cultural Resource Records Review*. Four Corners Research, Las Cruces, New Mexico.

We agree with the SHPO that abandonment activities associated with this Project should have no effects on historic properties. No additional investigations are required at the cap and blind flange locations. We have completed the process of complying with Section 106 of the NHPA, in accordance with 36 CFR Part 800, for this Project. Because no historic properties would be adversely affected, consultation with the ACHP for this Project is not necessary.

6. Air Quality and Noise

Federal and state air quality standards are designed to protect human health. The EPA has developed National Ambient Air Quality Standards (NAAQS) for criteria air pollutants such as oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), and inhalable particulate matter (PM_{2.5} and PM₁₀). PM_{2.5} includes particles with an aerodynamic diameter less than or equal to 2.5 micrometers and PM₁₀ includes particles with an aerodynamic diameter less than or equal to 10 micrometers. Volatile organic compounds (VOC) and hazardous air pollutants (HAPs) are also emitted during fossil-fuel combustion. If measured ambient air pollutant concentrations for a subject area remain below the NAAQS criteria, the area is in attainment with the NAAQS. The Project area is in attainment for all NAAQS.

Greenhouse gases (GHG) occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. GHG status as a pollutant is not related to toxicity. GHG are non-toxic and non-hazardous at normal ambient concentrations, and there are no applicable ambient standards or emission limits for GHG under the Clean Air Act (CAA). GHG produced by fossil-fuel combustion are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O).

The CAA is the basic federal statute governing air pollution in the United States. We have reviewed the following federal requirements and determined that they are not applicable to the Project due to its location within attainment areas, because there are no new stationary source emissions associated with the Project:

- New Source Review;
- Title V;
- National Emissions Standards for Hazardous Air Pollutants;
- New Source Performance Standards;
- Greenhouse Gas Reporting Rule; and
- General Conformity of Federal Actions

Abandoning the pipeline would result in a temporary and minor reduction in ambient air quality due to increased criteria pollutant emissions and fugitive dust generated by construction equipment. The quantity of fugitive dust emissions would depend on the moisture content and texture of the soils that would be disturbed. Fugitive dust and other emissions associated with construction equipment would not result in a significant increase in regional or local pollutant levels.

Large earth-moving equipment and other vehicles that are powered by diesel or gasoline engines are sources of combustion-related emissions including GHGs (as CO_{2e}), NO_x, CO, VOC, SO₂, PM₁₀, PM_{2.5}, and small amounts of HAPs such as formaldehyde. Based on the scope of the Project, air quality impacts would be temporary and localized and construction emissions would not have a significant impact on regional air quality.

Abandoning the proposed facilities would result in a temporary and minor increase in noise. Construction noise is highly variable. Many construction machines operate intermittently, and the types of machines in use at a construction site change with the construction phase. The sound level impacts on residences would depend on the type of equipment used, the duration of use for each piece of equipment, the number of construction vehicles and machines used simultaneously, and the distance between the sound source and receptor. As mentioned previously, the closest residence is located approximately one-mile from the Project area and there are only three residences within a two-mile radius of the Project facilities.

In general, Transwestern's proposed activities would occur during daylight hours, Monday through Saturday. The increase in noise during construction would only be noticeable within a short distance of the Project area and would not be significant. No NSAs would be affected by the abandonment activities.

Climate Change

Climate change is the variation in climate (including temperature, precipitation, humidity, wind, and other meteorological variables) over time, whether due to natural variability, human activities, or a combination of both, and cannot be characterized by an individual event or anomalous weather pattern. For example, a severe drought or abnormally hot summer in a particular region is not a certain indication of climate change. However, a series of severe droughts or hot summers that statistically alter the trend in average precipitation or temperature over decades may indicate climate change. Recent research has begun to attribute certain extreme weather events to climate change (U.S. Global Change Research Program [USGCRP], 2018).

The leading U.S. scientific body on climate change is the USGCRP, composed of representatives from 13 federal departments and agencies.¹² The Global Change Research Act of 1990 requires the USGCRP to submit a report to the President and Congress no less than every four years that “1) integrates, evaluates, and interprets the findings of the USGCRP; 2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and 3) analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years.” These reports describe the state of the science relating to climate change and the effects of climate change on different regions of the United States and on various societal and environmental sectors, such as water resources, agriculture, energy use, and human health.

In 2017 and 2018, the USGCRP issued its *Climate Science Special Report: Fourth National Climate Assessment, Volumes I and II (Fourth Assessment Report)* (USGCRP, 2017; and USGCRP, 2018, respectively). The Fourth Assessment Report states that climate change has resulted in a wide range of impacts across every region of the country. Those impacts extend beyond atmospheric climate change alone and include changes to water resources, transportation, agriculture, ecosystems, and human health. The U.S. and the world are warming; global sea level is rising and acidifying; and certain weather events are becoming more frequent and more severe. These changes are driven by accumulation of GHG in the atmosphere through combustion of fossil fuels (coal, petroleum, and natural gas), combined with agriculture, clearing of forests, and other natural sources. These impacts have accelerated throughout the end of the 20th and into the 21st century (USGCRP, 2018).

GHGs were identified by the EPA as pollutants in the context of climate change. GHG emissions do not result in proportional local and immediate impacts; it is the combined concentration in the atmosphere that affects the global climate. These are fundamentally global impacts that feedback to local and regional climate change impacts. Thus, the geographic scope for analysis of GHG emissions is global rather than local or regional. For example, a project 1 mile away emitting 1 ton of GHGs would contribute to climate change in a similar manner as a project 2,000 miles distant also emitting 1 ton of GHGs.

¹² The USGCRP member agencies are: Department of Agriculture, Department of Commerce, Department of Defense, Department of Energy, Department of Health and Human Services, Department of the Interior, Department of State, Department of Transportation, Environmental Protection Agency, National Aeronautics and Space Administration, National Science Foundation, Smithsonian Institution, and U.S. Agency for International Development.

Climate change is a global phenomenon; however, for this analysis, we will focus on the existing and potential climate change impacts in the Project area. The USGCRP's Fourth Assessment Report notes the following observations of environmental impacts are attributed to climate change in the U.S. Southwest and New Mexico region (USGCRP, 2017; USGCRP, 2018):

- increases in annual average temperatures across New Mexico have increased about 2 degrees Fahrenheit since the beginning of the 20th century;
- an increase in heat and reduction of snow have amplified recent hydrological droughts (severe shortages of water) in the Colorado River Basin;
- droughts in the Southwest have contributed to declines in traditional Indigenous staple foods, including acorns, corn, and pine nuts;
- climate change has driven the wildfire increase, particularly by drying forests and making them more susceptible to burning; and
- mountain and desert ecosystems are being affected by large changes in a variety of climate-related environmental conditions.

The USGCRP's Fourth Assessment Report notes the following projections of climate change impacts in the Project region (U.S. Southwest and New Mexico) with a high or very high level of confidence¹³ (USGCRP, 2018):

- under the higher emissions scenario, climate models project an 8.6°F (4.8°C) increase in Southwest regional annual average temperature by 2100 from near-present averaged temperatures (1976-2005);
- a decrease in precipitation of up to 10% under higher emissions pathway;
- higher temperatures would cause more frequent and severe droughts and sharply increase the risk of megadroughts—dry periods lasting 10 years or more;

¹³ The report authors assessed current scientific understanding of climate change based on available scientific literature. Each “Key Finding” listed in the report is accompanied by a confidence statement indicating the consistency of evidence or the consistency of model projections. A high level of confidence results from “moderate evidence (several sources, some consistency, methods vary and/or documentation limited, etc.), medium consensus.” A *very* high level of confidence results from “strong evidence (established theory, multiple sources, consistent results, well documented and accepted methods, etc.), high consensus.” <https://science2017.globalchange.gov/chapter/front-matter-guide/>

- projected reductions in water supply reliability, coupled with water agreements that involve selling or leasing tribal water to neighboring communities, could place tribal water supplies at risk during severe shortages;
- under a higher emissions scenario, declines in snowpack and runoff in the Colorado River and a shift of spring runoff to earlier in the year would reduce hydroelectric power potential in the region by up to 15% by 2050; and
- under continued climate change, higher temperatures would shift plant hardiness zones northward and upslope.

It should be noted that while the impacts described above taken individually may be manageable for certain communities, the impacts of compounded extreme events (such as simultaneous heat and drought, wildfires associated with hot and dry conditions, or flooding associated with high precipitation on top of saturated soils) can be greater than the sum of the parts (USGCRP, 2018).

Only the temporary emissions from the heavy equipment required to complete the abandonment would produce GHGs. In order to assess impacts on climate change associated with the Project, Commission staff considered whether it could identify discrete physical impacts resulting from the Project's GHG emissions or compare the Project's GHG emissions to established targets designed to combat climate change.

To date, Commission staff has not identified a methodology to attribute discrete, quantifiable, physical effects on the environment resulting from the Project's incremental contribution to GHGs. We have looked at atmospheric modeling used by the EPA, National Aeronautics and Space Administration, the Intergovernmental Panel on Climate Change, and others, and we found that these models are not reasonable for project-level analysis for a number of reasons. For example, these global models are not suited to determine the incremental impact of individual projects, due to both scale and overwhelming complexity. We also reviewed simpler models and mathematical techniques to determine global physical effects caused by GHG emissions, such as increases in global atmospheric CO₂ concentrations, atmospheric forcing, or ocean CO₂ absorption. We could not identify a reliable, less complex model for this task and thus staff could not determine specific localized or regional physical impacts from GHG emissions from the Project. Without the ability to determine discrete resource impacts, Commission staff are unable to assess the Project's contribution to climate change through any objective analysis of physical impact.

Additionally, we have not been able to find any GHG emission reduction goals established at the federal level that we can use as comparative criteria for project level emissions.¹⁴ We note that there have been a series of recent administrative changes and we continue to evaluate their impact on our review process. For example, on January 20, 2021, President Biden issued the *Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* (EO 13990) and on January 27, 2021, the *Executive Order on Tackling the Climate Crisis at Home and Abroad* (EO 14008). Amongst other objectives, the Executive Orders call for a net-zero emission economy and a carbon-free electricity sector. In addition, on January 20, 2021, President Biden announced that the U.S. will rejoin the Paris Climate Agreement (Agreement), enabling the U.S. to be a party to the Agreement, which was effective starting on February 19, 2021. The Agreement is a binding international agreement to reduce GHG emissions and impacts on climate change that was signed by 196 parties on December 12, 2015 and entered into force on November 4, 2016. The Agreement aims to limit global warming to well below 2 degrees Celsius, and preferably to 1.5 degrees Celsius, compared to pre-industrial levels.¹⁵ Prior to the U.S. withdrawal from the Agreement in November 2020, the U.S. initially proposed a 26 to 28 percent domestic reduction in GHG by 2025 compared to 2005.¹⁶ It is not yet clear if the U.S. would retain or modify these goals upon rejoining the Agreement.

The State of New Mexico, within which the equipment emissions would occur, implemented by executive order, a goal of achieving a statewide reduction in GHGs of at least 45 percent by 2030 as compared to 2005 levels.¹⁷ As indicated previously, direct GHG emissions from the temporary use of construction equipment would occur, and the cessation of Project operations would result in a minor reduction in GHGs.

¹⁴ The national emissions reduction targets expressed in the EPA's Clean Power Plan were repealed, *Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emissions Guidelines Implementing Regulations*, 84 Fed. Reg. 32,250, 32,522-32, 532 (July 8, 2019), and the targets in the Paris Climate Accord were withdrawn (November 2020).

¹⁵ Additional information is available at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

¹⁶ <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20States%20of%20America%20First/U.S.A.%20First%20NDC%20Submission.pdf>

¹⁷ <http://www.emnrd.state.nm.us/ECMD/GovernmentLeadByExample/GovLeadEOImplementation.html#:~:text=Directs%20New%20Mexico%20to%20support,as%20compared%20to%202005%20levels/>

7. Reliability and Safety

The proposed facilities must be abandoned in accordance with US Department of Transportation (DOT) Minimum Federal Safety Standards in 49 CFR Part 192.727 - Abandonment or deactivation of facilities. These regulations are intended to ensure adequate protection for the public near an abandoned pipeline.

Transwestern would purge the proposed facilities of natural gas prior to abandonment. Removing residual natural gas eliminates the potential for a subsequent inadvertent release due to pipeline failure, natural hazards, third-party damage, or other damage to the facilities.

We conclude that Transwestern's proposed abandonment procedures and its adherence to DOT regulations are sufficient to protect public safety and that abandonment of these facilities would decrease potential risk to the public.

C. ALTERNATIVES

In accordance with NEPA and Commission policy, we identify, consider, and evaluate reasonable alternatives to proposed actions. Typically, alternatives are evaluated using a specific set of criteria. The evaluation criteria applied to each alternative include a determination of whether the alternative:

- meets the objective of the proposed Project;
- is technically and economically feasible and practical; and
- offers a significant environmental advantage over the proposed Project.

Through environmental comparison and application of our professional judgment, each alternative is considered (in the sequence identified above) to a point where it becomes clear if the alternative could or could not meet the three evaluation criteria. An alternative that cannot achieve the purpose of the Project cannot be considered as an acceptable replacement for the Project.

Not all conceivable alternatives are technically and economically feasible and practical. Technically feasible alternatives, with exceptions, would generally involve the use of common pipeline industry construction methods and practices. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. An alternative that would involve the use of a new, unique, or experimental construction method(s) may be technically feasible, but not economically practical. Generally, we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render the project economically impractical.

To determine if an alternative would provide a significant environmental advantage over the proposed action, we compare the impacts of the alternative and the proposed action (e.g., number of wetlands/waterbodies affected by the alternative and number of wetlands/waterbodies affected by the proposed action). To ensure consistent environmental comparisons and to normalize the comparison of resources, we generally use “desktop” sources of information (e.g., publicly available data, aerial imagery) and assume the same construction and operation right-of-way widths and general workspace requirements. We evaluate data collected in the field if surveys were completed for both the proposed action and the corresponding alternative. Our environmental comparison uses common factors such as (but not limited to) total amount, length/distance, and acres affected of a resource. Furthermore, our analyses consider impacts on both the natural and human environments.

Where appropriate and available, we also use site-specific information. In comparing the impact between resources, we also consider the magnitude of the impact

anticipated on each resource. As applicable, we assess impacts on resources that are not common to the alternative and the proposed action.

Our determinations attempt to balance the overall impacts (and other relevant considerations) of the alternative(s) and the proposed action. Recognizing the often competing interests driving alternatives and the differing nature of impacts resulting from an alternative (i.e., impacts on the natural environment versus impacts on the human environment), we also consider other factors that are relevant to a particular alternative or discount or eliminate factors that are not relevant or may have less weight or significance. Ultimately, an alternative that is environmentally comparable or results in minor advantages in terms of environmental impact would not compel us to shift the impacts from the current set of landowners to a new set of landowners.

One of the goals of an alternatives analysis is to identify alternatives that avoid significant impacts. In this EA, we evaluated environmental resources potentially affected by the Project and concluded that abandoning the proposed facilities would not significantly impact these resources. Consistent with our conclusions, the value gained by further reducing the (not significant) impacts was also factored into our evaluation.

1. No-Action Alternative

The No-Action Alternative could be achieved by the Commission deciding to not authorize the proposal. Implementing the No-Action Alternative would result in the proposed facilities not being abandoned. As a result, the proposed facilities would remain “active” and would require ongoing maintenance. As described previously and according to Transwestern, these “excessive” maintenance costs would not be met by the current revenue stream. The No-Action Alternative would not meet the stated purpose of the Project. The impacts disclosed in this EA would not occur, at the cost of not meeting the purpose, need, and goals of the Project. Given the minor impacts to the environment that would result from abandoning the proposed facilities, we do not recommend the no-action alternative.

2. Abandonment by-removal

As the proposed action involves the abandonment of facilities in-place within existing and disturbed/maintained right-of-way, an alternative abandoning the proposed facilities by-removal would result in greater environmental impacts. In addition, we did not receive any comments, or identify any resource issues, that would lead us to seek abandonment by-removal. Thus, an abandonment by-removal alternative was not considered further.

3. Alternatives Conclusion

Based on the results of the alternatives analysis discussed in the preceding sections, we find that the alternative of abandoning the pipeline by removal does not provide a significant environmental advantage over the proposed Project. Therefore, we conclude that the proposed Project is the preferred alternative to meet the Project's objectives.

D. STAFF'S CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis in this EA and our review of Transwestern's application, we conclude that if Transwestern abandons the facilities in accordance with its application, along with our recommended mitigation measures listed below, authorization of this proposal would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Commission Order contain a finding of no significant impact and include the following mitigation measures as conditions to any Authorization the Commission may issue.

1. Transwestern shall follow the abandonment procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. Transwestern must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of the Office of Energy Projects (OEP), or the Director's designee, **before using that modification.**
2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of environmental resources during Project abandonment activities. This authority shall allow:
 - a. the modification of conditions of the Order;
 - b. stop-work authority; and
 - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project abandonment activities.
3. **Prior to any construction**, Transwestern shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the

environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized abandonment activities and facility location shall be as shown in the EA, as supplemented by filed plot plans/facility diagrams. **As soon as they are available, and before the start of construction**, Transwestern shall file with the Secretary any revised detailed plot plans/diagrams for all abandonment activities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these plot plans/diagrams.
5. Transwestern shall file with the Secretary detailed plot plans/facility diagrams and aerial photographs at a scale not smaller than 1:6,000 identifying all facility relocations, and staging areas, storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the plot plans/facility diagrams/aerial photographs. Each area must be approved in writing by the Director of OEP, or the Director's designee, **before construction in or near that area**.

This requirement does not apply to extra workspace allowed by the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by state regulatory authorities; and
- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the Authorization and before abandonment begins,** Transwestern shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP, or the Director's designee. Transwestern must file revisions to the plan as schedules change. The plan shall identify:
- a. how Transwestern will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;
 - b. how Transwestern will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
 - c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
 - d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
 - e. the location and dates of the environmental compliance training and instructions Transwestern will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change).
 - f. the company personnel (if known) and specific portion of Transwestern's organization having responsibility for compliance;
 - g. the procedures (including use of contract penalties) Transwestern will follow if noncompliance occurs; and
 - h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - (1) the completion of all required surveys and reports;
 - (2) the environmental compliance training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
7. Transwestern shall employ/designate at least one EI for the Project. The EI shall be:
- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;

- b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
 - c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
 - d. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - e. responsible for maintaining status reports.
8. Beginning with the filing of its Implementation Plan, Transwestern shall file updated status reports with the Secretary on a **monthly** basis until all construction and restoration activities are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
- a. an update on Transwestern's efforts to obtain the necessary federal authorizations;
 - b. the construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
 - c. a listing of all problems encountered, and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
 - d. a description of the corrective actions implemented in response to all instances of noncompliance;
 - e. the effectiveness of all corrective actions implemented;
 - f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
 - g. copies of any correspondence received by Transwestern from other federal, state, or local permitting agencies concerning instances of noncompliance, and Transwestern's response.

9. Transwestern must receive written authorization from the Director of OEP, or the Director's designee, **before commencing any abandonment activities.** To obtain such authorization, Transwestern must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. **Within 30 days of completing Project abandonment,** Transwestern shall file an affirmative statement with the Secretary, certified by a senior company official:
 - a. that the facilities have been abandoned in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the conditions in the Order Transwestern has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

E. LIST OF PREPARERS

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