

**United States Department of the Interior
Bureau of Land Management
Carson City Field Office**

Environmental Assessment Number NV-030-200129

Environmental Assessment
for the
Wadsworth Energy Project

**Tuscarora Gas Transmission Company
2002 Expansion Project**

Right-of-Way Application Number N-74310

FERC Docket Number CP01-153-000

and

**Sierra Pacific Power Company
White Horse to Tracy 345-kV Line Project**

Right-of-Way Application Number N-74491

**Washoe and Storey counties, Nevada
Modoc and Lassen counties, California**

October 2001

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TABLE OF ACRONYMS AND ABBREVIATIONS

Acronym/ Abbreviation	Definition
$\mu\text{g}/\text{m}^3$	micrograms per meter cubed
ACOE	U.S. Army Corps of Engineers
APCD	Air Pollution Control District
AQMD	Air Quality Management District
AUM	animal unit month
BACT	Best Available Control Technology
BLM	Bureau of Land Management
BMP	Best Management Practices
BOR	U.S. Bureau of Reclamation
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CNEL	community noise equivalent level
CNDDDB	California Natural Diversity Database
CO	carbon monoxide
CPCN	Certificate of Public Convenience and Necessity
CSWRCB	California State Water Resources Control Board
dB	decibels
dB(A)	A-weighted decibels
DENA	Duke Energy North America, LLC
DOT	U.S. Department of Transportation
dth	decatherms
EA	Environmental Assessment
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FERC Plan	FERC Upland Erosion Control, Revegetation, and Maintenance Plan

Acronym/ Abbreviation	Definition
FERC Procedures	FERC Wetland and Waterbody Construction and Mitigation Procedures
I-80	Interstate 80
KOP	Key Observation Point
kV	kilovolt
L _{dn}	day-night equivalent sound level
MP	milepost
NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Division of Wildlife
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code
NO _x	Nitrogen Oxide
NPC	Nevada Power Company
NRCS	Natural Resource Conservation Service
NRS	Nevada Revised Statute
NWI	National Wetland Inventory
OES	Office of Emergency Services
OSHA	Occupational Safety and Hazards Act
Paiute	Paiute Pipeline Company
Plan	Carson City Field Office Consolidated Management Plan
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to 10 microns
project	Tuscarora 2002 Expansion Project /White Horse to Tracy 345-kV Line Project
PD	Preliminary Determination of Non-environmental Issues
PSD	Prevention of Significant Deterioration
PUCN	Public Utilities Commission of Nevada
ROW	right-of-way
RUCR	Regional Utility Corridor Report to the Truckee Meadows Regional Planning Governing Board
RV	recreational vehicle

Acronym/ Abbreviation	Definition
SCAT	Substation Control and Test
SHPO	State Historic Preservation Office
Sierra Pacific	Sierra Pacific Power Company
SO ₂	sulfur dioxide
SPCC Plan	Spill Prevention Control and Countermeasure Plan
SWPPP	Storm Water Pollution Prevention Plan
TCP	Traditional Cultural Properties
Tuscarora	Tuscarora Gas Transmission Company
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management

CHAPTER I - INTRODUCTION/PURPOSE AND NEED

a. Introduction

Tuscarora Gas Transmission Company (“Tuscarora”) and Sierra Pacific Power Company (“Sierra Pacific”) have each filed applications for Bureau of Land Management (“BLM”) Right-of-Way Grants. Tuscarora proposes to construct a natural gas pipeline lateral; Sierra Pacific proposes to construct a 345-kilovolt (“kV”) transmission line. In addition, Tuscarora has filed an application for a Federal Energy Regulatory Commission (“FERC”) Certificate of Public Convenience and Necessity (“CPCN”). Collectively, the two projects will be referred to in this document as the Wadsworth Energy Project (“project”).

Tuscarora Gas Transmission Company

The proposed Tuscarora project would involve construction and operation of a 20-inch-diameter natural gas pipeline lateral, one new valve site, two new meter stations (including one booster unit), and three new compressor stations, collectively referred to as the Tuscarora 2002 Expansion Project.

The compressor stations for the Tuscarora 2002 Expansion Project would be built on private land in northeastern California. The gas pipeline lateral (“Wadsworth Lateral”) would be built in northwestern Nevada. The majority of the Wadsworth Lateral would be located in Washoe County, Nevada, with a small portion located in Storey County, Nevada. The Wadsworth Lateral would be approximately 14.2 miles long and would generally parallel an existing natural gas pipeline owned and operated by Paiute Pipeline Company (“Paiute”).

Sierra Pacific Power Company

The proposed Sierra Pacific project entails the construction and operation of a new 345-kV electric transmission line, two “tap and fold”¹ 345-kV lines, a new substation to be located entirely on private land (White Horse Substation), and the addition of a line terminal at the existing East Tracy Substation. The facilities proposed by Sierra Pacific are collectively referred to as the White Horse to Tracy 345-kV Line Project. Sierra Pacific’s project would be primarily located in Washoe County, Nevada, with a small portion in Storey County, Nevada. The transmission line would connect the proposed Duke Energy North America, LLC (“DNA”) Washoe Energy Facility with the western power grid. The transmission line would be approximately 12.0 miles long and would run adjacent to two existing 345-kV lines. The two tap and fold lines would each be approximately 1.25 miles in length, and would connect the proposed 540-megawatt Washoe Energy Facility with the existing Valmy-Tracy 345-kV transmission line.

¹ The existing Valmy-Tracy 345-kV transmission line would be split (“tapped”) into two parallel lines that would connect (“fold”) to the Washoe Energy Facility, producing a continuous path. If either of the parallel lines is out of service, the Washoe Energy Facility would continue to be served by the other line.

Existing Right-of-way Corridor

The project would be located in existing right-of-way (“ROW”) corridors that currently support a number of existing power lines, a highway, a railroad, and gas pipelines. The Wadsworth Lateral would be located immediately adjacent to the existing Paiute pipeline system ROW. Existing electric transmission line ROWs either intersect or parallel the Wadsworth Lateral throughout portions of the route. The Wadsworth Lateral would be located adjacent to a telecommunications utility corridor containing an aboveground telephone line and an underground fiberoptic line.

A portion of the Wadsworth Lateral would be located within the existing BLM-designated Interstate 80 Corridor System. This corridor has also been identified in the Regional Utility Corridor Report to the Truckee Meadows Regional Planning Governing Board (“RUCR”) as an existing utility corridor.

The White Horse to Tracy 345-kV transmission line would generally parallel two existing aboveground transmission lines within the existing BLM-designated Valmy-Tracy Corridor. This corridor has also been identified in the RUCR as an existing utility corridor.

National Environmental Policy Act Compliance

The BLM is the lead agency for National Environmental Policy Act (“NEPA”) compliance for the proposed project. Pursuant to NEPA, the FERC is a cooperating agency in the preparation of this Environmental Assessment (“EA”). In compliance with the Council on Environmental Quality (“CEQ”) regulations for implementing NEPA, the BLM has determined that an EA is required to evaluate the proposed project. The purpose of the EA is to provide the public and government agencies with information about the potential environmental consequences of the proposed project and alternatives, and to identify practical means for avoiding or minimizing any of the project’s potential adverse environmental impacts. In addition, the EA serves as a disclosure document for the BLM and the FERC to use in making an informed decision on the project.

The FERC is the federal agency responsible for evaluating applications filed for authorization to construct and operate interstate natural gas facilities. A CPCN is issued under section 7(c) of the Natural Gas Act and Part 157 of the FERC’s regulations if the FERC determines that the project is required by public convenience and necessity. The facilities to be constructed and operated by Sierra Pacific, including the electric transmission lines and the White Horse Substation, are not subject to the jurisdiction of the FERC under the Natural Gas Act.

This EA was prepared in accordance with NEPA and all applicable regulations and laws passed subsequently, including CEQ regulations [Title 40 Code of Federal Regulations (“CFR”) Parts 1500-1508], the guidelines listed in the BLM *NEPA Handbook, H-1790-1* (BLM, 1988), and the *Carson City Field Office Guide to NEPA Compliance* (BLM, 2000).

Scope of the Study and Decisions to be Made

This analysis is limited to the evaluation of the proposed gas transmission line, compressor stations, overhead electric transmission line, two tap and fold lines, and the substation.

A site-specific environmental analysis of the separate Washoe Energy Facility proposed by DENA is beyond the scope of this analysis. The DENA facility is to be located entirely on private lands and approval authority for the energy facility resides with Washoe County and the state of Nevada. This EA analysis will consider the DENA energy facility as a “reasonably foreseeable future action,” as described by CEQ Regulations, and this EA will evaluate the incremental cumulative impact of the pipeline and overhead transmission line/substation when added to anticipated impacts associated with the Washoe Energy Facility and other reasonably foreseeable projects (refer to the Cumulative Impacts section in Chapter IV).

Decisions to be made:

- The BLM and FERC will select the ROW route for the gas pipeline along with any mitigation and/or construction requirements.
- The FERC will select the locations for the compressor stations along with any mitigation and/or construction requirements.
- The BLM will select the ROW route for the overhead electric transmission line along with any mitigation and/or construction measures.

b. Purpose and Need

Tuscarora Gas Transmission Company

Tuscarora’s 2002 Expansion Project is required to meet growth in the local natural gas distribution market and to provide resources to meet the increased demand for natural gas-fired electric generation. As described below, the project would provide much needed gas supplies to two local distribution companies, as well as to one existing and one proposed electric generating facility. In addition, the project would have the added benefit of increasing the flexibility and efficiency of northern Nevada’s gas transmission infrastructure by establishing a full-service interconnect with Paiute’s facilities.

The western United States has experienced a steady growth in population and economic activity over the past 20 years. Correspondingly, natural gas consumption has grown by approximately 4 percent annually in the region (Department of Energy, 2000). Part of this growth also stems from increased demand for natural gas for electricity generation resulting from the increase in population. The western United States, most notably California, has been experiencing severe electric energy shortages in recent months, and these shortages are expected to continue into the foreseeable future (FERC, 2001). Rising demand for natural gas by electricity generators accounts for 57 percent of the increase in natural gas demand. Projected growth in natural gas consumption would require the expansion of pipeline capacity to provide access to new supplies and to serve expanding markets.

In January 2000 and subsequently in September 2000, Tuscarora held open seasons to determine the market need for additional capacity on its gas pipeline system. The results of the open season established that approximately 95,500 decatherms (“dth”) per day of new capacity would be required on the Tuscarora system to meet the market needs of existing and new shippers by the

2002 winter heating season. Sierra Pacific and Southwest Gas Corporation both require additional gas to adequately supply the increasing demand from their customers due to the high rate of growth they are experiencing in all service categories. In addition, Tuscarora has obtained commitments to support the firm gas transportation needs of the proposed 540-megawatt Washoe Energy Facility and the Naniwa Energy Facility, a 360-megawatt generating facility currently in operation adjacent to the Tracy Power Plant. These facilities would require an incremental 60,000 dth per day of natural gas transported on the Tuscarora system.

On September 26, 2001 the FERC issued a Preliminary Determination on Non-Environmental Issues (“PD”) for Tuscarora’s portion of this project. The PD indicates that authorization of the construction and operation of Tuscarora’s facilities would be in the public convenience and necessity under Section 7(c) of the Natural Gas Act. However, final action on the CPCN will not occur until after the environmental review is completed, all environmental matters have been properly addressed, and a final Order is issued by the FERC. The issuance of a PD does not prejudice any further actions by the FERC.

Sierra Pacific Power Company

The purpose of Sierra Pacific’s White Horse to Tracy 345-kV Line Project is to connect the proposed Washoe Energy Facility to Sierra Pacific’s power grid. The proposed facilities allow connection of this new generation in a reliable manner so that operational risk to the existing system is minimized and operational benefits are maximized. The new transmission line and substation would enhance system stability and facilitate delivery of new energy resources to the region. Minor enhancements to the East Tracy Substation would allow Sierra Pacific to handle the additional load supplied through the new transmission line.

The electric transmission line project is driven by the following needs:

- The proposed Washoe Energy Facility would provide much needed new electric generation capacity to northern Nevada, California, Utah, and Idaho.
- Northern Nevada currently imports power during the summer and winter peak demand periods. The Washoe Energy Facility would be connected to provide additional local generation resources to the grid.
- Federal regulations require that Sierra Pacific allow access to their electric transmission system by new energy generators (i.e., the Washoe Energy Facility).

Sierra Pacific’s latest (1998) Electric Resource Plan projects a 2.7 percent annual growth rate in peak demand and a 2.2 percent annual growth rate in system energy sales for the period between 2001 and 2017. The plan also forecasts system capacity deficiencies of about 120 to 140 megawatts for the 2001 to 2002 summer peak period. These deficiencies are projected to continue growing until a major improvement that increases import capabilities (such as the proposed Falcon-Gonder transmission line in eastern Nevada) goes into service.

In its Compliance Order in Docket Number 00-6063 (Nevada Power Company’s 2000 Resource Plan), the Public Utilities Commission of Nevada (“PUCN”) determined that the construction of

generating facilities to serve both Nevada and non-Nevada load is in the public interest in general and in the public interest of the state of Nevada in particular. As evidenced by events in California, the lack of generating and transmission capacity has contributed to the dramatic escalation of electric energy prices throughout the western United States. In some instances, the lack of adequate generation and transmission infrastructure has led to blackouts. These subsequent events affirm the PUCN's public interest determination in Docket Number 00-6063 and highlight the need for expeditious implementation of additional generation in Nevada.

Federal regulations require all public utilities that own, control, or operate facilities used for transmitting electric energy in interstate commerce to have open access non-discriminatory transmission tariffs on file that contain minimum terms and conditions of non-discriminatory service. Under Section 1.14 of Sierra Pacific's Open Access Transmission Tariff, an independent power producer, such as the Washoe Energy Facility, qualifies as an "eligible customer" who has all the rights to non-discriminatory access to the transmission system that the tariff allows, including interconnection.

c. Land Use Plan Conformance Statement

The proposed action and alternatives described below are in conformance with the Carson City Field Office Consolidated Management Plan ("Plan"), dated May 11, 2001. The Plan describes existing utility corridors on page ROW-2. This corridor currently includes Interstate 80 ("I-80"), a railroad, the Paiute gas pipeline, and two electric transmission lines. The overhead transmission line would be located in the existing Valmy-Tracy corridor described in item 5 of the Plan.

The proposed actions are also in compliance with policies of Washoe County, Storey County, Lassen County, Modoc County, and the states of California and Nevada.

CHAPTER II - PROPOSED ACTION AND ALTERNATIVES

a. Proposed Action

Applicants

Tuscarora Gas Transmission Company

Tuscarora is a “natural gas company” within the meaning of section 2(6) of the Natural Gas Act, Title 15 United States Code 717(a)(6) (1994). Tuscarora owns and operates an interstate natural gas pipeline system. Its facilities begin at the interconnection with PG&E Gas Transmission, Northwest Corporation near Malin, Oregon, and extend in a southeasterly direction approximately 229 miles to its end point at the Tracy Power Plant (owned by Sierra Pacific in Storey County, Nevada).

Sierra Pacific Power Company

Sierra Pacific owns and operates an electric distribution and transmission system in western, central, and northeastern Nevada, as well as in the Lake Tahoe area (including California). The service area covers approximately 50,000 square miles and contains approximately 17,000 miles of overhead and underground electric line.

General Project Description

Wadsworth Lateral

Tuscarora proposes to construct and operate approximately 14.2 miles of 20-inch-diameter lateral pipeline and associated appurtenances from Tuscarora’s mainline to the proposed Paiute Interconnect Meter Station and the future Washoe Energy Facility.

The Wadsworth Lateral would begin at approximately milepost (“MP”) 226.5 on the existing Tuscarora mainline, approximately 1.5 miles north of the Tracy Power Plant, in Washoe County. The route would generally parallel the existing Paiute pipeline system in the sparsely developed land north of I-80. From the Tuscarora mainline, the route would traverse northeast along the Paiute Reno Lateral for approximately 10.5 miles to the three-way intersection of the Paiute Reno Lateral, Paiute Carson Lateral, and Paiute mainline. The route would continue northeast along the Paiute mainline for approximately 1.3 miles and then head north to its terminus at the Washoe Energy Facility. See Figure II-1 for a detailed route map of the Wadsworth Lateral. The legal description for the Wadsworth Lateral is included in Attachment A.

The following aboveground facilities would be constructed along the Wadsworth Lateral:

- Wadsworth Tap
- Paiute Interconnect Meter Station (including a compression booster unit)
- Washoe Meter Station

Land ownership¹ along this route is a mosaic of the following:

- 61 percent (8.7 miles) private land
- 27 percent (3.8 miles) BLM-managed public lands
- 10 percent (1.4 miles) Bureau of Reclamation (“BOR”)-managed public land
- 1 percent (0.2 mile) state land
- 1 percent (0.1 mile) unsurveyed land

Compressor Stations

Tuscarora proposes to construct and operate three new gas-fired compressor stations on private land in California as follows:

- Radar Compressor Station in Section 21, T45N, R6E
- Likely Compressor Station in Section 17, T40N, R13E
- Shoe Tree Compressor Station on the border of Sections 27 and 34, T31N, R15E

The complete legal description for the compressor stations is included in Attachment A.

White Horse to Tracy 345-kV Line Project

Sierra Pacific proposes to construct and operate approximately 12.0 miles of 345-kV electric transmission line and associated facilities between the proposed Washoe Energy Facility and the existing East Tracy Substation. In addition to this electric transmission line, Sierra Pacific would construct and operate two new approximately 1.25-mile-long parallel electric transmission lines that would “fold” an existing Sierra Pacific 345-kV electric transmission line into the future Washoe Energy Facility.

The proposed 345-kV electric transmission line would begin in Washoe County, Nevada at the proposed White Horse Substation, near the future Washoe Energy Facility. From the substation, the line would generally traverse southwest, paralleling the existing Sierra Pacific aboveground 345-kV electrical transmission lines across the Pah Rah mountain range and the sparsely developed land north of I-80. After crossing the proposed Wadsworth Lateral, the transmission line would terminate at the existing East Tracy Substation, located just east of the Tracy Power Plant in Storey County, Nevada. See Figure II-2 for a detailed route map of the proposed electric transmission line and ancillary facilities. The legal description for the White Horse to Tracy 345-kV Line Project is included in Attachment A.

Land ownership¹ along this route is a mosaic of the following:

- 41 percent (4.9 miles) private land
- 59 percent (7.1 miles) BLM-managed public lands

¹ Land ownership may change as a result of the proposed Wingfield/Washoe Land Exchange and the proposed Toquop Land Exchange. The Wingfield/Washoe Exchange is scheduled for completion in Fall 2001. No completion date has been established for the Toquop Exchange.

Figure II-1: Proposed Wadsworth Lateral Gas Pipeline Route

(Color 11 x 17, butterfly fold)

Back of Figure II-1

Figure II-2: Proposed White Horse to Tracy 345-kV Line Route

(Color 11 x 17, butterfly fold)

Back of Figure II-2

The proposed electric transmission line would cross Nevada State Lands jurisdiction when spanning the Truckee River. The tap and fold lines would be located on 0.8 miles of private land and 1.7 miles of BLM-managed public lands.

Permanent Facilities to be Constructed by Tuscarora

The following is a description of permanent facilities that would be constructed by Tuscarora. Summary tables of temporary and permanent land disturbance acreages for the Tuscarora 2002 Expansion Project are located in Appendix A.

Wadsworth Lateral

Natural Gas Pipeline Lateral

The proposed Wadsworth Lateral would be buried a minimum of 36 inches in soil, 24 inches in rock, and 60 inches where the pipe crosses roads. The pipeline would be designed for a maximum allowable operating pressure of 1,000 pounds per square inch gauge in accordance with the specifications of the U.S. Department of Transportation (“DOT”). The majority of the pipeline route would require Class 1 pipe, with Class 3 pipe being used at regulating/meter station locations (Title 49 CFR Part 192)².

The proposed construction ROW would consist of a 50-foot-wide permanent easement centered on the pipeline and 35 feet of additional temporary construction easement, for a total of 85 feet.

Wadsworth Tap

Tuscarora proposes to construct and operate a mainline/lateral isolation valve at MP 0 on the Wadsworth Lateral (MP 226.5 on the Tuscarora mainline) on private land. The site would be centered over the permanent Wadsworth Lateral ROW easement (on the east side of the Tuscarora mainline ROW). Valve site construction would require approximately 0.23 acre (100 feet by 100 feet) of land for both the temporary construction and the permanent footprint.

Paiute Interconnect Meter Station

Tuscarora proposes to construct and operate a meter station and associated valves, as well as a compression booster unit on private land at MP 10.55 of the Wadsworth Lateral. The meter station would be located on the southeast side of the Wadsworth Lateral ROW. This site would be immediately adjacent to Paiute’s existing meter station at the junction of the Paiute Reno Lateral, Paiute Carson Lateral, and Paiute mainline to facilitate the pipeline interconnections described below. Meter station construction would require approximately 0.76 acre (150 feet by 220 feet) of land for the temporary construction work area, including approximately 0.55 acre (120 feet by 200 feet) for the permanent footprint.

² Class locations refer to the number and type of buildings in populated areas. Class 1 has 10 or fewer buildings intended for human occupancy; Class 2 has more than 10 but less than 46 buildings intended for human occupancy; Class 3 has more than 46 buildings intended for human occupancy or an area where the pipeline lies within 100 yards of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period); Class 4 is any location where buildings with four or more stories aboveground are prevalent. Different types of pipe are used in each class type.

Within the footprint of the Paiute Interconnect Meter Station and/or the existing Paiute meter station, Tuscarora proposes to make two interconnects between the Wadsworth Lateral and the Paiute pipeline system.

Tuscarora also proposes to install a 637-horsepower lean-burn natural gas booster unit to increase pressure for injection into the Paiute pipeline system. The booster unit would be housed in an enclosure that measures approximately 14 feet in width, 32 feet in length, and 12 feet in height. The booster unit would be designed to operate 24 hours per day, seven days per week, depending on Paiute's operating pressures.

Washoe Meter Station

Tuscarora proposes to construct and operate a meter station and associated valves at the terminus of the Wadsworth Lateral (MP 14.2) on private land. The site would partially incorporate the permanent Wadsworth Lateral ROW easement. Meter station construction would require approximately 0.23 acre (100 feet by 100 feet) of land for both the temporary construction and permanent footprint.

Compressor Stations

Each compressor station would be comprised of one Taurus 60 turbine, manufactured by Solar Turbines Incorporated, and five microturbines. The Solar Taurus 60 and microturbines would be fired by natural gas. The Solar Taurus 60 turbine is rated at 7,170 horsepower of output at International Organization for Standardization ("ISO") conditions (15 degrees Celsius at sea level and 14,300 revolutions per minute output speed). Each of the microturbines is rated at 60 kilowatts of output at ISO conditions.

Each proposed compressor station site would be cleared, fenced, and partially covered with gravel. Detailed maps of each compressor station site are included in Figures II-3, II-4, and II-5. All of the compressor station sites would be located on private land and would require approximately 10 acres of land for the temporary construction work area, approximately 5 acres of which would be used for the permanent footprint.

In order to route gas to the compressor stations, isolation and side valves would be installed on the mainline and buried piping would be extended to the compressor station sites. For the Radar and Likely compressor stations, electricity would be supplied from the nearby PacifiCorp and/or Surprise Valley Electric overhead distribution lines, or by gas-driven generating units. If power is supplied by the existing overhead distribution lines, Tuscarora would negotiate with Surprise Valley Electric at the Likely Compressor Station to underbuild³ their existing overhead electric transmission lines and then extend an underground electric distribution line to the Likely Compressor Station. At the Radar Compressor Station, Tuscarora would negotiate with PacifiCorp to extend an overhead distribution line. If required, all power line extensions would be located on private land. If the power is supplied by generators, Tuscarora would install the units on-site. The Shoe Tree Compressor Station would generate electricity on-site by gas-fired generating units.

³ Underbuilding would entail extension of the existing Surprise Valley Electric overhead distribution line on existing transmission line poles.

Figure II-3: Proposed Radar Compressor Station Site

(Color 8.5 x 11)

Back of Figure II-3

Figure II-4: Proposed Likely Compressor Station Site

(Color 8.5 x 11)

Back of Figure II-4

Figure II-5: Proposed Shoe Tree Compressor Station Site

(Color 8.5 x 11)

Back of Figure II-5

All of the compressor station sites would consist of the following:

- acoustically-treated compressor buildings for each installed compressor unit;
- a control building;
- various valve shelters (the Likely and Shoe Tree compressor station sites would also have a remote valve site);
- various support buildings for storage and ancillary equipment;
- other compressor station appurtenances; and
- a water well.

Radar Compressor Station

The Radar Compressor Station would be located adjacent to the Tuscarora mainline ROW near MP 23.3 in Modoc County, California. Tuscarora would upgrade and gravel an existing jeep trail to provide permanent access to the site. This permanent access road would be approximately 2,325 feet in length and approximately 25 feet wide. In addition, Tuscarora would reroute an existing access road to provide landowner access around the site. Telephone service would be supplied via a fixed-point telephone or cellular service.

Likely Compressor Station

The Likely Compressor Station would be located east of the Tuscarora mainline ROW near MP 81.6 in Modoc County, California. Tuscarora would construct a permanent access road to the site approximately 800 feet in length and approximately 25 feet wide. Telephone service would be supplied via an existing buried telephone line operated by Citizens Utilities. Tuscarora would negotiate with Citizens Utilities to extend the telephone line approximately 5,280 feet underground to the compressor station site.

Construction of the permanent access road and piping would all be conducted on private land being purchased by Tuscarora.

Shoe Tree Compressor Station

The Shoe Tree Compressor Station would be located on private land adjacent to the Tuscarora mainline ROW near MP 142.3 in Lassen County, California. Tuscarora would use an existing county road that runs adjacent to the compressor station to access the site. This road would require minimal improvements. In addition, Tuscarora would construct and gravel a 100-foot-long by 25-foot-wide permanent driveway into the site. Telephone service is available on the property.

Permanent Facilities to be Constructed by Sierra Pacific

The following is a description of permanent facilities that would be constructed by Sierra Pacific. Summary tables of temporary and permanent land disturbance acreages for the White Horse to Tracy 345-kV Line Project are located in Appendix A.

345-kV Transmission Line

Construction and operation of the 345-kV electric transmission and tap and fold lines would require an approximately 160-foot-wide permanent ROW. The transmission structures would range from 60 to 130 feet in height, depending on terrain. Approximately 80 guyed lattice-type structures would be constructed, with the span between structures ranging from 200 to 2,700 feet, depending on terrain. See Figures II-6 and II-7 for typical drawings of the structures that would be constructed. The structures would be primarily constructed of galvanized steel angle members supported by steel guy wires. Approximately 60 of the structures would require a construction site of approximately 0.5 acre each for structure excavation, assembly, and erection. The remaining approximately 20 structures would be constructed within sites of approximately 2 acres each to accommodate the erection of 3-mast structures, which are required for horizontal angles in the transmission line route. All structure sites would be located within the permanent 160-foot-wide ROW and are similar in design to the existing towers in the Valmy-Tracy utility corridor.

White Horse Substation

Sierra Pacific proposes to construct and operate one new substation on private land at the interconnection point of the 345-kV electric transmission line and the future Washoe Energy Facility. The substation would be constructed in a “ring bus” layout⁴ and would serve as the terminus for the following transmission lines:

- the proposed 345-kV electric transmission line;
- an existing 345-kV electric transmission line to the Valmy Substation; and
- an existing 345-kV electric transmission line to the East Tracy Substation.

The permanent footprint of the substation would be approximately 5.5 acres (approximately 600 feet by approximately 400 feet). Adjacent parcels are vacant land. The access to the substation would likely require a short improved gravel road, approximately 30 feet wide, which would extend directly off of the Washoe Energy Facility main access road.

Modifications to the East Tracy Substation

Sierra Pacific would modify its East Tracy Substation to accommodate the proposed 345-kV electric transmission line. Modifications would include the addition of a new “bay”⁵ to the 345-kV bus to facilitate the proposed transmission line terminal. In order to maintain the reliability of the transmission system due to the increased load caused by the additional transmission line, upgrades to existing facilities would be necessary. These upgrades would include replacement of circuit breakers at the East Tracy and Mira Loma substations, both owned and operated by Sierra Pacific. All modifications would occur within the existing facility boundaries.

⁴ A “ring bus” is designed such that each incoming and outgoing transmission line terminates on the main bus between two circuit breakers that are shared by adjacent transmission lines. This layout offers high reliability and the flexibility to perform breaker maintenance without jeopardizing line protection.

⁵ A “bay” would consist of a breaker, footing, and all switches and control equipment for that breaker.

Figure II-6: Typical Drawing of a Delta Tower Structure

(Black and White 8.5 x 11)

Figure II-7: Typical Drawing of a 3-Mast Tower Structure

(Black and White 8.5 x 11)

Temporary Facilities

Tuscarora and Sierra Pacific propose to establish temporary facilities (e.g., staging areas, contractor yards) to support construction. Refer to Figures II-1 and II-2 for the locations of these temporary facilities.

Wadsworth Lateral

Staging Areas

Two construction staging areas have been identified for use during construction of the proposed Wadsworth Lateral.

- Staging Area 1 would require approximately 1.6 acres of land located at approximately MP 0 and would incorporate a portion of the Wadsworth Lateral ROW. This site would be located on private land.
- Staging Area 2 would require approximately 2.2 acres of land located at approximately MP 13.5 and would incorporate a portion of the Wadsworth Lateral ROW. This site would be located on private land.

Contractor Yards

One contractor yard has been identified for use during construction of the proposed Wadsworth Lateral.

- Contractor Yard 1 would require approximately 14.8 acres of land located south of I-80, approximately 2 miles southeast of MP 0. This previously disturbed site would be located on private land.

Pipe Storage Areas

Two pipe storage areas have been identified for use during construction of the proposed Wadsworth Lateral.

- Pipe Storage Area 1 is an existing approximately 14.7-acre site located at approximately MP 5.5. The pipe storage area would incorporate a portion of the Wadsworth Lateral ROW. This site would be located on both private land and BOR-managed public land, and was previously used as a construction staging area and refuse disposal site.
- Pipe Storage Area 2 is an existing 4.8-acre graveled rail yard located approximately 13 miles southwest of the proposed Wadsworth Lateral. The site is located south of I-80 along the Union Pacific Railroad (formerly the Southern Pacific Railroad) in Sparks, Nevada. The rail yard is located on private land and would be used for unloading and loading pipe on a short-term basis. This site was previously used as a pipe unloading/storage site during construction of the Hungry Valley Lateral. The location of this site is shown in Figure A1 of Appendix A.

Disposal Sites

One existing disposal site has been identified for use during construction of the proposed Wadsworth Lateral.

- Disposal Site 1 (approximately 550 acres) is an existing sanitary landfill (Lockwood Landfill) located in Lockwood, Nevada approximately 8 miles southwest of the proposed Wadsworth Lateral. The location of this site is shown in Figure A2 of Appendix A.

Compressor Stations

All construction activities and staging areas would be located within the 10-acre construction work areas, access roads, and remote sites proposed for each compressor station site.

Disposal Sites

One existing disposal site has been identified for use during construction of the proposed compressor stations.

- Disposal Site C1 (approximately 3.1 acres) is an existing site (Byrne Rock/Stump Pit) located in Modoc County, California, approximately 0.5 mile southeast of the proposed Radar Compressor Station site. This site was previously used during construction of the Tuscarora mainline.

White Horse to Tracy 345-kV Line Project

Staging Areas

Two construction staging areas have been identified for use during construction of the proposed White Horse to Tracy 345-kV Line Project.

- The East Tracy Material Yard (approximately 5 acres) is an existing yard owned by Sierra Pacific located between the Truckee River and I-80, immediately north of the East Tracy Substation.
- Pipe Storage Area 1, identified for use during construction of the proposed Wadsworth Lateral, would also be used as a material yard for White Horse to Tracy 345-kV Line Project construction activities.

Contractor Yards

One contractor yard has been identified for use during construction of the proposed White Horse to Tracy 345-kV Line Project.

- Washoe Contractor Yard, located adjacent to the proposed White Horse Substation and the proposed Washoe Energy Facility, is an approximately 20-acre site. The area would be located on previously disturbed, but currently vacant, land.

Disposal Sites

The same disposal site previously identified for the Wadsworth Lateral (the Lockwood Landfill) would be used for the White Horse to Tracy 345-kV Line Project.

Wire Pull Sites

Approximately seven to ten wire pull sites would be located along the White Horse to Tracy 345-kV Line route. Each pull site would be approximately 2 acres. The locations of the pull sites would be dependent upon the final engineering design of the route. However, pull sites would typically be spaced approximately 1 to 3 miles apart. The pull sites would be located within the 160-foot-wide ROW, except at sharp angles along the proposed line. Pull sites at these sharp angles would be located within the resource survey corridor⁶.

Access

Wadsworth Lateral

Tuscarora would use existing roads for preconstruction, construction, and postconstruction (operations) activities. Refer to Figure II-1 for the location of these access roads. Some existing access roads would require minimal improvements. All roads would be maintained, as needed, during construction. Table A2 in Appendix A summarizes access road use for the Tuscarora 2002 Expansion Project.

Access Road Maintenance and Restoration

During construction, gravel and dirt access roads would be maintained or improved to ensure safe, efficient access to the construction ROW and for public access. This may include light grading to reduce ruts and washboard effects, and grading or filling where necessary to ensure proper drainage and to prevent ponding of water within the roads.

Road maintenance equipment, such as excavators, graders, and bulldozers, would be available to repair roads and serious rutting as soon as ground conditions permit. No blading of material off the road surface, such as into adjacent vegetation or bar ditches, would be allowed. In addition, Tuscarora would install sediment control measures, such as straw bales and silt fence, at specific locations, as determined by Tuscarora's Environmental Inspector, to protect sensitive resources from sediment transported off of the roadway and to prevent erosion.

All existing roads would be left in place or restored to pre-existing conditions, in consultation with the BLM and private landowners. A representative from the BLM would determine final acceptance of roads on BLM-managed public land.

Compressor Stations

Tuscarora would use existing roads for preconstruction, construction, and postconstruction (operations) activities. These roads are identified on Figures II-3, II-4, and II-5. One new

⁶ The study area for the Wadsworth Lateral covered a 300-foot-wide corridor centered on the proposed pipeline. Sierra Pacific's survey area covered a 660-foot-wide corridor centered on the proposed electric transmission line centerline. In addition, from MP 0.7 to MP 7, the survey area on the electric transmission line was extended west to the existing access road that parallels the existing Valmy -Tracy 345-kV transmission line. The study area for the tap and fold lines also included an additional 300 feet along the north side of the 660-foot-wide corridor. A 35-foot-wide corridor was evaluated on access roads for both projects. Ancillary sites for both projects and compressor station sites were inventoried within the perimeter delineated by a surveyed and staked boundary.

permanent access road, one upgraded existing access road, and one permanent driveway would be constructed to access the compressor station sites, as previously described.

White Horse to Tracy 345-kV Line Project

Existing roads would be utilized for preconstruction, construction, and postconstruction (operations) activities. Improved access roads are already wide enough to be used safely by construction equipment. Using similar procedures as those previously described for the Wadsworth Lateral, these roads would be maintained during construction, but would not be widened. Unimproved access roads would be widened to approximately 30 feet. Refer to Figure II-2 for the locations of the existing access roads. See Table A4 in Appendix A for a summary of access road conditions and proposed project activities regarding access roads. All access roads and tower structure sites would be located to avoid sensitive resources, to the extent possible. During stringing activities, a bulldozer would travel from wire pull sites to each structure via access roads or overland travel along the ROW. Sierra Pacific would utilize helicopters where steep terrain makes overland travel impossible (e.g., in the area of the new permanent spur roads discussed below).

New Temporary Access Road

Between approximately MP 0.4 to MP 1.0, and between approximately MP 7.0 to MP 12.0, vehicle/equipment travel would occur along a new 30-foot-wide access road within the 160-foot-wide ROW. Where vehicle/equipment travel is not possible, the access road would be bladed as necessary by a bulldozer or equivalent in locations of heavy vegetation or rocks, to allow access to the structure locations. Surface material, including rock, would be bladed and sidecast to allow for passage of rubber-tired vehicles. Vegetation would be cleared using a hydro-ax or similar technique. Sediment and erosion control measures would be installed along the road at specific locations using Best Management Practices ("BMP"). This road would be reclaimed following construction.

New Permanent Spur Roads

Due to rugged terrain, approximately 30 short construction access roads ("spurs") would be developed between approximately MP 1.0 and MP 7.0 to provide access to structure sites from existing access roads. Spurs would be approximately 30 feet wide and would range in length from approximately 50 feet to 2,000 feet. In general, development of these spurs would involve light grading to remove and stockpile vegetation and topsoil. Some spurs would require side cuts along steep slopes in order for construction equipment to have safe and level access to structure sites. During construction, signs would be installed along the ROW and access roads to identify these spur areas as approved access points to the structure sites. Erosion and sediment control measures would be installed as directed by Sierra Pacific's Environmental Inspector or Construction Administrator, as applicable. Spurs constructed across particularly difficult terrain would not be reclaimed following completion of the project. These spurs would provide access to structures for future operations and maintenance activities. These spurs would not be actively maintained, but would be reseeded and stabilized with water bars as necessary to avoid potential erosion impacts.

Construction Procedures

Wadsworth Lateral

The proposed gas pipeline facilities would be designed, constructed, and subsequently tested, operated, and maintained to conform with, or exceed, the latest editions of federal and state regulations and codes, and various industry standards.

In addition, project activities would comply with all regulatory requirements, including:

- Title 18 CFR Section 380.15: "Siting and Maintenance Requirements"
- Title 49 CFR Parts 178 to 199: Applicable DOT regulations

Typical Pipeline Construction Procedures

It is anticipated that the contractor would use one construction spread and one meter station construction crew. The workforce would consist of a maximum of approximately 150 workers, plus an additional 10 to 12 construction management and inspection personnel. The construction labor force data assume that the construction spread works 10 hours per day, 6 days per week on the pipeline. Pipeline contractors would rely on existing local accommodations to house construction personnel. The phases of construction would proceed as follows:

- Clearing and grading
- Trenching
- Stringing
- Pipe installation
- Backfilling
- Hydrostatic testing
- Clean-up and restoration/reclamation
- Commissioning

Special Pipeline Construction Procedures

Blasting

Blasting would be used only when normal trenching methods are unable to meet project excavation specifications. Trench blasting may be required at various locations along the pipeline route between MP 2 and MP 10. The blasting contractor would use current and professionally accepted methods, products, and procedures at all times to maximize safety and efficiency during blasting operations. All blasting procedures would be carried out according to and in compliance with applicable laws and permit conditions. Blasting would be conducted by a qualified, experienced, and fully licensed blasting contractor and closely monitored by Tuscarora's inspectors. Tuscarora would coordinate with all adjacent utilities prior to conducting blasting activities.

Vehicles and Equipment

Construction activities would require approximately 75 pieces of medium- to heavy-duty equipment and approximately 75 light-duty vehicles (e.g., pickup trucks). An average of approximately 85 round trips per day would be required from Contractor Yard 1 to various points on the ROW. The approximate breakdown of trips would be as follows:

- 30 light-duty vehicle trips
- 30 medium-duty equipment trips
- 25 heavy-duty vehicle/equipment trips

Typical equipment used during construction includes:

- Sidebooms
- Trackhoes
- Dozers
- Stringing trucks
- Crew buses
- Fuel trucks
- Winch trucks
- Water trucks
- Skid trucks
- Stake trucks
- Welding rigs
- Lowboys
- Cranes
- Padding machines
- Farm tractors
- Radiography truck

Much of the heavy-duty equipment would be transported from Contractor Yard 1 to the ROW using lowboys. It would then travel down the ROW as construction progresses, with limited additional trips on access roads. Construction crews would be bused from Contractor Yard 1 to the ROW. Approximately 45 light-duty worker vehicles would make one round trip per day from town to Contractor Yard 1. The remaining 30 light-duty inspector and foremen vehicles would continue to travel from Contractor Yard 1 to the construction ROW using approved access roads.

Compressor Stations

The proposed compressor stations would be designed, constructed, and subsequently tested, operated, and maintained to conform with, or exceed, the latest editions of federal and state regulations and codes, and various industry standards. In addition, project activities would comply with all regulatory requirements including Title 49 CFR Parts 178 to 199: Applicable DOT regulations.

Typical Compressor Station Construction Procedures

Compressor station construction involves:

- Surveying the site
- Clearing and grading the site
- Trenching for natural gas piping and foundations
- Installation of piping and conduits
- Installation of piles or spread footings
- Construction of buildings and installation of compressors
- Hydrostatic testing
- Commissioning

The maximum depth of excavation at each site would be approximately 8 feet below the grade level for pipe trenches. All major compressor station facilities would be supported by piles or spread footings. The buildings would be metal clad and painted to blend in with the local environment. Piping would be kept underground to the maximum extent possible. Topsoil from

the compressor station sites would be salvaged and stockpiled at the site for future use. Stockpiled topsoil may be used to enhance reclamation of the temporary work areas. Any remaining topsoil would be graded to blend with site landforms and seeded. Approximately 100 people would be employed during construction of the three compressor stations, with a maximum of 50 people working on-site per day.

Vehicles and Equipment

Construction activities would require approximately 20 pieces of medium- to heavy-duty equipment and approximately 4 light-duty vehicles (e.g., pickup trucks) per station. Typical equipment used during construction includes:

- Sidebooms
- Trackhoes
- Dozers
- Fork lifts
- Compressors
- Fuel trucks
- Dump trucks
- Water trucks
- Flatbed trucks
- Man lifts
- Welding rigs
- Lowboys
- Cranes
- Radiography truck

The heavy-duty equipment would be transported to the compressor station sites from equipment rental companies using lowboys. It would then be used exclusively within the station construction site. If equipment would be shared between compressor station sites, it would be transported using lowboys.

White Horse to Tracy 345-kV Line Project

All of the overhead transmission lines would be designed, constructed, tested, and operated in accordance with state and federal regulations, including the National Electrical Safety Code, 1997 Edition (ANSI C2-1997), approved by the American National Standards Institute and approved and published by the Institute of Electrical and Electronics Engineers, Inc. Substation facilities would conform to National Electric Safety Code standards.

Typical Electric Transmission Line Construction Procedures

The workforce would consist of a maximum of 70 workers, approximately 40 for construction of the transmission lines and 20 for construction activities at the substation sites. There would also be an additional 5 to 10 construction support personnel, including construction inspectors and project managers. Sierra Pacific proposes to follow standard electric transmission line construction methods for installation of the 345-kV electric transmission line and the two 345-kV tap and fold lines. Construction would proceed sequentially, as follows:

- ROW preparation
- Structure foundation excavation and construction
- Structure assembly
- Structure erection using rubber-tired or track-mounted cranes
- Conductor and shield wire installation
- ROW cleanup
- Site reclamation operations

Special Construction Procedures

Blasting

Blasting procedures for the transmission line project would be similar to those previously described for the Wadsworth Lateral. Blasting may be required at some of the tower structure locations along the project route.

Structure Erection Utilizing Helicopters⁷

Sierra Pacific's contractor may evaluate helicopter erection as an alternative. Capacity limitation relating to altitude, temperature, and time of year may preclude this option. During helicopter construction, structural components would be hauled by truck from material staging yards to fly yards strategically located approximately every 6 miles along the transmission line ROW. Structures would be assembled at the fly yards and flown to the structure site as a partially or completely assembled unit. The fly yards would most likely be located on previously disturbed land at the proposed East Tracy Material Yard, Pipe Storage Area 1, the Washoe Contractor Yard, or wire pull sites along the ROW.

Once the structures have been flown to the structure site and guided onto the foundations, the guy wires would be attached to the anchors and the tower would be released. Perpendicular alignment (plumbing) of the towers would take place after all the tower sections for that day had been flown in.

Substation Construction Procedures

Construction of the White Horse Substation would proceed as follows:

- Pad preparation
- Footing and slab installation
- Erection of structures and fences
- Breaker and control building setting
- Installation of ground grid—erection of the 345-kV bus and installation of switches
- Installation of protection and control equipment
- Connection of transmission lines to the station
- Testing
- Energizing the facilities

Vehicles and Equipment

Construction activities would require approximately 20 pieces of medium- to heavy-duty equipment and approximately 10 light-duty vehicles (e.g., pickup trucks) for the electric transmission lines. Construction activities at the substations would require approximately 7 medium- to heavy-duty pieces of equipment and approximately 11 light-duty vehicles. An average of approximately 45 round trips per day would be required from the Washoe Contractor

⁷ It should be noted that helicopter erection only eliminates the need for a large crane at each structure site. Helicopter erection does not eliminate the need to construct concrete foundations or overland travel of equipment for wire pulling operations, etc.

Yard to various points on the ROW. Approximately eight Substation Control and Test (“SCAT”) service trucks and two welding trucks would travel daily to the substations.

Typical equipment used during construction includes:

- 2-ton flat bed trucks
- Flat bed boom truck
- Rigging truck
- Bulldozer
- Truck mounted digger
- Backhoe
- Mobile cranes
- Puller
- 35-foot bucket trucks
- 70-ton rental crane
- Tensioner
- Wire reel trailer
- Semi truck trailer
- Air compressors
- Air tampers
- Pickup trucks
- 1-ton crew trucks
- Mechanic truck
- SCAT service trucks
- Welding trucks

Modifications to the East Tracy Substation

Modifications to the East Tracy Substation would proceed as follows:

- Installation of structure footings and breaker slab
- Erection of structures
- Setting breaker on the slab
- Erection of 345-kV switch
- Installation of protection and control equipment
- Connection of the new transmission line to the station
- Testing the new equipment and line
- Energizing the facilities

Preconstruction Activities

Before starting construction of the proposed projects, various preconstruction activities would be completed, including:

- Preparation of specific plans addressing mitigation requirements, as required, for review and approval by the BLM (the FERC would also review and approve Tuscarora’s specific plans, which would serve as Tuscarora’s Implementation Plan, required by the CPCN issued to Tuscarora by the FERC);
- application for, and acquisition of, permits;
- acquisition of ROW easements;
- coordination with local underground utility notification centers;
- completion of preconstruction resource surveys;
- detailed design of the pipeline and transmission line facilities and compressor stations;
- procurement of materials;
- preparation of construction specifications and bid documents; and
- selection of contractors.

Construction Schedule

Wadsworth Lateral

Construction of the Wadsworth Lateral would commence in August 2002 for an in-service date of November 2002. Construction would likely take approximately three months.

Compressor Stations

Construction of the compressor stations would commence in April 2002 for an in-service date of November 2002. Construction would likely take approximately seven months, and would commence as soon as permits and agency approvals are granted.

White Horse to Tracy 345-kV Line Project

White Horse to Tracy 345-kV Line and White Horse Substation

Construction of the White Horse to Tracy 345-kV Line would commence in September 2002 for an anticipated in-service date of June 2003. Depending on weather and material constraints, total construction time could be as long as 13 months between initial land disturbance and final ROW restoration. The White Horse Substation would be constructed in the same timeframe as the 345-kV line. However, the facility would need to be partially in service by February 2003 to accommodate anticipated testing and start-up procedures at the Washoe Energy Facility in conjunction with the tap and fold lines described below.

345-kV Tap and Fold Lines

Construction of the two 345-kV tap and fold lines between the existing Valmy-Tracy 345-kV transmission line and the proposed Washoe Energy Facility would commence in September 2002 for an in-service date of February 2003. Construction would likely take approximately five months.

Operation and Maintenance

Wadsworth Lateral

Tuscarora would operate, inspect, and maintain the proposed facilities in accordance with applicable safety standards established by the DOT (Title 49 CFR Parts 178 to 199) and in conformance with the latest editions of federal and state regulations and codes, and various industry standards.

After the completion of construction, the permanent easement and temporary workspace areas would be reclaimed. Structures or earthwork would not be permitted over the permanent easement. Tree growth over a 15-foot strip centered on the pipeline trench would be controlled by mechanical means (e.g., chainsaws, brush hogs). Management of noxious weeds would be controlled in a manner acceptable to the BLM. The pipeline centerline would be clearly marked at public road crossings and in other areas as required by DOT regulations in Title 49 CFR Part 192.

The Wadsworth Lateral would be controlled from an existing central operations and control center. Communications and supervisory control and data acquisition service would be

accomplished by utilizing acceptable industry standards for remote communication systems. It is anticipated that no additional staff would be hired to operate the proposed Wadsworth Lateral and associated facilities.

Compressor Stations

The compressor stations would be designed for remote-controlled, unmanned operation. All buildings and operational areas would be monitored for security. Maintenance personnel would visit each site regularly to inspect the compression equipment. It is anticipated that major inspections would occur on an annual basis. Major maintenance is usually required every 24,000 unit operating hours.

Four additional people would likely be hired permanently or contracted to provide general operation and maintenance support for the compressor stations. For larger tasks, Tuscarora would likely use independent contractors or the manufacturer's service personnel.

White Horse to Tracy 345-kV Line Project

Sierra Pacific's Electrical System Control Center would be responsible for the operation of the transmission line once construction is complete, following standard operating practices. The System Control Center would monitor voltage and power flow along the transmission line from their central control center in Reno, Nevada. The substation would not be staffed on a continual basis, but operation would be monitored from Reno.

Maintenance Activities

Sierra Pacific anticipates conducting one ground patrol per year, one air patrol per year, and one tower-climbing inspection every 10 years. The substations would typically be examined on a weekly basis. Ground patrols would be conducted by Sierra Pacific personnel using either four-wheel drive all-terrain vehicles or snow caterpillars, depending on the time of year and field conditions. Maintenance or repair work of the electric transmission lines would require rubber-wheeled vehicles to access the affected structure sites. Tower-climbing inspections would be conducted by Sierra Pacific personnel using four-wheel drive vehicles large enough to carry the necessary tools and climbing safety equipment. The ground patrols and inspections would be conducted using existing roads and permanent travel routes to the greatest extent possible.

Applicant-committed Practices

The work practices discussed in this section are measures that the applicant would include as a part of the Proposed Action to implement the project. These measures were designed to avoid or reduce the impacts of the proposed project. The applicant-committed measures are discussed by resource topic. The order of the resource topics established in this section will track through the Affected Environment and Environmental Consequences chapters of this EA.

Tuscarora and Sierra Pacific would prepare specific plans to address mitigation requirements, as required. These plans would be implemented following review and approval by the BLM and the FERC through the issuance of the Right-of-Way Grant and CPCN, respectively. The specific plans would detail additional measures to take to minimize potential project impacts. Public

safety would also be addressed in the specific plans, as appropriate. The specific plans would be determined in consultation with the BLM and may include the following:

- *Right-of-way Reclamation and Revegetation Plan;*
- *Storm Water Pollution Prevention Plan (“SWPPP”),* including erosion and sediment control;
- *Dust Control Plan;*
- *Construction Spill Prevention, Control, and Countermeasure Plan (“SPCC Plan”);* and
- *Fire Prevention and Suppression Plan.*

Tuscarora and Sierra Pacific would prepare and conduct a comprehensive training program to inform construction crews of all permit requirements and restrictions relevant to project construction. In addition, at least one Environmental Inspector, or Construction Administrator, as applicable, would be assigned to each project site to oversee the environmental compliance inspection process. The Environmental Inspector or Construction Administrator would conduct worker training, oversee construction of the project, and document conformance with project mitigation requirements, permit conditions, and environmental specifications on a daily basis.

Tuscarora and Sierra Pacific would flag boundaries of the ROW and extra workspace. All construction equipment and vehicles would be restricted to the flagged work areas and approved access roads.

Both Tuscarora and Sierra Pacific would perform the following practices on their respective projects, unless otherwise noted.

II. a. Lands

No applicant-committed practices are proposed since there would be minimal impacts to land resources.

II. b. Soils

The following general measures would be implemented to minimize adverse project-related effects to soils:

- Erosion and sediment control methods would be specified in the SWPPP. All existing roads would be left in place or restored to pre-existing conditions or better, in consultation with the BLM. Measures to restore the ROW and temporary access roads to pre-construction conditions would be provided in the *Right-of-way Reclamation and Revegetation Plan.*
- Disturbance on the project would be limited to the extent possible, and vegetation removal would be minimized to reduce the potential for erosion. Long-term soil stabilization measures would be incorporated into the site-specific plans for Tuscarora’s compressor stations.
- Dust control measures would be implemented during all construction activities involving ground disturbance.

II. c. Geological Resources and Hazards

The following general measures would be implemented to minimize adverse effects related to geological resources and hazards:

- The design and construction of all project facilities would be in accordance with all applicable federal, state, and county building and construction ordinances to minimize the potential effects of seismicity on the project from known faults in the region. In the event of a rupture on the proposed natural gas pipeline due to seismic activity, the pressure-sensitive valve system would automatically detect a loss of pressure, triggering a shutdown of affected facilities.
- Tuscarora would perform geotechnical core testing and soil analysis at each compressor station site, and Sierra Pacific would do the same at the proposed White Horse Substation, to determine the structural design and construction requirements needed to compensate for seismic activity, liquefaction, subsidence, and expansive soils, as applicable.
- Tuscarora would use appropriate pipe design and engineering techniques to ensure the proposed pipeline can withstand geologic hazards, including seismic activity at the fault area at MP 1.5 to MP 4.5.
- Tuscarora would give careful attention to the proper compaction of material used for backfill. Compaction testing at the compressor station sites would be conducted in soils that are susceptible to subsidence, such as alluvial basin deposition and fine-grained soils with little rock content.
- Prior to construction activities (including blasting), all underground utilities would be located and marked to determine their location in relation to the ROW. Tuscarora and Sierra Pacific would coordinate with adjacent utilities prior to blasting activities.
- Pre- and post-blast inspections of existing manmade structures that could potentially be damaged by blasting operations would be performed.
- Appropriate precautions would be taken to minimize damage to structures or utilities located within 150 feet of blasting activities. Precautions could include rippling the charge detonations further apart or reducing the amount of charge material that detonates simultaneously.
- Flyrock would be contained to the extent practical by minimizing blast charges and using blasting mats, as appropriate.
- Should any damage occur as a result of blasting, such damage would be repaired as quickly as possible after the damage is discovered. In the event of damage to any water supply system, an alternative water source would be provided until such time as the original water supply system could be restored.

- If blasting is necessary near a wetland, the wetland would be monitored to ensure that blasting activities would not drain (e.g., change subsurface hydraulics) or fill wetlands (e.g., blast debris) as a result of blasting, if required by the U.S. Army Corps of Engineers (“ACOE”). Any blasting material that enters the wetland would be removed within 24 hours, as directed by the Environmental Inspector or Construction Administrator. If removal of the material would result in greater damage to the wetland, the Environmental Inspector or Construction Administrator may determine that the material should be left in place, in consultation with the appropriate agencies, as required.
- Appropriate safety measures would be followed, as required by state and federal regulations, before, during, and after blasting operations. Safety measures would include flagging, barricades, and warning signals.

II. d. Recreation

The following general measures would be implemented to minimize adverse project-related effects to recreation:

- All public access roads would be returned to their preconstruction condition or better, following consultation with the BLM or private landowners.

II. e. Cultural Resources

The following general measures would be implemented to minimize adverse project-related effects to cultural resources:

- All project staff would be trained on relevant federal and state regulations protecting cultural resources.
- Existing cultural resource sites would be avoided to the extent possible during the engineering design phase of the project.
- In the event that historic or prehistoric resources are discovered during construction, potentially destructive work within 300 feet of the find would be halted. Tuscarora’s and Sierra Pacific’s Environmental Inspector or Archaeological Resource Specialist would immediately implement the following measures⁸:
 - A physical marker (e.g., exclusionary flagging) would be erected to prohibit potentially destructive activities from occurring.
 - The Archaeological Resource Specialist would make a preliminary assessment of the newly discovered resource to determine whether the find is an isolated item or is recent, rather than historical. If a potential resource is not present, the Archaeological Resource Specialist would notify the Environmental Inspector or Construction Administrator, who would authorize construction activities in the area to resume. The discovery situation and

⁸ Tuscarora and Sierra Pacific would employ a number of specialists on the project.

resolution of the issue would be documented in the Environmental Inspector's or Construction Administrator's daily inspection report.

- If the Archaeological Resource Specialist determines that the discovery represents a new site or is a previously undocumented feature within a known site, the Environmental and Right-of-way Manager, Archaeological Coordinator, and BLM Compliance Monitor(s) would be notified, and a more extensive process would be followed.
- For any National Register of Historic Places eligible resources, a *Historic Properties Treatment Plan* that specifies appropriate treatment would be developed.

II. f. Paleontology

The following general measures would be implemented to minimize adverse project-related effects to paleontological resources:

- Should any paleontological resources be encountered during construction, all activities would be halted within 100 feet of the discovery area until such time as an appropriate investigation by a qualified paleontologist can be performed.

II. g. Vegetation

The following general measures would be implemented to minimize adverse project-related effects to vegetation:

- Tuscarora and Sierra Pacific would each prepare a *Right-of-way Reclamation and Revegetation Plan* in consultation with the BLM. The plan would specify seed mixes, reclamation techniques, and success criteria. Tuscarora would also comply with the FERC Plan. Sierra Pacific's *Right-of-way Reclamation and Revegetation Plan* would include management and maintenance procedures approved by the BLM for the access and spur roads.
- Vegetation disturbance would be limited to that necessary to safely and efficiently install the proposed facilities.
- Disturbed areas would be restored to their original contours and reclaimed, except as previously noted.
- Where present, topsoil would be salvaged, stored separately from subsoil, and respread following backfilling and regrading.
- Seeding would be scheduled to occur in the winter, between November 1 and March 1, following construction (weather permitting).
- Seed mixes for the ROW would be developed in consultation with the BLM; use of native, regionally occurring, commercially available seed would be stressed. At Tuscarora's compressor station sites, the seed mix would be developed in consultation with the California Department of Fish and Game ("CDFG").

- Postconstruction monitoring would be conducted during the first growing season following construction to assess revegetation success. The need for additional monitoring would be determined based on the results of the initial survey in consultation with the BLM. Remedial measures would be implemented in a timely manner where problems are identified.

Special-status Plant Species

- Individual special-status plants would be avoided or relocated based on surveys conducted in May and July 2001. If avoidance is not practicable, the work area would be restricted as much as feasible to minimize impacts. If impacts to special-status plants cannot be avoided, then the appropriate agencies would be consulted to determine other suitable measures.
- In the event any special-status plants would require relocation, permission would be obtained from the legal landowner or land management agency.

II. h. Noxious Weeds

The following general measures would be implemented to minimize adverse project-related impacts due to noxious weeds:

- All equipment would be washed free of mud and plant material prior to arriving at the construction site.
- All materials (including imported padding material, gravel, seed, and mulch) used during construction, reclamation, and operation would be free of noxious weed seeds.
- Signs would be installed by the Environmental Inspector or qualified biologist to indicate significant noxious weed population areas, as identified during preconstruction surveys.
- On Tuscarora's Wadsworth Lateral, full ROW topsoil stripping would be used where noxious weeds are identified.
- Topsoil from noxious weed-infested areas along the Wadsworth Lateral would not be used in weed-free areas.
- The land management agencies would be consulted regarding post-construction weed management activities, including monitoring and treatment.
- Tuscarora would continue implementing the noxious weed management activities developed for the Tuscarora mainline in Modoc and Lassen counties. Tuscarora mainline activities would include the three new compressor station sites in their monitoring and control plans.

II. i. Wildlife

The following general measures would be implemented to minimize adverse project-related effects to wildlife:

- Areas disturbed by the project would be reseeded after construction, as described in II.g., Vegetation.
- Smoking would only be allowed in cleared areas or enclosed vehicles to reduce the potential for wildfires.
- All waste products and food garbage from construction sites would be deposited in a covered waste receptacle, or removed daily. Garbage would be hauled to a suitable disposal facility.
- Gaps in strung pipe and spoil piles would be provided at sufficient intervals along the Wadsworth Lateral to allow passage of wildlife.
- Dogs and firearms would be prohibited for all project employees on the ROW during construction.
- Trench inspections for trapped or injured wildlife along the Wadsworth Lateral would be conducted daily.
- Tuscarora and Sierra Pacific would develop SPCC Plans for construction, if required, which specify minimum standards for the use, storage, transportation, and disposal of oil, oil products, and hazardous materials.

Special-status Wildlife Species

The applicant-committed practices described for common wildlife also minimize adverse project-related effects to special-status wildlife species. In addition, the following general measures would be implemented to minimize adverse project-related effects to threatened or endangered animals.

- All listed species would be avoided to the extent possible and, if necessary, additional measures would be developed in consultation with the responsible agencies to protect listed species.
- In order to reduce potential impacts to sandhill cranes nesting in the vicinity of the Likely Compressor Station, the western fence of the station would be slatted to obscure activity within the fenceline.
- Prior to the start of construction, surveys for active sandhill crane nests would be performed in the spring at the Likely Compressor Station. If active nests are found within 0.5 mile of the station, construction would not be conducted between the period of April 1 to August 15.
- Annual compressor station building maintenance, such as painting and compressor unit overhaul work, would be conducted outside of the sandhill crane nesting season (April 1 through August 15), unless pre-activity surveys are conducted and no nests are found within 0.5 mile.

- In order to reduce impacts to migrating pronghorn, no construction or annual maintenance activities would be conducted between March 1 and April 30 at the Radar Compressor Station.

Nesting Raptors

- Nesting raptors would be included in the 2002 preconstruction surveys. If permits have been obtained, tree clearing at the compressor station sites would take place prior to an agency-designated breeding season.
- If active nesting areas are found within the designated survey corridor, Tuscarora and Sierra Pacific would consult with the Nevada Division of Wildlife (“NDOW”), the CDFG, the USFWS, and the BLM to identify appropriate avoidance measures.

Migratory Birds

- Clearing and tree maintenance operations would be conducted outside the avian breeding season. If this is not feasible, a qualified biologist would survey the area prior to land clearing activities. If active nests (i.e., nests with eggs or young) are identified, Tuscarora and Sierra Pacific would consult with the USFWS, BLM, NDOW, and CDFG (in California) to determine appropriate measures.
- If evidence of nesting (e.g., mated pairs, territorial defense, carrying nesting material, transporting food) is observed, Tuscarora and Sierra Pacific would consult with the authorized agency to delineate an appropriate sized buffer area or other suitable measures.

II. j. Noise

The following applicant-proposed measures would be implemented to reduce potential noise impacts:

- Regular equipment maintenance and mufflers would be required, as appropriate, on all construction equipment.
- Noise emissions from Tuscarora’s turbine compressor units would be attenuated by the use of inlet and exhaust silencers, acoustically designed compressor buildings with silenced ventilation systems, variable low speed gas cooling fans and lubricating oil coolers, and silenced unit gas vents.
- Emergency generators at Tuscarora’s compressor station and booster unit sites would be located within acoustical, modular buildings.
- Tuscarora’s booster unit would be enclosed in a building within the meter station site. This building would be designed with sound dampening materials that would minimize noise levels within a 1-mile radius.

II. k. Range

Although the proposed project would cause only minimal adverse effects to rangeland, the following measures would be implemented to further reduce potential impacts from project activities in California and Nevada:

- If livestock fences are cut for construction purposes, temporary fencing would be installed to control livestock movement. Fences would be returned to their original condition as soon as possible after construction. The ROW fence along I-80 would be maintained at all times.
- Grazing allotment permittees would be consulted in advance of construction to minimize adverse effects on grazing activities.
- If trench excavation could block access to livestock water sources, Tuscarora would provide access across the trench and leave gaps in the strung pipe. If access cannot be maintained, Tuscarora would provide alternate watering areas, as necessary.

II. l. Visual Resources

The following general measures would be implemented to minimize adverse project-related effects to visual resources:

- The ROW and associated disturbance areas would be returned to their original contours except as noted for the permanent spur roads on Sierra Pacific's electric transmission line route. All disturbed areas would be seeded with an appropriate certified weed-free seed mixture.
- To minimize visual impacts, Tuscarora would work with the BLM in selecting an environmentally sound color for use on all aboveground facilities associated with the pipeline lateral. Aboveground equipment associated with the valve site and meter stations would be painted with non-reflective paint in a color corresponding to the tone and value of the surrounding natural landscape to minimize visual contrast.
- Tuscarora would work with Modoc and Lassen counties to minimize the visual impacts of the compressor stations. Efforts would be made to blend project facilities with the surrounding landscape. Where feasible, building design would emulate other agricultural buildings in the area.
- Aboveground equipment associated with the White Horse Substation would be painted with non-reflective paint in a color that blends with the natural landscape to minimize visual contrast.
- The use of additional non-reflective vinyl slats and/or berms would be considered for all the above ground facilities screened with metal fencing, if needed to minimize their effect. Each of these sites would be evaluated on a case-by-case basis. The color schemes for the stations and fencing would be reviewed by the BLM prior to the selection of materials.

- The new lattice-type towers would have similar design as the existing tower structures, thereby blending into the existing view. To meet the standards for Visual Resource Category III, the three proposed 345-kV lines would be constructed in their entirety with non glare metal (i.e., galvanized steel).
- Tuscarora would follow county building code requirements for outdoor lighting at the compressor station and booster unit sites.

II. m. Air Quality

The following general measures would be implemented to minimize adverse project-related effects to air quality:

- Best Available Control Technology (“BACT”) would be specified and installed for Tuscarora’s booster unit and compressor stations, in compliance with the requirements of the appropriate air district.
- Dry Low nitrogen oxide (“NO_x”) combustors would be installed on the gas turbine units at all three compressor stations.
- Lean-burn combustion technology would be installed on the Wadsworth Lateral booster unit.
- Tuscarora and Sierra Pacific would submit dust control plans for disturbance during project construction to the local air management districts that require them.
- General measures to control dust would include suppressing fugitive dust during construction and restoring soils and vegetation as soon as possible for long-term dust control. Methods to control fugitive dust on roads from vehicle travel would include reduced speed limits and the use of dust suppressants, such as water, calcium chloride, magnesium chloride, lignosulfates, or other effective suppressants.

II. n. Water Quality

The following general measures would be implemented to minimize adverse project-related effects to water quality:

- Tuscarora would adopt the FERC Wetland and Waterbody Construction and Mitigation Procedures (“FERC Procedures”) and incorporate them into the construction specifications.
- Before construction, Tuscarora and Sierra Pacific would contact the Nevada Division of Environmental Protection (“NDEP”) regarding compliance with Sections 401 and 402 of the Clean Water Act. In California, Tuscarora would comply with all conditions of the General Permit for Stormwater Discharge associated with construction activities. Any additional measures identified by the state of Nevada or the state of California to protect water resources would also be included in the construction specifications.
- There would be no refueling of equipment or storage of hazardous materials within 200 feet of private wells or 100 feet of waterbodies. If refueling is required within these buffer areas,

appropriate containment measures would be used, as approved by the Environmental Inspector or Construction Administrator.

- Tuscarora and Sierra Pacific would prepare a SWPPP and a SPCC Plan for construction, if required, that would be available at the construction site. The SWPPP would discuss erosion control measures and other BMP to prevent pollution of stormwater runoff. The SWPPP would meet the minimum requirements of the California State Water Resources Control Board (“CSWRCB”) and the NDEP. For Tuscarora, the SPCC Plan would meet the minimum requirements specified in the FERC Procedures (IV.A).
- If it would be necessary to blast near a well, Tuscarora and Sierra Pacific would implement the measures proposed in II.c., Geological Resources and Hazards.
- Tuscarora would follow the FERC Procedures for hydrostatic testing. In addition, all measures and permit requirements from the NDEP and the CSWRCB would be incorporated into the construction specifications.
- To avoid impacts to the Truckee River, electric transmission lines would be strung across the river, either by shooting a string across with a bow and arrow and then attaching the sock line to the string to draw it across, by having a construction crew member wade across with the string, or by using a helicopter to carry the sock line across.

II. o. Floodplains

- Sierra Pacific’s transmission towers would be sited as far from the river as practical, similar to existing structures within the Valmy-Tracy utility corridor. Proper construction and erosion control techniques would be implemented.

II. p. Wetlands/Riparian

The following general measures would be implemented to minimize adverse project-related effects to wetlands/riparian resources:

Tuscarora Gas Transmission Company

- The project would adopt the FERC Procedures and incorporate them into the construction specifications. The following modification to the FERC Procedures is proposed based on site-specific topography and soil conditions:
 - At the remnant Truckee River oxbow wetland near MP 4, the construction ROW would be narrowed to 75 feet with a 10-foot setback for extra workspace, due to the steep topography and rocky soils in the area.
- Before construction, Tuscarora would submit a wetland delineation report to the ACOE for confirmation and would apply for and obtain a permit under Section 404 of the Clean Water Act. Any additional measures identified by the ACOE in the project’s 404 permit would be included in the construction specifications, as appropriate.

- The wetland at the Likely Compressor Station in California would be avoided.
- Any additional measures identified by the state of Nevada or the state of California to protect water resources would also be included in the construction specifications.
- If blasting is necessary near a wetland, measures described in II.c., Geological Resources and Hazards, would be implemented.

Sierra Pacific Power Company

- To minimize impacts to riparian areas, transmission towers would be sited as far from the river as practical, similar to existing tower structures within the Valmy-Tracy utility corridor. Proper construction and erosion control techniques would be implemented.

II. q. Wastes and Hazardous Materials

The following general measures would be implemented to minimize adverse project-related impacts:

- Tuscarora and Sierra Pacific would remove and dispose of all solid waste generated during construction at facilities that are authorized and licensed to dispose or recycle solid waste under federal, state, and local laws and ordinances. All sanitary wastes (human wastes) would be collected in portable, self-contained toilets at all construction operations and managed in accordance with local requirements. Any excess soil or rock excavated during construction would be disposed of at Disposal Site 1 (Lockwood Landfill) for the gas line and the electric transmission line or Disposal Site C1 (Byrne Rock Stump Pit) for the compressor stations.
- All hazardous wastes generated during construction and operations would be handled and disposed of in compliance with applicable local, state, and federal laws.

II. r. Socioeconomics

No applicant-committed practices for socioeconomics are proposed since the project would have a net benefit.

II. s. Environmental Justice

No applicant-committed practices for environmental justice are proposed since the project would have no impact.

II. t. Native American Religious Concerns

- Through consultations required by Section 106 of the National Historic Preservation Act and the BLM, Tuscarora and Sierra Pacific would coordinate with the Pyramid Lake Paiute Tribe, Reno-Sparks Indian Colony, Washoe Tribe of California and Nevada, and the Yerington Paiute Tribe during the design of the project in Nevada to address any known Native American religious concerns.

- In California, through consultations required by Section 106 of the National Historic Preservation Act, Tuscarora would coordinate with the Klamath Tribes (Radar Compressor Station); Hammawi Band of the Pit River Tribal Council (Likely Compressor Station), and; the Honey Lake Maidu Tribal Council, Susanville Rancheria, and United Maidu Nation (Shoe Tree Compressor Station) during the design of the project to address any known Native American religious concerns.

II. u. Indian Trust Assets

Any potential impacts to Indian Trust assets would be minimized through implementation of the applicant-committed practices discussed in II.e. Cultural Resources, II.i. Wildlife, II.j. Noise, II.l. Visual Resources, II.m. Air Quality, and II.n. Water Quality.

b. Alternatives Considered for Analysis

The mainline tap locations for a new pipeline lateral are limited because of the placement of the existing Tuscarora mainline, local topography, and the preferred location of delivery for Southwest Gas (i.e., Paiute Interconnect Meter Station). In addition, the location of the Washoe Energy Facility has been determined by DENA to be their preferred location (based on existing gas transmission, electric transmission, and land availability). Therefore, the route selections were based in part on connecting existing Tuscarora and Sierra Pacific infrastructure to these customers. Other considerations in determining possible locations of alternative routes included using existing utility corridors that had similar utilities (e.g., pipeline with pipeline, electric line with electric line), minimizing the length of pipe and electric transmission line, and minimizing environmental impacts.

No-action Alternative

Tuscarora 2002 Expansion Project

Under the No-action Alternative, the Tuscarora 2002 Expansion Project would not be constructed. Although the No-action Alternative does not meet the project purpose and need, it provides the baseline from which impacts from the project are evaluated and is carried forward for detailed analysis in this EA.

White Horse to Tracy 345-kV Line Project

Under the No-action Alternative, the White Horse to Tracy 345-kV Line Project would not be constructed. Although the No-action Alternative does not meet the project purpose and need and is not responsive to federal regulations that require utilities to allow access to their electric transmission lines by new energy generators, the No-action Alternative provides the baseline from which impacts from the project are evaluated and is carried forward for detailed analysis in this EA.

c. Alternatives Considered but Eliminated from Further AnalysisNevadaWadsworth Lateral*North Alternative*

The North Alternative, shown in detail in Figure II-8, would extend approximately 11.9 miles from the Tuscarora mainline to the future Washoe Energy Facility. The route would traverse public and private land and generally parallel an existing electric transmission line. The North Alternative was not carried forward for further analysis due to the steep terrain, which provides for poor access during construction and operation activities and would significantly increase the cost of constructing the gas pipeline.

In addition, this alternative would not offer the benefits of a full interconnection with Paiute at the Paiute Interconnect Meter Station (due to its geographic location), which is one of the requests from Tuscarora's customers and does not meet the project purpose and need.

South Alternative

The South Alternative, also shown in detail in Figure II-8, would extend approximately 18.9 miles from the existing Tracy Power Plant to the proposed Paiute Interconnect Meter Station, with an additional segment leading to the future Washoe Energy Facility. The route would traverse public and private land, and generally parallel an existing pipeline.

While the South Alternative would also be constructible, it would have numerous land use, environmental, and construction concerns. The South Alternative was not carried forward for further analysis due to potential conflicts with planned development and active mining operations. It also would not be located in a corridor designated in the RUCR and would be approximately 4.7 miles longer than the proposed route. Constructibility issues, such as road and railroad bores, poor access, and steep terrain would make this route more difficult and more expensive to construct than the proposed route. Finally, it would cross the Truckee River and would be located in proximity to three federally-listed and one state-listed threatened or endangered wildlife species.

White Horse to Tracy 345-kV Line Project*South Alternative*

The South Alternative for the White Horse to Tracy 345-kV Line Project, shown in detail in Figure II-9, would be 15.1 miles long, and would begin at the proposed Washoe Energy Facility. The South Alternative would exit the Washoe Energy Facility and generally travel south and west, following existing double wood pole transmission lines in the sparsely developed land north of I-80. The alternative route would then turn south at the existing Valmy-Tracy 345-kV transmission line and cross I-80 and the Truckee River to terminate at the East Tracy Substation. A portion of the route would travel within the Truckee River Corridor and the I-80 Corridor.

Figure II-8: Wadsworth Lateral Alternative Routes

(Color 11 x 17, butterfly fold)

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Figure II-9: White Horse to Tracy 345-kV Line Alternative Route

(Color 11 x 17, butterfly fold)

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While the South Alternative could be constructed, it is not carried forward for further analysis because its potential to impact environmental resources would be greater than the proposed route. The alternative route would cross the oxbow wetland affiliated with the Truckee River and would be approximately three miles longer than the proposed route. Being an aboveground facility, the South Alternative would also be highly visible along the I-80 Corridor and the Truckee River Corridor. This corridor also presents challenges to construction because there are gas, electric, and telecommunications lines already in the corridor. These existing lines make construction more difficult and costly due to the constrained space available. While the South Alternative would follow a similar route as the proposed Wadsworth Lateral route, and as such would have the potential to affect many of the same environmental resources, the visual impact of the aboveground facilities would be greater. As discussed earlier, topography and customer need have ruled out selection of other routes for the Wadsworth Lateral.

During scoping, the public suggested an alternative route be considered west of the two existing 345-kV transmission lines in order to eliminate any potential impacts on sage grouse from raptors perching on the power lines. This alternative was considered and dropped from further evaluation because the proposed route would be placed in a location that is lower in elevation and behind a ridge. As a result, it avoids a direct line-of-site view from the power line to the key sage grouse habitats. This location is not expected to adversely impact the sage grouse. Additionally, the steep topography presents a potential for soil erosion and visual impacts and would be significantly more expensive to construct and maintain.

California

The proposed compressor station sites and the following alternative locations considered are shown in Figure II-10.

Compressor Station Site Alternative 1 - MP 5.4

Compressor Station Site Alternative 1 would be located near MP 5.4 on the Tuscarora mainline in Section 29, T48N, R6E in Modoc County, California. The site would be located on private land. Land use in the area consists primarily of rangeland and agriculture. No drainages, wetlands, or state- or federally-listed species have been identified at this site. The site was rejected based on its low suitability for meeting the system design requirements of the proposed project.

Compressor Station Site Alternative 2 - MP 55.9

Compressor Station Site Alternative 2 would be located near MP 55.9 on the Tuscarora mainline in Section 30, T42N, R10E in Modoc County, California. The site would be located on private land. Land use in the area consists primarily of agriculture. One drainage and three wetlands are located at the site. One state-listed species is known to occur in the area. As a result of these potential issues and the location's low suitability for meeting the system design requirements of the proposed project, this site was eliminated from further consideration.

Compressor Station Site Alternative 3 - MP 113

Compressor Station Site Alternative 3 would be located near MP 113 on the Tuscarora mainline in Section 25, T35N, R13E in Lassen County, California. The site would be partially located on

BLM-managed public land and private land. Land use consists predominantly of rangeland. No drainages, wetlands, or state- or federally-listed species have been identified at this site. This site was rejected based on its low suitability for meeting the system design requirements of the proposed project.

Compressor Station Site Alternative 4 - MP 152-154

Compressor Station Site Alternative 4 would be located between MP 152 and MP 154 on the Tuscarora mainline in Sections 14, 23, 24, and 25, T29N, R15E in Lassen County, California. The site would be located on private land. Land uses consist predominantly of rangeland. No wetlands or state- or federally-listed species are located at this site. Three drainages have been identified in the immediate vicinity of this site. As a result of these environmental constraints and the location's low suitability for meeting the system design requirements of the proposed project, this site was eliminated from further consideration.

Figure II-10: Compressor Station Alternative Sites

(Color 8.5 x 11)

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CHAPTER III - AFFECTED ENVIRONMENT

a. Scoping and Issue Identification

Project scoping was conducted from May 14, 2001 to June 14, 2001. The BLM held three public scoping meetings in Wadsworth, Nevada; Litchfield, California; and Alturas, California on May 21, 22, and 23, 2001, respectively. Eleven people attended the open houses and scoping letters were sent to 348 people, including landowners within 300 feet of the proposed and alternative routes, local agencies, and the FERC Service List for this proceeding. Ten letters were received in response to the scoping letters. The agencies and organizations solicited by the BLM for comments included the following:

- Duke Energy North America, LLC
- Lassen County Community Development Department
- Modoc County Planning Department
- Nevada Division of Environmental Protection
- Nevada Division of Wildlife
- Nevada Natural Heritage Program
- Nevada State Engineers Office
- Pyramid Lake Paiute Tribe
- Reno-Sparks Indian Colony
- Storey County Building and Planning Department
- Truckee Meadows Regional Planning Agency
- U.S. Bureau of Reclamation
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Washoe County Department of Community Development
- Washoe Tribe of Nevada and California
- Yerington Paiute Tribe
- Honey Lake Maidu
- United Maidu Nation
- Pit River Tribal Council (Hammawi Band)
- The Klamath Tribes
- Susanville Rancheria

The complete list of all persons receiving the mailing is located in the ROW case file at the BLM Carson City, Nevada office.

Major issues identified by the public and the responses to these issues are listed below.

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

1. Concern over impacts to cultural resources.
 - Tuscarora and Sierra Pacific conducted a cultural resources survey and inventory and prepared and submitted a detailed Class III Cultural Resources Inventory Report to the BLM. While the Cultural Resources sections of this EA include a preliminary discussion

of cultural resource issues, the effect of the project on cultural resources would be fully analyzed per Section 106 of the National Historic Preservation Act in consultation with the California and Nevada State Historic Preservation Officers and appropriate Native American groups.

2. Concern over impacts to the visual quality of the project area.
 - Four visual simulations are included in the EA, including views of the transmission towers, the substation, and one compressor station, to demonstrate visual impacts. This issue is analyzed in the Visual Resources sections of this EA.
3. Concern over impacts to the Truckee River floodplain and riparian vegetation.
 - Transmission towers would be sited as far from the river as possible, out of the riparian area, and on high floodplain (similar to existing structures). Proper construction and erosion control techniques would be implemented. Minimal impacts are anticipated. This issue is analyzed in the Floodplains and Wetlands/Riparian sections of this EA.
4. Concern over bird collisions with power lines.
 - Minimal impacts are anticipated. The new electric transmission line would be placed parallel to two existing lines that span the Truckee River. This issue is analyzed in the Wildlife sections of this EA.
5. Concern about erosion caused from new access roads.
 - Tuscarora and Sierra Pacific would each prepare a *Right-of-way Reclamation and Revegetation Plan* in consultation with the BLM. This plan would specify seed mixes, reclamation techniques, and success criteria. Tuscarora would also comply with the FERC Upland Erosion Control, Revegetation, and Maintenance Plan (“FERC Plan”). This issue is analyzed in the Soils sections of this EA.
6. Would there be adequate management of access roads during and after construction?
 - Road management is discussed in further detail in Chapter II.a. —Proposed Action, as well as in the Soils sections of this EA. A *Right-of-way Reclamation and Revegetation Plan* would be prepared for each project, which would address access road management in detail. In addition, Tuscarora would also comply with the FERC Plan.
7. Concern about public access and fire issues.
 - A minimum number of roads would be retained to provide permanent access to the project for maintenance, while others would be reclaimed and revegetated. Access road reclamation and management of new access roads would be addressed in the *Right-of-way Reclamation and Revegetation Plan*. Tuscarora and Sierra Pacific would provide appropriate fire response equipment on site during construction, as requested by the BLM.
8. Are other alternatives to the project considered?
 - Alternative routes for gas and electric facilities were considered but rejected since the environmental impacts would be greater than that of the proposed route, topography

would limit feasibility to build, and would not respond to the Purpose and Need for the project. A detailed discussion of alternatives is included in the Alternatives Analysis sections of this EA.

9. Concern about impacts to livestock grazing.
 - There would be minimal impacts to grazing during construction and a very small amount of grazing land would be removed permanently from forage production relative to total acres available for grazing. This issue is discussed in the Range sections of this EA.
10. Concern over impacts to mining claims.
 - Mining claims would continue to have precedence and would be accommodated if activated after the project is constructed. This issue is analyzed in the Geological Resources and Hazards sections of this EA.
11. How would the proposed project affect the proposed Wingfield/Washoe Land Exchange and the proposed Toquop Land Exchange?
 - Minimal impact to pending land exchanges in the vicinity would result from the project. This issue is analyzed in the Lands sections of this EA.
12. Ensure the project would conform to the BLM resource management plans.
 - The BLM Carson City Field Office *Consolidated Resource Management Plan* and the *Southern Washoe County Urban Interface Plan Amendment* were reviewed during preparation of this EA to ensure that the proposed project would conform with all applicable resource management policies.
13. Concern over the location of the power line as a perch for raptors, increasing predation on sage grouse in the area of a potential lek site in Section 9, T20N, R23E.
 - Due to steep topographic features along the transmission line route in the vicinity of Section 9, cross sectional drawings and calculations show that the top of the highest transmission tower in the vicinity is at least 100 feet below the ridge top. As a result, no line-of-sight would exist from a perching raptor to the potential sage grouse lek. This issue is analyzed in the Wildlife sections of this EA.
14. Request to move the proposed transmission line route to the west of the two existing transmission lines or to a lower elevation to avoid perching and predation by raptors near the potential sage grouse lek.
 - Alternative locations were analyzed, but are infeasible due to topographic, engineering, and cost constraints. As discussed above, cross sectional drawings and calculations have shown that the top of the highest transmission tower would be well below the ridgeline, beyond which the potential lek resides. A detailed discussion is included in Section II.c., Alternatives Considered but Eliminated from Further Analysis of this EA.

15. Concern over identification and protection of threatened or endangered plant and wildlife species in the project area.
 - Plant and wildlife surveys have been completed for the project area. Sand cholla, Lahontan cutthroat trout habitat, and several migratory bird and raptor nests were identified at several locations in or near the project area. Additional wildlife surveys would be conducted prior to construction. For all special-status species found, appropriate measures that comply with regulatory standards would be implemented to ensure protection and avoidance of the species. This issue is analyzed in the Vegetation and Wildlife sections of this EA.

16. Concern over impacts of the pipeline on the wetland vegetation in the oxbow located off I-80.
 - A *Right-of-way Reclamation and Revegetation Plan* would be developed to restore the area impacted by pipeline installation. This issue is analyzed in the Wetlands/Riparian sections of this EA. The installation of the pipeline would comply with the FERC Plan.

17. Concern over impacts of transmission lines crossing the Truckee River near the Tracy Power Plant.
 - The new transmission towers would be located within an existing utility corridor near two existing transmission lines that span the river. Tower footings would be located away from the Truckee River and outside riparian vegetation locations, similar to existing structures. This issue is analyzed in the Water Quality and Wetlands/Riparian sections of this EA.

18. Concern over the impacts of the potential spread of noxious weeds.
 - Standard construction practices would be implemented to minimize the risk of introducing and spreading noxious weeds. Seed mixes for revegetation would be carefully selected to avoid introduction of weeds and to meet with BLM approval. This issue is analyzed in the Noxious Weeds sections of this EA and in would be addressed in the *Right-of-way Reclamation and Revegetation Plan*.

19. Concern over dust control and air quality due to construction activities.
 - Tuscarora and Sierra Pacific would both prepare dust control plans that meet all local and state air quality standards. This issue is analyzed in the Air Quality sections of this EA.

20. The EA study should include analysis of the proposed Duke Washoe Energy Facility and its impact on groundwater, Truckee River flows, and the endangered cui-ui and Lahontan cutthroat trout habitat.
 - The proposed Washoe Energy Facility is not subject to BLM approval and, as such, is not included in the project scope for this EA. However, the Washoe Energy Facility is addressed in the cumulative effects section of this EA.

21. Impact of maintenance roads on increased off-highway vehicle (“OHV”) use, which increases weeds, erosion, and potential for wildfire.
 - No new access roads would be constructed for the pipeline lateral. Existing access roads would be used as much as possible in construction and maintenance of the new electric transmission line. New spur roads associated with the 345-kV transmission line would be reclaimed following construction, except for those required for access to towers located in difficult terrain. This issue is addressed in the Soils and Recreation sections of this EA.
22. Concern over how the project would affect deer migration during construction.
 - The project is not located in a deer migratory corridor or area, and therefore, would not impact deer movement.
23. Concern over potential erosion from construction.
 - A *Right-of-way Reclamation and Revegetation Plan* and SWPPP would be prepared for each project to minimize erosion impacts due to construction. In addition, Tuscarora would comply with the FERC Plan. This issue is discussed in the Soils sections of this EA.
24. Request for coordination with the Pyramid Lake Tribe.
 - The Pyramid Lake Tribe has been notified through the NEPA scoping process and the Section 106 cultural resources process. A number of meetings and discussions have been held with tribal members and representatives of the Tribe related to cultural resources and other potential impacts expected from the project. Section 7 consultation with the USFWS to evaluate the impacts on the endangered cui-ui and threatened Lahontan cutthroat trout has been initiated and the Tribe would be consulted as part of this process.
25. Request for obtaining permits from the Nevada Division of State Lands if the project impacts the Truckee River.
 - The electric transmission line would cross the Truckee River. Sierra Pacific would obtain an authorization from the Nevada Division of State Lands.
26. Washoe County requires a 25-foot open space buffer along I-80.
 - Buffer zones required by the county would be observed in the design and construction phases of the project.
27. Public access to the river and public lands must be protected.
 - The project would not impede public access to the Truckee River or public lands.

Compressor Station Sites

1. Concern for both temporary and permanent loss of habitat.
 - The total loss of habitat for wildlife from all three compressor stations is approximately 16.7 acres, which is relatively small in relation to the amount of habitat available. This issue is discussed in the Vegetation sections of this EA.

2. Setup sites, equipment/storage sites, and road access needs should be considered when analyzing impacts.
 - All equipment sites, setup sites, and road access needs were considered in the impact analysis. Refer to Chapter II.a., Proposed Action for a description of temporary facilities and access roads to be used during construction and operation of the compressor station sites.
3. Identify and locate all rare, threatened, endangered, and California special-status species and provide mitigation as appropriate.
 - Wildlife and botanical surveys were conducted to identify special-status species. None were identified in the project area. If any threatened or endangered species are identified during future surveys, or prior to or during construction, appropriate measures that comply with regulatory standards would be implemented to ensure protection and avoidance of the species. This issue is analyzed in the Vegetation and Wildlife sections of this EA.
4. Consider construction windows to protect special-status species nesting.
 - Construction windows would be considered, in consultation with the responsible resource agency, if special-status animals are identified in the impact area. This issue is discussed in the Wildlife sections of this EA.
5. Any water diversions or streambank modification should be coordinated with the CDFG as part of the planning process.
 - Construction and operation of the compressor stations would not require water diversions or streambank modifications. If these activities would be required, Tuscarora would coordinate with the CDFG as part of the planning process and all necessary state and federal permits would be obtained.

General Setting

Nevada

The proposed project area is sparsely populated and characterized by gently sloping to steep rolling hills consisting of surface rock, subsurface rock, and sparsely vegetated arid soils.

California

Radar Compressor Station

This site is dominated by Northern Juniper Woodland and a disturbed/reclaimed utility corridor. The topography of the site is flat to gently rolling with soils that are silty and sandy with coarse gravel.

Likely Compressor Station

The Likely Compressor Station site is comprised of Alkali Meadow and Big Sagebrush Scrub (degraded) vegetation types. Part of the site is located on a disturbed/reclaimed area. This site is relatively flat.

Shoe Tree Compressor Station

The Shoe Tree Compressor Station site is primarily comprised of Big Sagebrush Scrub and Greasewood Scrub vegetation types with a small disturbed/reclaimed area. This location is also relatively flat and located in a valley with primarily sandy loam soil.

Critical Elements of the Human Environment

The following critical elements of the human environment are not present or are not affected by the proposed action or alternatives in this EA:

- Farm Lands (prime or unique)
- Wild and Scenic Rivers
- Wilderness
- Areas of Critical Environmental Concern

Resources Present but not Affected

BLM specialists have further determined that the following resources, although present in the project area, are not affected by the proposed action:

- Water Rights
- Wild Horse and Burro
- Forestry

Resources Present and Brought Forward for Analysis

The following resources have been identified as being present and potentially affected by the proposed action or alternatives in this EA:

- Lands
- Soils
- Geological Resources and Hazards
- Recreation
- Cultural Resources
- Paleontology
- Vegetation
- Noxious Weeds
- Wildlife
- Noise
- Range
- Visual Resources
- Air Quality
- Water Quality
- Floodplains
- Wetlands/Riparian
- Wastes and Hazardous Materials
- Socioeconomics
- Environmental Justice
- Native American Religious Concerns
- Indian Trust Assets
- Public Safety (see Appendix F)

These resources are discussed in this order throughout the EA. Below is a description of the affected environment for each resource topic.

*III. a. Lands**Nevada*Wadsworth LateralCurrent Land Use

According to the *Truckee Canyon Area Plan* (Washoe County, 2000), over 90 percent of the Wadsworth Lateral would be located on land designated as Rural Residential/General Rural (from MP 1 to MP 14.2), which is defined as vacant space or agricultural land. A small portion of the pipeline alignment, from MP 0 to approximately MP 1, would be located within an area designated as Industrial.

The Wadsworth Lateral and associated temporary support facilities would be located within 0.25 mile of two rural residences. Contractor Yard 1 would be located on a privately-owned parcel, previously known as the 102 Ranch property. This property has several buildings that are used by Hoss Equipment/Nevada Inc. for industrial and company-related purposes. The Pyramid Lake Indian Reservation is located within 0.5 mile of the proposed Wadsworth Lateral near MP 13.

BLM Land Use Authorizations

BLM land use authorizations crossed or adjacent to the proposed pipeline ROW are listed in Appendix B, Table B1 and include the following:

- BLM range improvement project
- Federal aid highway, Section 17
- Material site, Section 17
- Oil/gas pipeline ROW
- Power transmission line ROW
- Road ROW
- Telephone/telegraph ROW

Existing Rights-of-way

The Wadsworth Lateral would be located immediately adjacent to the existing Paiute pipeline system ROW from MP 0 to approximately MP 11.7, where the Wadsworth Lateral would turn north away from the existing pipeline. The proposed pipeline would cross the Paiute Reno Lateral five times. Four existing electric transmission line ROWs either intersect or parallel the Wadsworth Lateral throughout portions of the route. The Wadsworth Lateral would be located adjacent to a telecommunications utility corridor containing an aboveground telephone line and an underground fiberoptic line from approximately MP 1.5 to MP 4.1. The pipeline would cross the Nevada Bell underground fiberoptic line six times. The pipeline would cross existing dirt access roads in eleven locations.

A portion of the Wadsworth Lateral would be located within the existing BLM-designated Interstate 80 Corridor System. This corridor has also been identified in the RUCR as an existing utility corridor.

Land Exchanges

At present, two land exchanges have been proposed in the area. The proposed Wingfield/Washoe Land Exchange (approximately 5,352 acres¹) and the proposed Toquop Land Exchange (approximately 640 acres²) would create additional federal land ownership, to be managed by the BLM in the area and would decrease the amount of private land available for potential development in the project area.

White Horse to Tracy 345-kV Line Project

Current Land Use

According to the *Truckee Canyon Area Plan* (Washoe County, 2000), 94 percent of the White Horse to Tracy 345-kV Line Project would be located on land designated as Rural Residential/General Rural, which is defined as vacant space or agricultural land. A small portion of the alignment, from MP 0 to approximately MP 0.7, is located within an area designated as Industrial.

The Pyramid Lake Indian Reservation is located within 1 mile of the proposed White Horse Substation. No other residences are located within 0.25 mile of the White Horse to Tracy 345-kV Line Project.

BLM Land Use Authorizations

BLM land use authorizations crossed or adjacent to the proposed transmission line ROW are listed in Appendix B and include the following:

- BLM range improvement project
- Federal Aid Highway—Section 17
- Oil/gas pipeline ROW
- Power transmission line ROW
- Road ROW
- Telephone/telegraph ROW
- Water facility ROW

Existing Rights-of-way

The White Horse to Tracy 345-kV transmission line would generally parallel two existing aboveground transmission lines from MP 0 to approximately MP 10.9 within the existing BLM-designated Valmy-Tracy Corridor. This corridor has also been identified in the RUCR as an existing utility corridor. The proposed electric transmission line route would also cross a fiberoptic line at MP 0.4, the Paiute Reno Lateral gas pipeline at MP 1.62, and Sierra Pacific's existing 120-kV transmission line at MP 1.65.

¹ The BLM would receive a total of 5,188 acres that would become public land. The BLM would exchange 164 acres that would become private land.

² The BLM and Nevada Land and Resource Company would make an even exchange of acres.

*California*Compressor StationsCurrent Land Use

All three compressor station sites would be located on private land in rural areas currently used for grazing. One rural residence is located between 0.4 and 1.0 mile from the Shoe Tree and Likely compressor station sites, respectively. The nearest residence to the Radar Compressor Station site is located within 0.5 mile of the site and is currently abandoned.

The land use and zoning designation at the Radar and Likely compressor station sites is General Agriculture. The land use designation at the Shoe Tree Compressor Station site is Agricultural, and is zoned Upland Conservation Resource Management (UC2).

Existing Rights-of-way

All three compressor station sites would be located immediately adjacent to, or would be crossed by, existing electric transmission line ROWs. In addition, the existing U.S. Highway 395 ROW forms a boundary line at the Likely and Shoe Tree compressor station sites. An existing telephone line ROW also crosses the Shoe Tree Compressor Station site.

*III. b. Soils**Nevada*Wadsworth Lateral

The proposed route for the pipeline lateral would cross 11 soil map units, consisting of 16 different soil series. These soils formed in alluvium and residuum derived from mixed rocks, rhyolite, and basalt on alluvial fans, flood plains, rounded hill crests, and side slopes. Soil textures range from sand to sandy loam. Typically, the surface is very gravelly to very cobbly, and soil depth ranges from shallow to very deep. The soil erosion hazard is slight to moderate for 96 percent of the route and is dependent on factors such as topography, vegetation cover, permeability, and runoff. The only soils along the pipeline route that have a high erosion hazard by wind or water are the Badland and Fireball soil series.

In general, the soils along the pipeline route have poor suitability for forage production and rangeland seeding. They are limited by drought and rocky conditions that generally make them unsuitable for cultivation. The proposed pipeline is not routed through any currently active agricultural soils; however, much of the area is used as rangeland. None of the map units crossed by the project meet the requirement for prime farmland by the Natural Resource Conservation Service's ("NRCS") standards.

White Horse to Tracy 345-kV Line Project

The proposed route for the 345-kV electric transmission line crosses 14 soil map units consisting of 25 different soil series. These soils formed in alluvium and residuum derived from mixed rocks, andesite and other volcanics on alluvial fans, low stream terraces, rounded hill crests, peaks, and ridges. Approximately 0.2 mile of this route crosses areas classified as rock outcrop. Soil textures range from sand to loamy sand. Typically, the surface is very

gravelly to very cobbly, and soil depth ranges from very shallow to very deep. The soil erosion hazard ranges from slight to high and is dependent on the factors described for the Wadsworth Lateral. In general, high erosion potential along the route is associated with steep hillsides, which cover approximately two-thirds of the project route.

These soils are used for rangeland, pasture, and urban development. They are limited by drought and rocky conditions, generally making them unsuitable for cultivation. The Aladshi sandy loam, 2 to 4 percent slopes map unit, which comprises approximately 0.06 mile of the route between the Truckee River and I-80 (approximate MP 0.2), meets the NRCS requirement for prime farmland if irrigated. This area is currently disturbed land owned by Sierra Pacific and used for materials storage. It is not irrigated.

California

Compressor Stations

The Radar Compressor Station site primarily consists of the Pass Canyon and Los Gatos soil series. Soil textures range from very cobbly loam to cobbly clay loam. In general, these soils have low to moderate erosion hazard, slow to moderate runoff, and are well drained. Soil depth ranges from shallow to moderately deep. This area is not considered prime or unique farmland.

The Likely Compressor Station site is located entirely on the Bieber soil series. The texture of this soil is gravelly loam on nearly level to moderate slopes formed on old terraces in the Alturas Basin. This soil has a slight erosion hazard, slow runoff, and is well drained. Soil depth is shallow. This series has a clearly defined topsoil (i.e., slightly acidic, gravelly loam, approximately 6 inches in depth). This area is not considered prime or unique farmland.

The Shoe Tree Compressor Station site primarily consists of the Cleghorn soil series. The texture of this soil is sandy loam found on fan terraces. This soil has a slight erosion hazard from water and a moderate erosion hazard from wind. The erosion hazard from wind may become high after disturbance. Runoff is slow and the soil is well drained. Soil depth is shallow. This area is not considered prime or unique farmland.

III. c. Geological Resources and Hazards

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Geologic Setting

The proposed project would be located in the Basin and Range physiographic province. This area is characterized by a series of basins separated by uplifted sections of material created by block faulting and extrusion during the Cenozoic period. During Pleistocene glacial periods, much of the project area was covered by Lake Lahontan (John et al., 1993a). The proposed gas pipeline and electric transmission line routes would curve around the southeastern edge of the Pah Rah mountain range. This mountain range contains a series of volcanic flows and extrusions primarily composed of basaltic and andesitic lavas, interspersed with some pumiceous rhyolitic tuffs, as well as hornblende and pyroxene

andesite. Numerous alluvial deposits ranging from fine sands to coarse gravel (Rose, 1969) overlay large portions of the gas pipeline and electric transmission line routes. Although the change in elevation from start to finish of both routes is only a few hundred feet, areas of steep slopes would be crossed.

Mineral Resources

Two active mines and two inactive mines are located in the general area of the project. However, neither project route would cross these mining operations. Gold, silver, tungsten, and diatomite have been extensively mined for commercial purposes in this general area (Rose, 1969). Copper, molybdenum, iron, zinc, and lead have been identified as being present in sufficient concentration to be mined commercially (John et al., 1993b,c,d), but there are no known plans to begin mining any of these minerals in the future. Other mineral deposits are found along the proposed project routes, but they are either economically infeasible to mine at this time or the ore bodies are not significantly pure enough to be mined with current technology (Tingley, 2001).

Geologic Hazards

Western Nevada is located in an area of high to moderate seismic activity, and there is moderate potential for seismic events to occur within the project area (Bell, 1984). Alluvial deposits crossed by the routes may contain soils susceptible to liquefaction. However, the potential for liquefaction to occur is dependent upon soil texture and water saturation. Because the soil must be saturated with water for liquefaction to occur, the risk of liquefaction appears low in this area's dry climate. The western end of the gas pipeline route (between approximately MP 1.5 and MP 4.5) parallels and/or crosses a fault (Bell, 1984). Several faults are reported in the area near the electric transmission line route.

Ground failure is not considered a significant problem in the dry Basin and Range Province where the project would be located. Landslides do occur in this area, but they are not common and are usually associated with high rates of precipitation during short, violent storms. Where they occur, landslides are typically in the form of a debris flow affecting the top several feet of the surface. There is potential for soil subsidence to occur in the fine-grained younger alluvial portions along the routes and expansive soils could occur where clay is a major component of the soil matrix.

California

Compressor Stations

The proposed sites for the three compressor stations are located in the Modoc Plateau Province. This province is characterized by geologically young volcanic plains that are faulted with northwest- to north-trending fault-block mountain ranges separated by linear valleys that parallel the ranges. The valleys have filled with thick accumulations of young volcanic units, alluvium, and lacustrine (lake) deposits (Tuscarora, 1993).

Geologic Setting

Radar Compressor Station

The Radar Compressor Station site is located in a depositional area containing young alluvial sediments. This type of deposit is unconsolidated and is characterized by the following:

- alluvial silt, sand, and locally coarse gravel;
- deltaic, sloopwash, stream channel, and floodplain deposits;
- fans; and
- local lake deposits.

Generally, the topography at the proposed Radar Compressor Station site is flat to gently sloping.

Likely Compressor Station

Nonmarine sedimentary rocks from the Pliocene period characterize the geology of the proposed Likely Compressor Station site. The principal component of this material is diatomaceous sandstone, shale, and tuff of the Alturas Formation. It is mainly composed of consolidated pumiceous sandstone, shale, and siltstone.

Shoe Tree Compressor Station

The proposed Shoe Tree Compressor Station site is relatively flat and located in a valley. The geology consists of Tertiary lake deposits, which are unconsolidated, folded argillaceous to arenaceous rhyolitic-ash lakebeds.

Mineral Resources

There are no known mineral resources associated with any of the three proposed compressor station locations. In the general vicinity of the Radar and Shoe Tree compressor station sites, there are some open pit sand and cinder operations, but none are located within 1 mile of the proposed compressor stations (Tuscarora, 1993).

Geologic Hazards

The Modoc Plateau and the Basin and Range areas, where the proposed compressor stations would be located, are considered to be active seismic zones. The closest active fault is the Surprise Valley Fault Zone in California. The Likely Compressor Station is located approximately 25 miles from this fault, with the other compressor stations being located more than 50 miles away.

There are numerous fault systems in the Modoc Plateau, and there are potentially active fault crossings at the proposed Radar and Likely compressor station sites (Tuscarora, 1993). It is not known if either of these faults are active, but they are close to other fault zones in the area. Both stations would be near various undifferentiated faults of Quaternary age in the Devil's Garden Area of the Modoc Plateau. The Shoe Tree Compressor Station would not be located within any identified potential active fault zones.

Tuscarora conducted extensive geotechnical investigations in July and August 2001 at all three compressor station sites. Results indicate no soils that would require special design considerations.

III. d. Recreation

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

The Wadsworth Lateral project area would be located near the Reno-Sparks urban center, and could be used for a variety of dispersed recreational activities. However, recreational activities are limited, to some extent, by the checkerboard pattern of federal, state, and private land ownership. Target shooting, hiking, horseback riding, and pleasure driving are some of the dispersed activities that take place in the area. Game bird hunting is also a likely recreational use in the area.

California

Compressor Stations

The recreational value and opportunities at the three compressor station sites are limited because of their small size and private ownership. However, recreational activities, such as hiking, hunting, and wildlife viewing are available on BLM-managed public lands that are near the Likely Compressor Station site. Limited hunting opportunities may be available on private land neighboring the compressor station sites.

III. e. Cultural Resources

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Tuscarora's and Sierra Pacific's archaeology consultant has prepared and submitted a detailed Class III Cultural Resources Inventory Report according to the BLM guidelines for review and approval by the BLM, Nevada State Historic Preservation Officer ("SHPO"), and appropriate Native American tribal groups. The FERC would also approve the Class III Cultural Resources Inventory Report. The report identified two prehistoric sites and one historic site in the project area that would require further evaluation under Section 106 requirements.

California

Compressor Stations

The Class III Cultural Resources Inventory Report identified one prehistoric site at the compressor station sites that would require further evaluation under Section 106 requirements.

III. f. Paleontology

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

The project would cross only one geologic unit that is likely to contain sensitive paleontological resources; the Chloropagus Formation, a part of the Pyramid Sequence map unit. The BLM records indicate that the lower part of the Chloropagus Formation has produced fossil plant remains of the Purple Mountain Flora (Axelrod, 1976), and identified four fossil collection sites in the vicinity of the project. The Chloropagus Formation of the Pyramid Sequence map unit should be considered a sensitive paleontological resource since it has produced important fossils near the project area.

Approximately 4.3 miles of the gas pipeline route and 6.7 miles of the electric transmission line route would cross the Pyramid Sequence map unit.

California

Compressor Stations

Radar Compressor Station

The geologic map units at the proposed Radar Compressor Station site have low potential for paleontological resources. In addition, the U.S. Forest Service (“USFS”) office in Alturas is not aware of any sensitive paleontological resources in the vicinity of the proposed Radar Compressor Station site (Gates, 2001). The paleontology study conducted for construction of the Tuscarora mainline (Wagner et al., 1996) did not identify any sedimentary surface deposits along this portion of the pipeline.

Likely Compressor Station

The segment of the Tuscarora mainline between MP 73.2 and MP 84.4, including the proposed Likely Compressor Station site, crosses the upper member of the Alturas Formation. The Alturas Formation is considered a sensitive paleontological resource by the USFS because of the fossil remains it has produced (Gates, 2001). Nine fossil sites were identified near the proposed Likely Compressor Station site during construction of the Tuscarora mainline (Wagner et al., 1996). Based on these past fossil discoveries, this area may contain additional sensitive paleontological resources.

Shoe Tree Compressor Station

The paleontology study conducted for the Tuscarora mainline (Wagner et al., 1996) identified unnamed Pliocene lake sediment deposits along the pipeline between MP 134 and MP 146.5, including the proposed compressor station site. Ten fossil sites were identified near the Shoe Tree Compressor Station site during construction of the Tuscarora mainline (Wagner et al., 1996). This area is considered sensitive based on reports that fossils have been recovered at this site.

III. g. Vegetation

Nevada

Wadsworth Lateral

Vegetation Types

Ten upland vegetation types, one disturbance type, and a riparian/wetland vegetation complex are present along the Wadsworth Lateral.

Over 86 percent of the Wadsworth Lateral supports shrub-dominated vegetation types, primarily Bailey Greasewood-Shadscale Shrubland with lesser amounts of Shadscale Shrubland and Low Sagebrush Shrubland. Bailey Greasewood-Shadscale Shrubland is ubiquitous along the eastern two-thirds of the Wadsworth Lateral. Shadscale Shrubland is common along the western portion of the route and Low Sagebrush Shrubland occurs at and adjacent to numerous narrow nonjurisdictional drainage crossings along the centerline. Minor shrub vegetation types include Mixed Shrubland, Burrowbush Wash, Bud Sage Shrubland, and Black Greasewood Shrubland. A degraded shrub type, Annual Herbland, is extensive for the first 3 miles of the route. Perennial Grassland and Winterfat Grassland are very minor vegetation types that occur along the first approximately 2 miles of the route. Herbaceous Wetland and Riparian/Wetland vegetation types are limited to an oxbow of the Truckee River near MP 4.

Disturbed land accounts for approximately 4 percent of the Wadsworth Lateral disturbance area, occurring at an old borrow/construction staging site (Pipe Storage Area 1) near MP 5.5 and at the eastern end of the route at the site of a water management project. Wadsworth Lateral ancillary sites are also frequently associated with previously disturbed sites, including Contractor Yard 1, portions of the Paiute Interconnect Meter Station site, Staging Area 2, and most of the access roads.

Special-status Plant Species

Special-status plant species with potential to occur in the project area are identified in Table C1 (Appendix C). During the week of May 7, 2001, Kelly Biological Consulting and EDAW, Inc. conducted special-status plant surveys for the species identified in Appendix C along the proposed pipeline corridor, ancillary areas, and pipeline access roads. A follow-up site visit was conducted the week of July 30, 2001 to determine the species of *Astragalus* and *Opuntia* specimens observed during May surveys.

Sand Cholla

One specimen of sand cholla (*Opuntia pulchella*), a Nevada species of concern, was observed along Access Road AR1. In addition, approximately 25 to 50 sand cholla specimens were observed between MP 0.1 and MP 1.9.

Other Cacti

Commercial harvesting of cacti is regulated by Nevada state law [Nevada Revised Statute (“NRS”) 527.071-NRS 527.101] (Nevada Natural Heritage Program, 2000b). During initial site reconnaissance in December 2000, specimens of prickly pear (*Opuntia erinacea*) (not *O.*

pulchella) were observed in the Patrick Quadrangle and at locations in the Derby Dam Quadrangle (Tuscarora, 2001a). During the focused surveys, scattered individual specimens of prickly pear were also observed in rocky open areas within the project area. Prickly pear is not listed as a sensitive species by a federal or state agency.

Other Species

No other special-status plants were observed along the Wadsworth Lateral, related access roads, and at the ancillary facilities. In drought conditions, fewer annual plants would germinate. Therefore, the herbaceous species diversity observed was probably lower than would be observed during a normal rainfall year.

White Horse to Tracy 345-kV Line Project

Twenty vegetation types have been identified in the proposed electric transmission line/access road corridor, including 14 shrub-dominated types, a perennial grassland, an annual herbland, a wetland/riparian type, shale breaks, rock outcrop and disturbed land.

Over 88 percent of the White Horse to Tracy 345-kV Line Project area supports shrub-dominated vegetation types, primarily Low Sagebrush Shrubland and Bailey Greasewood-Shadscale Shrubland, with lesser amounts of Shadscale Shrubland and Scree Shrubland. Lahontan Low Sagebrush Shrubland is most extensive in the middle one-third of the project area, while Bailey Greasewood-Shadscale Shrubland is most extensive along the eastern one-third of the project area. Shadscale Shrubland occurs most commonly along the western portion of the route and Scree Shrubland is scattered in the middle one-third of the route. Minor shrub vegetation types include Volcanic Rock Shrubland, Eroded Breaks Shrub Mosaic, Basin Big Sagebrush Shrubland, Burrobush Shrubland, Black Greasewood Shrubland and Rabbitbrush Shrubland. Other shrub types that occur in the vicinity of access road AR8 (but not on the corridor) include Mixed Shrubland, Shale Breaks, Burrobush Wash and Steep Slope Sandy Shrubland. A degraded shrub type, Annual Herbland, is extensive for the first 1.25 miles of the route. Perennial Grassland is a minor vegetation type that occurs along the first approximately 2.5 miles of the route; a single occurrence of Winterfat Grassland has been described on the access road in the vicinity of MP 2.5. A narrow Riparian/Wetland vegetation type is found on the south bank of the Truckee River. Limited occurrences of Rock Outcrop are found between MP 5.0 to MP 7.0.

Disturbed Land accounts for over 6 percent of the White Horse to Tracy 345-kV Line Project disturbance acreage and occurs on the Truckee River floodplain, I-80 corridor, and an equipment yard in the first 1.0 mile of the electric transmission line project. Disturbed Land also occurs at the eastern end of the route on a reclaimed land project and at a water management project site. Ancillary sites are also frequently associated with previously disturbed sites.

Special Status Plant Species

Sand Cholla

One specimen of sand cholla (*Opuntia pulchella*) was observed along Access Road AR1. In addition, approximately 10 sand cholla specimens were observed between MP 1 and MP 2,

and several between MP 7 and MP 8.5. One specimen was observed near milepost 10.9, where the two tap and fold lines would tap into the existing Valmy-Tracy 345-kV transmission line.

Astragalus Species

Several *Astragalus* specimens encountered near MP 8.3 in May could not be identified to species level due to plant phenological development. These individuals could not be found during the July survey. Possibly the aboveground portion of the plants had been grazed or had desiccated and blown away.

Other Cacti

Prickly pear cactus was found in the same general location along the electric transmission line route as for the Wadsworth Lateral.

Other Species

As with the Wadsworth Lateral survey findings, no other special-status plant species were observed along the proposed electric transmission line route.

California

Compressor Stations

Vegetation Types

Vegetation type descriptions for each of the three compressor station sites are based on preconstruction botanical resource surveys conducted for the Tuscarora mainline (BioSystems Analysis, Inc., 1994), five years of revegetation monitoring information (WESTECH Environmental Services, Inc. and KEA Environmental, 1997, 1998a, and 1998b; WESTECH Environmental Services, Inc., 1999 and 2001), and surveys conducted in January and February 2001. The disposal site identified for use during construction of the compressor station sites is an existing borrow/disposal site that likely does not support vegetation.

Radar Compressor Station

This proposed site is dominated by Northern Juniper Woodland and a disturbed/reclaimed utility corridor extending the length of the eastern boundary. It is an extensive vegetation type in this area, forming a mosaic of big sagebrush, low sagebrush, and yellow pine forest types, and occurring on a variety of aspects, slopes, topographic positions, and soils. Western juniper (*Juniperus occidentalis*) is usually short statured (normally less than 30 feet tall), and forms a very open to moderately open canopy (1 to 50 percent cover).

Likely Compressor Station

The proposed Likely Compressor Station site is comprised of Alkali Meadow and Big Sagebrush Scrub (degraded) vegetation types. The Tuscarora mainline, an electric transmission line, County Road 187A, an out building, and a field road encompass a disturbed/reclaimed type at this site.

Shoe Tree Compressor Station

The proposed Shoe Tree Compressor Station site is primarily comprised of Big Sagebrush Scrub and Greasewood Scrub vegetation types. A minor disturbed type is represented by the reclaimed Tuscarora mainline, a 345-kV electric transmission line, a telephone line, the U.S. Highway 395 ROW, and a county road.

Special-status Plant Species

Special-status plant species with potential to occur in the project area are identified in Table C1 of Appendix C. On May 29 and 30, 2001, Kelly Biological Services and EDAW Inc. conducted special-status plant surveys of the compressor station sites. No special-status plants were observed at the compressor sites. Drought conditions, similar to those observed on the Wadsworth Lateral, affected the overall cover of annual and perennial herbaceous vegetation in the project area.

Sensitive Vegetation Communities

No special-status plant communities are present at the three compressor station sites based on the California Natural Diversity Data Base (“CNDDDB”) search (CDFG, 1999) and surveys.

III. h. Noxious Weeds

Nevada

A list of Nevada noxious weed species designated by the State of Nevada, Department of Agriculture under provisions of NRS 655.130 is presented in Table C3 (Appendix C).

Wadsworth Lateral

Perennial pepperweed (*Lepidium latifolium*) occurs at the Truckee River oxbow near MP 4 in wetland/riparian vegetation types and at Contractor Yard 1. Much of the Truckee River floodplain between Reno and Wadsworth is infested with perennial pepperweed. Halogeton occurs sporadically along the adjacent Paiute Pipeline corridor and in the eastern portion of the project near the terminus. Russian knapweed (*Acroptilon repens*) occurs at the Truckee River oxbow.

White Horse to Tracy 345-kV Line Project

Well-established populations of perennial pepperweed infest the western portion of the electric transmission line corridor between approximately MP 0 and MP 0.5 in the vicinity of the Truckee River and adjacent disturbed industrial areas and roadsides.

An isolated occurrence of saltcedar (*Tamarix ramosissima*) is found adjacent to a shack on Olinghouse Road, over one-half mile east of the electric transmission line corridor.

California

Compressor Stations

Radar Compressor Station

Two species from the state of California's Department of Food and Agriculture noxious weed "A" list (2001) were identified on or near this site prior to construction of the Tuscarora mainline in 1995—spotted knapweed (*Centaurea maculosa*) and Scotch thistle (*Onopordum acanthium*). Both have been controlled by Tuscarora's weed control program.

Likely Compressor Station

No California state-listed noxious weeds are known, or have been known, to occur on or near this site.

Shoe Tree Compressor Station

Prior to construction of the Tuscarora mainline, halogeton was known to occur from the southern portion of this site extending approximately 1.2 miles to the south. Halogeton has never been observed at this site during the revegetation/weed monitoring surveys conducted since 1996. Lassen County does not typically treat this species where it occurs (Secret Creek and Honey Lake areas) since it is ubiquitous (WESTECH Environmental Services, Inc., 2001). Medusahead, which is scattered throughout this site, appears on the California "C" list.

III. i. Wildlife

Nevada

Wadsworth Lateral

Typical Wildlife Species

The Wadsworth Lateral and its ancillary facilities cross or are adjacent to vegetation types that provide habitat for wildlife species that are common in Washoe and Storey counties. The most common vegetation type found along the Wadsworth Lateral is Bailey Greasewood-Shadscale Shrubland. To a lesser degree, several other vegetation types are present, including shadscale, sagebrush, riparian, and wetland communities.

Common mammals associated with these communities include the pocket mouse (*Perognathus* sp.), deer mouse (*Peromyscus* sp.), woodrat (*Neotoma* sp.), black-tailed jackrabbit (*Lepus californicus*), gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), coyote (*Canis latrans*), pronghorn sheep (*Antilocapra americana*), and black-tailed deer (*Odocoileus hemionus*). This habitat is also used by domestic cattle (*Bos* spp.).

Migratory bird species are prevalent in these habitats. Common bird species that may occur include the golden eagle (*Aquila chrysaetos*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), great blue heron (*Ardea herodias*), double-crested cormorant (*Phalacrocorax auritus*), mourning dove (*Zenaidura macroura*), black-billed magpie (*Pica hudsonia*), California quail (*Callipepla californica*),

horned lark (*Eremophila alpestris*), sage sparrow (*Amphispiza belli*), and loggerhead shrike (*Lanius ludovicianus*).

Numerous reptiles are associated with these communities, including the terrestrial garter snake (*Thamnophis elegans*), striped whipsnake (*Masticophis taeniatus*), common kingsnake (*Lampropeltis getulus*), western rattlesnake (*Crotalus viridis*), gopher snake (*Pituophis melanoleucus*), collared lizard (*Crotaphytus insularis*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and sagebrush lizard (*Sceloporus graciosus*).

Common amphibians associated with habitats in the proposed project area include western toad (*Bufo boreas*), Great Basin spadefoot toad (*Spea intermontana*), bullfrog (*Rana catesbeiana*), and Pacific tree frog (*Hyla regilla*).

Special-status Wildlife Species

Habitat was evaluated in the proposed project area for state- and federally-listed species, as well as species listed on the Nevada Office of the BLM Special Status Species List. Based on literature reviews, habitat assessments, and review of the Nevada Natural Heritage Program database there is potential for 18 special-status wildlife species to occur along the proposed Wadsworth Lateral (see Table D1 in Appendix D). Surveys were conducted along the proposed ROW and ancillary areas between April 23 and May 2, 2001, and the results are discussed below.

Cui-ui

Cui-ui were not observed during surveys, but they are known to occur in the Truckee River below Derby Dam during their breeding season. Cui-ui (*Chasmistes cujus*), a federally-endangered species, are large suckerfish that are restricted to Pyramid Lake, Nevada for most of the year (Scopettone, 2001). They only leave Pyramid Lake to ascend the Truckee River for spawning. Construction of Derby Dam in 1905 created an impassible barrier that restricted their upstream migration to a maximum of 38 miles. Records indicate that cui-ui now generally migrate only as far as 9 to 12 miles upstream of Pyramid Lake (Virginia Tech, 2001).

Lahontan Cutthroat Trout

This species was not observed during surveys; however, Lahontan cutthroat trout are known to occur in the Truckee River, which is approximately 150 feet from the proposed Contractor Yard 1. Lahontan cutthroat trout are listed under the federal Endangered Species Act as threatened.

Golden Eagle

A golden eagle nest with two chicks was observed approximately 0.2 mile south of the proposed ROW near MP 2.1. The nest is located approximately 50 feet high on a cliff face facing northeast. The chicks appeared to be approximately one to three weeks old. No adult eagles were observed at the nest, but an adult golden eagle was observed soaring in the vicinity. A pair of golden eagles was observed in this area during a reconnaissance of the

area in February 2001. The golden eagle is listed by the Nevada BLM as a special-status species and by the state of Nevada as a protected species.

Nesting Raptors and Migratory Birds

A pair of red-tailed hawks was observed nesting in a cottonwood tree approximately 50 feet south of the proposed ROW near MP 4.0. One adult was observed roosting in the nest and another adult was observed perched nearby. This species is protected by the Migratory Bird Treaty Act, which prohibits intentional and unintentional take (killing) of migratory birds, including eggs in nests. There were numerous other migratory birds observed at the wetland near MP 4.0, but no other species were observed nesting.

Several stick nests were observed along the Truckee River within 0.5 mile of the proposed project area. No special-status species were observed using these nests. However, red-tailed hawk, double-crested cormorant, black-billed magpie, and other common species that occupy stick nests occur in the area. These species are protected by the Migratory Bird Treaty Act.

Bats

Surveys were conducted for special-status bat species between July 9 and 12, 2001. A total of eight species were observed including two special-status species—Yuma myotis and small-footed myotis. These species were observed foraging along the ROW, primarily in the vicinity of the oxbow wetland. There are bat roosts of a few individual or small groups on the cliff area adjacent to the oxbow wetland and potential roosts in the trees at the wetland, but there was no evidence of a maternity colony or any large colonial roosting. The Yuma myotis and small-footed myotis are listed by the Nevada BLM as a special-status species.

White Horse to Tracy 345-kV Line Project

Typical Wildlife Species

Typical wildlife species that could occur on the proposed White Horse to Tracy 345-kV Line Project would be the same species that could occur on the Wadsworth Lateral. Refer to the typical species previously described for the Wadsworth Lateral.

Special-status Wildlife Species

Special-status wildlife species with the potential to occur on the White Horse to Tracy 345-kV Line Project would be the same species previously described for the Wadsworth Lateral. Surveys for these species were conducted along the proposed ROW and ancillary areas between April 26 and May 3, 2001, and the results are discussed below.

Cui-ui and Lahontan Cutthroat Trout

The potential presence of cui-ui and Lahontan cutthroat trout along the White Horse to Tracy 345-kV Line Project route would be the same as described earlier for the Wadsworth Lateral. The White Horse to Tracy 345-kV Line crosses the Truckee River near MP 0.1 of the project route.

Golden Eagle

A golden eagle nest with two chicks was observed approximately 0.4 mile south of MP 2.5. This is the same nest previously described for the Wadsworth Lateral.

Sage Grouse

Evidence of a potential sage grouse lek (a gathering area for the purposes of breeding) was observed approximately 0.7 mile east of the proposed ROW near MP 6.7 (see Figure IV-1A and IV-1B for the site location). No sage grouse were observed at the site, but evidence included the combination of suitable lek habitat (a flat, open area surrounded by sagebrush and greasewood scrub) with a relative abundance of sage grouse scat. The abundance of scat suggests that grouse gather at this site. Sage grouse tend to reuse lekking areas every year. This species is listed by the Nevada BLM as a special-status species.

Nesting Raptors and Migratory Birds

Numerous stick nests were observed in cottonwood trees along the Truckee River on and within 0.5 mile of the proposed ROW at MP 0.1, and several stick nests were observed from MP 4.5 to MP 11.5 in the existing electric transmission towers within 0.5 mile of the proposed ROW. No special-status species were observed using these nests; however, red-tailed hawks, ravens, double-crested cormorants, black-billed magpies, and other species that occupy stick nests are common to these areas. These species are protected by the Migratory Bird Treaty Act, which prohibits intentional and unintentional take (killing) of migratory birds, including eggs in nests.

Bats

Surveys were conducted for special-status bat species from July 9 to July 12, 2001. A total of six species were observed, including two special-status species; Yuma myotis and small-footed myotis. No roost sites were found along the project, and the number of individual bats observed was small enough to suggest that there are no large colonies within the influence of the project alignment. The Yuma myotis and small-footed myotis are listed by the Nevada BLM as a special-status species.

California

Compressor Stations

Typical Wildlife Species

Radar Compressor Station

The proposed Radar Compressor Station site consists of open Juniper Woodland with an understory of grass, herbaceous plants, and shrubs. This plant community provides habitat for a variety of animals. Common mammals associated with this community include the pocket mouse, deer mouse, woodrat, black-tailed jackrabbit, gray fox, and coyote. Big game mammals, such as black-tailed deer, are active year round in the region. Recent cattle grazing was observed at the proposed site, with active cattle grazing occurring adjacent to the site.

Juniper Woodland also supports a variety of reptiles and amphibian species, including the western skink (*Eumeces skiltonianus*), western fence lizard, terrestrial garter snake, striped whipsnake, western rattlesnake, Great Basin spadefoot toad, and Pacific tree frog.

Townsend's solitaire (*Myadestes townsendi*), mountain chickadee (*Poecile gambeli*), northern flicker (*Colaptes auratus*), pinyon jay (*Gymnorhinus cyanocephalus*), bushtit (*Psaltriparus minimus*), mourning dove, western blue bird (*Sialia mexicana*), and common nighthawk (*Chordeiles minor*) are commonly found in Juniper Woodland habitats. The golden eagle, American kestrel, and common raven could also be found foraging in this habitat.

Likely Compressor Station and Shoe Tree Compressor Station

The proposed Likely Compressor Station site and the proposed Shoe Tree Compressor Station site both support Big Sagebrush Scrub and either Alkaline Meadow or Greasewood Scrub vegetation types. These plant communities provide habitat for a variety of small- and medium-sized mammals, reptiles, songbirds, and raptors, all common to abundant throughout northeastern California. Common mammals associated with these communities include the antelope ground squirrel (*Ammospermophilus leucurus*), pocket mouse, deer mouse, kangaroo rat (*Dipodomys* sp.), black-tailed jackrabbit, badger (*Taxidea taxus*), bobcat (*Lynx rufus*), kit fox (*Vulpes macrotis*), and coyote. Big game mammals, such as black-tailed deer, are active year round in the region. Evidence of cattle grazing was observed at both sites.

These habitats also support a variety of reptiles and amphibian species, including the desert spiny lizard (*Sceloporus magister*), collared lizard (*Crotaphytus collaris*), long-nosed leopard lizard (*Gambelia wislizenii*), western rattlesnake, desert horned lizard (*Phrynosoma platyrhinos*), Great Basin spadefoot toad, and western toad.

The western meadowlark (*Sturnella neglecta*), black-billed magpie, horned lark (*Ermophila alpestris*), California quail, sage sparrow, red-tailed hawk, American kestrel, common raven, and loggerhead shrike are common throughout the region.

Special-status Wildlife Species

Habitat was evaluated on the proposed project area for state- and federally-listed species, as well as species listed by CDFG as California special concern species, fully protected species, and protected species (January 2001). Based on literature reviews, habitat assessments, and review of the CNDDDB, there is potential for 20 special-status wildlife species to occur in the vicinity of the compressor station sites (refer to Table D1 in Appendix D).

Surveys were conducted on the proposed project areas and along proposed project access roads between May 1 and May 3, 2001. No special-status species were observed occupying the project areas.

III. j. Noise

Nevada

Regulatory Review

Federal Energy Regulatory Commission

The FERC currently requires that all new booster units under its jurisdiction meet a day-night equivalent sound level (“L_{dn}”) of 55 decibels (“dB”) at any pre-existing noise-sensitive area [Title 18 CFR Part 380.12 (k)(v)(A)].

Washoe County

Noise standards for Washoe County are addressed in Article 414 Noise and Lighting Standards of the Washoe County Development Code. The code sets forth two standards relevant to the project:

- Section 110.414.05 (b): For properties abutting areas developed residentially, or shown as residential on the area plan maps, sound levels shall not exceed 65 L_{dn} at the property line.
- Section 110.414.20 (c): Temporary construction occurring between 7:00 a.m. and 7:00 p.m. on any day except Sunday is exempt from the noise regulations in Article 414.

Wadsworth Lateral

Ambient Noise

The Wadsworth Lateral passes through a relatively undeveloped area northeast of Reno, Nevada. Except for the industrial complex development close to I-80 near Tracy, Nevada, the area remains undeveloped. Other potential sources of noise include air traffic and off-road vehicle use.

There are four residences located within approximately 0.5 mile of the pipeline ROW at the following approximate locations: MP 4.5; MP 6.3; MP 6.4; and MP 6.5.

These residences are located south of, and in close proximity to, I-80, the Union Pacific Railroad, and the Truckee River.

Booster Unit

The booster unit would be located near Wadsworth, Nevada. The site would be adjacent to the Paiute Meter Station, which consists of a gas line with two support buildings enclosed in a chain-link fence area. The site is remote, with the closest receptor in excess of one mile in distance. Four noise-monitoring locations were selected in close proximity to the existing gas line.

An ambient noise survey was conducted at the proposed booster unit site in June 2001 to document existing noise levels. The results of the ambient noise survey for the booster unit showed a L_{dn} noise level of 49.0 dB.

White Horse to Tracy 345-kV Line Project

The ambient noise setting for the White Horse to Tracy 345-kV Line would be similar to that described for the Wadsworth Lateral. However, there are no residences within 0.5 mile of the proposed project.

California

Compressor Stations

Regulatory Review

Federal Energy Regulatory Commission

The FERC currently requires that all new compressor stations under its jurisdiction meet a L_{dn} of 55 dB at any pre-existing noise-sensitive area [Title 18 CFR Part 380.12 (k)(v)(A)].

California

In California, a descriptor called the community noise equivalent level (“CNEL”) is often used (California Department of Health, 1976). These land use compatibility guidelines are used to determine if the community noise environment is compatible with a proposed type of development. Residential design criterion throughout California range from a daytime ambient level of 55 A-weighted decibels [“dB(A)”] to an evening level of 45 dB(A).

Industrial noise level impacts are based on the property line noise limits for stationary noise generators in a residential area as summarized below:

- Between 7 a.m. and 7 p.m.: 55 dB(A)
- Between 7 p.m. and 7 a.m.: 45 dB(A)
- Between day/night composite (day + (nighttime + 10 dB(A)) = L_{dn} : 55 dB(A)

Modoc County

Modoc County’s General Plan identifies 55 dB as normally acceptable for Low density residential land use and 75 dB as normally acceptable for Industrial land uses.

Lassen County

According to the *Lassen County General Plan Noise Element*, industrial uses shall not exceed 70 dB L_{dn} /CNEL at the nearest property line. In addition, Lassen County enforces the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code. Lassen County’s normally acceptable noise levels are 50 to 60 dB for Residential land uses and 50 to 70 dB for Industrial land uses.

Ambient Noise

Ambient noise surveys were conducted in February 2001 at the three proposed compressor station sites and the results are described below.

Radar Compressor Station

The area surrounding the Radar Compressor Station comprises forest and agricultural lands. Access to the facility is from a nearby gravel road. One noise receptor, a single-family residence (Dalton Ranch), is located approximately 2,000 feet east-northeast of the proposed compressor station site. This residence is currently abandoned, but was modeled as the nearest noise receptor since it could be inhabited in the future. The resultant L_{dn} noise levels from the surveys at the Radar Compressor Station site were 38.0 dB.

Likely Compressor Station

The area surrounding the Likely Compressor Station is a mix of undeveloped and agricultural lands. The closest paved road is U.S. Highway 395, located approximately 150 feet east of the Likely Compressor Station. One noise receptor, a single-family residence, is located approximately 3,500 feet south of the proposed compressor station site. The resultant L_{dn} noise levels from the surveys at the Likely Compressor Station site were 48.3 dB.

Shoe Tree Compressor Station

The area surrounding the Shoe Tree Compressor Station site is a mix of agricultural land with short sagebrush vegetation. The closest paved road is U.S. Highway 395, located approximately 450 feet west of the Shoe Tree Compressor Station. One noise receptor, a single-family residence, is located approximately 2,400 feet east of the proposed compressor station site. The resultant L_{dn} noise levels from the surveys at the Shoe Tree Compressor Station site were 46.5 dB.

III. k. Range

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

The majority of land that would be crossed by the Wadsworth Lateral and the White Horse to Tracy 345-kV Line Project is currently rangeland or vacant land. The rangeland that would be crossed by the pipeline and transmission line is a mixture of public and private lands, vegetated mainly with a sparse salt desert scrub community. Both facilities would cross the BLM's Olinghouse Canyon grazing allotment. In addition, a small portion of the western end of the Wadsworth Lateral would cross the Mustang/Spanish Springs Allotment. Both allotments are described below.

Olinghouse Allotment

The Olinghouse Allotment encompasses 30,502 acres, of which approximately 17,000 acres are federal land. This allotment supports 800 animal unit months ("AUM") at an average grazing capacity of 21 acres/AUM. Two grazing permittees run cattle from November 1 to May 15. There are five range improvements, which include two fences, one spring development, one well, and one aerial seeding of a burned area that were implemented by the BLM. Cattle are the primary class of livestock on this allotment.

The allotment is rated as "custodial" land by the BLM, which means the vegetation production is low, the potential for improved productivity is limited by economic criteria,

land ownership constraints exist, and there is no likelihood of positive economic return on public investment. The allotment is generally considered low potential for livestock due to the preponderance of annual grasses and salt desert scrub plant species.

Mustang/Spanish Springs Allotment

The Mustang/Spanish Springs Allotment encompasses 36,988 acres of which 20,321 acres are on public lands. This allotment supports 1,515 AUMs at an average grazing capacity of 13 acres/AUM. Two grazing permittees run cattle all year long. This allotment is also rated as custodial land by the BLM.

There is one range improvement on the allotment, which is the Steidmeyer Well #2, located west of the project. In addition, permittees use the existing jeep road that runs from Contractor Yard 1 (AR1) to the Wadsworth Tap to haul water to a livestock-watering trough west of the project.

California

Compressor Stations

All three compressor station sites would be located on private land that is currently used for grazing. Areas adjacent to the sites are similarly used for grazing and rangeland purposes.

III. 1. Visual Resources

Nevada

Wadsworth Lateral

One visually scenic area (the Truckee River Corridor)³ would be located near the Wadsworth Lateral. However, the Truckee River Corridor width is not defined. The BLM has evaluated federally managed lands within the project area under its Visual Resources Management (“VRM”) system. The BLM-managed public lands in this area have been designated as VRM Class III. The management objectives for Class III areas are:

...to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the causal observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. (BLM, 1986a)

Portions of the Wadsworth Lateral, between approximately MP 3 and MP 7, would be located within 0.5 mile of the I-80 corridor. This corridor provides views of steep mountain slopes and other topography that define the Truckee Canyon. According to the *Washoe County Comprehensive Plan*, the I-80 corridor possesses scenic qualities, and measures to protect the corridor have been implemented. These measures include reviewing all proposed developments to ensure that the view from I-80 is preserved, and recommending height

³ The Regional Planning Agency recommends that utilities avoid siting new aboveground facilities in the Truckee River Corridor. However, the designated boundary of the Truckee River Corridor has not yet been finalized.

limitations and setbacks. In addition, a minimum 25-foot buffer should be maintained between all property lines and ROWs along arterial streets (Washoe County, 2000).

At approximately MP 12, the Wadsworth Lateral would be within 1 mile of State Highway 447. This area is within sight of the only rural residences in the vicinity.

White Horse to Tracy 345-kV Line Project

The 12.0-mile transmission line would be located within the Pah Rah mountain range. The topography of this area is characterized by gently rolling hills and steep mountain slopes. Elevations throughout the project area range from approximately 4,265 feet near the Truckee River to 5,905 feet within the Pah Rah mountain range. Texture of the vegetation varies from coarse to fine. Linear elements are provided by the existing roads and utility transmission lines. Colors vary from the reddish hue of the volcanic rocks and soils, to gray-green of the sagebrush and light tan of the annual grasses.

The area in which the White Horse to Tracy 345-kV Line Project would be located has been designated as a Class III VRM area (BLM, 1982) as previously described for the Wadsworth Lateral.

California

Compressor Stations

No official visual designation or classification has been assigned to the three proposed compressor station locations because they would be located on private land. The Radar Compressor Station site would be located more than 0.5 mile from State Highway 139, and would be located in rangeland surrounded by a mixed conifer community.

The Likely and Shoe Tree compressor station sites would be located within 0.25 mile of U.S. Highway 395. The Shoe Tree Compressor Station site would be located within a locally-designated scenic highway corridor along U.S. Highway 395 (development is not precluded in this area). Topography in both areas is flat and provides unobstructed views to the surrounding valleys and distant mountains.

III. m. Air Quality

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Climate

The general area of the Wadsworth Lateral and White Horse to Tracy 345-kV Line Project is classified as an interior Mediterranean environment. Low humidity at a high altitude causes daily temperature fluctuations that cannot be found in a true Mediterranean climate. Mild, wet winters and hot, dry summers characterize the region's climate.

Ambient Air Quality

Since 1995, the NDEP has monitored for particulate matter with an aerodynamic diameter less than or equal to 10 microns (“PM₁₀”) and carbon monoxide (“CO”) at Sparks in Washoe County, Nevada, located approximately 15 miles west of the project. The county is currently designated as nonattainment for ozone by the Environmental Protection Agency (“EPA”), and the Truckee Meadows Basin, located within Washoe County, has been declared nonattainment for CO and PM₁₀. However, the project is not located within the Truckee Meadows Basin. Background PM₁₀ and CO emissions for the booster unit are indicated in Table III-1. Neither the monitoring station in Sparks nor any other monitoring station in the general vicinity of the project monitors concentrations of other criteria pollutants.

Local Regulations

The compressor stations are subject to various regulatory requirements, including the Clean Air Act requirements for New Source Performance Standards and local requirements of both the Modoc County Air Pollution Control District (“APCD”) and the Lassen County APCD that are administered through the California Air Resources Board (“CARB”). Modoc County APCD and Lassen County APCD require any nonexempt source that emits a pollutant to the atmosphere to obtain an Authority to Construct and a Permit to Operate. Lassen County APCD also lists requirements for new stationary sources, including compliance with ambient air quality standards and California BACT requirements.

Ambient Air Quality

Modoc County has been designated nonattainment for PM₁₀. Modoc County is designated attainment or unclassifiable for all other criteria pollutants. Lassen County is designated attainment or unclassifiable for all criteria pollutants. Estimated countywide CO, NO_x, sulfur dioxide (“SO₂”), and organic compound emissions, as well as PM₁₀ concentrations are shown in Table III-2.

Radar Compressor Station

The CARB has monitored for PM₁₀ at the Lava Beds National Monument in Modoc County since 1995. The monument is located approximately 10 miles west of the Radar Compressor Station site off State Highway 139. Most of the PM₁₀ in Modoc County comes from unpaved road dust, wind erosion, and wildfires (CARB, 2000).

Neither the monitoring station at the monument nor any other monitoring station in the general vicinity of the Radar Compressor Station site monitors concentrations of other criteria pollutants. However, pollutant emissions for Modoc County have been estimated based on the different types of sources found in Modoc County (CARB, 2000).

More than one-third of the CO emissions are due to wildfires, while the rest are due to residential fuel combustion, on-road motor vehicles, and other mobile sources. NO_x emissions in Modoc County are mostly due to farm equipment, on-road motor vehicles, and trains. Countywide SO₂ emissions are largely due to farm equipment. Organic compounds, which create ozone pollution in the lower atmosphere, are primarily created by residential fuel combustion and farm equipment.

Table III-1: Booster Unit—Background PM₁₀ and CO Concentrations Monitored in 2000

Facility	County, State	Monitoring Station	PM ₁₀ Concentrations (mg/m ³) ⁴		CO Concentrations (mg/m ³)	
			Second Highest 24-hour	Annual Average	Second Highest 1-hour	Second Highest 8-hour
Paiute Interconnect Meter Station	Washoe County, Nevada	Sparks	51.0	20.9	6.4	3.0

Source: Environmental Protection Agency, 2000

Table III-2: Compressor Stations—Estimated Countywide Emission Inventory

Facility	County, State	Emissions Rate (tons per year)				PM ₁₀ Concentrations (mg/m ³) ⁵	
		CO ⁶	NO _x ⁷	SO ₂ ⁸	Organic compounds	Second Highest 24-hour	Annual Average
Radar Compressor Station	Modoc County, California	14,000	1,800	116	3,000	7.0	3.1
Likely Compressor Station	Modoc County, California	14,000	1,800	116	3,000	53.0	22.1
Shoe Tree Compressor Station	Lassen County, California	29,400	2,800	220	9,700	51.0	26.8

Source: CARB, 2000

⁴ Particulate matter with an aerodynamic diameter less than or equal to 10 microns (“PM₁₀”); micrograms per cubic meter (“µg/m³”)

⁵ Particulate matter with an aerodynamic diameter less than or equal to 10 microns (“PM₁₀”); micrograms per cubic meter (“µg/m³”)

⁶ Carbon monoxide (“CO”)

⁷ Nitrogen oxide (NO_x)

⁸ Sulfur dioxide (“SO₂”)

Likely Compressor Station

The CARB has monitored for PM₁₀ at the Alturas Ranger Station in Modoc County since 1995. The ranger station is approximately 10 miles north of the Likely Compressor Station site on U.S. Highway 395. Neither the ranger station nor any other monitoring station in the general vicinity of the Likely Compressor Station site monitors concentrations of other criteria pollutants.

Shoe Tree Compressor Station

The CARB has monitored for PM₁₀ at the Susanville Airport in Lassen County since 1996. The airport is approximately 20 miles west of the Shoe Tree Compressor Station site on U.S. Highway 395. Most of the PM₁₀ in Lassen County comes from unpaved road dust, wind erosion, and wildfires (CARB, 2000).

Neither the airport nor any other monitoring station in the general vicinity of the Shoe Tree Compressor Station site monitors concentrations of other criteria pollutants. However, pollutant emissions for Lassen County have been estimated based on the types of sources found in Lassen County (CARB, 2000). More than two-thirds of the CO emissions are due to on-road and off-road motor vehicles, while the rest are due to residential fuel combustion and wildfires. NO_x emissions in Lassen County are mostly due to trains, farm equipment, and other mobile sources. Countywide SO₂ emissions are largely due to farm equipment, as well as commercial and residential fuel combustion. The majority of the organic compounds are created by off-road recreational vehicles and residential fuel combustion.

*III. n. Water Quality**Nevada*Wadsworth LateralSurface Waters

Only one perennial waterbody exists along the proposed pipeline route. The waterbody is classified as POWH (palustrine, open water, permanent) using the classification system designated on the National Wetland Inventory (“NWI”) maps (Cowardin, 1979). State water quality classifications for this waterway do not exist. The waterbody is located near MP 4 and consists of the open water areas within the remnant Truckee River oxbow⁹ wetland (discussed in greater detail in the wetlands section). No drainages that would qualify as other ACOE-jurisdictional waters of the U.S. are located along the Wadsworth Lateral. The remnant oxbow wetland is the only potentially sensitive or specially designated surface water protection area crossed.

The Wadsworth Lateral does not cross any waterbodies or soils with known contaminants (EPA, 2001) and no municipal water supplies or watersheds are crossed.

⁹ Oxbow refers to a natural bend in a waterbody.

Groundwater

The Wadsworth Lateral is located within the Great Basin aquifer system, which in part makes up the Basin and Range Province. This region is one of the most arid areas in the United States. Annual water loss from evapotranspiration exceeds the annual water gain from precipitation. The aquifers located in the vicinity of the Wadsworth Lateral are classified as basin-fill aquifers, consisting of basin-fill deposits. These deposits were derived from Quaternary and Tertiary unconsolidated coarse-grained materials (Planert and Williams, 1995). Basin-fill deposits generally form large groundwater reservoirs that store and transmit vast amounts of water and contain numerous productive aquifers (Thomas and Mason, 1986).

USGS hydrologic maps indicate approximate aquifer depths greater than 100 feet in the vicinity of the Wadsworth Lateral, while individual well test data in the area show static water levels ranging from 28 feet to greater than 150 feet (Nevada Department of Conservation and Natural Resources, 2001). There are no EPA- or state-designated sole-source aquifers or wellhead protection areas in the vicinity of the Wadsworth Lateral (EPA, 2001).

One private well was identified within 150 feet of the Wadsworth Lateral construction area. The well is located at approximate MP 13.4. Records show that the well is owned by the Southern Pacific Land Company. No public water supply wells are located within 150 feet of the Wadsworth Lateral. The USGS maps did not identify any springs within 150 feet of the Wadsworth Lateral. Additionally, no springs were found during field surveys.

White Horse to Tracy 345-kV Line Project

Surface Waters

The Truckee River is the only ACOE-jurisdictional Water of the U.S. present in the project area. There are several drainage ditches in a floodplain dominated by white top (*Lepidium latifolium*), adjacent to the north bank of the Truckee River. None of the ditches are jurisdictional because they do not drain into the Truckee River. All other areas are uplands or do not receive sufficient flow to create the bed and bank necessary to qualify as a Water of the U.S.

Groundwater

The White Horse to Tracy 345-kV Line Project is located within the Great Basin aquifer system, which is described above for the Wadsworth Lateral.

USGS hydrological maps indicate approximate aquifer depths greater than 100 feet in the vicinity of the White Horse to Tracy 345-kV Line Project, while individual well test data in the area show static water levels ranging from 35 feet to 275 feet below the land surface. Water levels may be higher (closer to the land surface) adjacent to the Truckee River (Nevada Department of Conservation and Natural Resources, 2001). There are no EPA- or state-designated sole-source aquifers or wellhead protection areas in the vicinity of the White Horse to Tracy 345-kV Line Project (EPA, 2001).

Seven wells were identified in the vicinity of the project area that could potentially be within 150 feet of the White Horse to Tracy 345-kV Line Project construction area. Of these wells, there are two industrial, two domestic, two test, and one monitor well. Prior to construction, individual landowners would be contacted to determine exact well locations.

No public water supply wells are located within 150 feet of the proposed White Horse to Tracy 345-kV Line Project. The USGS maps did not indicate any springs within 150 feet of the project. Additionally, no springs were found during field surveys.

California

Compressor Stations

Surface Waters

No ACOE-jurisdictional other waters of the U.S. are located within the compressor station sites. Furthermore, no perennial or intermittent waterbodies, municipal water supplies or watersheds, sensitive waterbodies, designated surface water protection areas, or waterbodies or soils with known contaminants are located within the compressor station sites.

Groundwater

There are no EPA- or state-designated sole-source aquifers or wellhead protection areas in the vicinity of the compressor station sites (EPA, 2001). Additionally, no public or private groundwater supply wells or springs were identified within 150 feet of the proposed compressor station sites.

Radar Compressor Station

The Radar Compressor Station is located within the North Coastal groundwater basin and the Modoc Plateau subbasin. Groundwater depths in this area are generally greater than 100 feet, although perched water tables may be encountered in the winter and spring. Individual well data in the vicinity of the site indicates groundwater depths between 170 and 225 feet (California Department of Water Resources, 2001).

Likely Compressor Station

The Likely Compressor Station site lies within the Sacramento groundwater basin and the Alturas subbasin. Groundwater depths in this basin generally range from just below the surface to 800 feet. Data from wells in the vicinity indicate groundwater depths between 22 and 145 feet.

Shoe Tree Compressor Station

The Shoe Tree Compressor Station site is located within the North Lahontan groundwater basin and the Modoc Plateau subbasin. Individual well test data in the area shows water levels between 75 and 110 feet.

III. o. Floodplains

Nevada

Wadsworth Lateral

Based on the Federal Emergency Management Agency (“FEMA”) maps, the remnant Truckee River oxbow, near MP 4, falls within the 100-year floodplain, Zone A (FEMA, 1994). According to the FEMA maps, Zone A is described as “a special flood hazard area inundated by the 100-year flood, ...no base flood elevations determined.”

White Horse to Tracy 345-kV Line Project

The only area highlighted on the FEMA flood maps is the Truckee River and its floodplain. The proposed 345-kV transmission line crosses approximately 900 feet of the 100-year flood zone on the north side of the Truckee River. The zone is designated as AE, which is described as “a special flood hazard area inundated by the 100-year flood, ...base flood elevations determined” (FEMA, 1994). The East Tracy Substation is located outside of the 100-year flood zone (FEMA, 1987).

California

The proposed compressor station sites are located outside the 100-year flood zone.

III. p. Wetlands/Riparian

Nevada

Wadsworth Lateral

Only one wetland is located along the Wadsworth Lateral. The wetland is the channel of a remnant oxbow of the Truckee River located at approximately MP 4. The oxbow was cut off from the Truckee River when I-80 and the Union Pacific Railroad (formerly the Southern Pacific Railroad) were built. The oxbow has a hydrological connection to areas south of I-80, through a culvert under the highway. The oxbow wetland qualifies as an ACOE-jurisdictional wetland. It supports herbaceous freshwater emergent vegetation, such as cudweed (*Gnaphalium palustre*), dock (*Rumex salicifolia*), and Bermuda grass (*Cynodon dactylon*). The semi-circular upland peninsula in the middle of the oxbow that is bounded by I-80 and the remnant river channel supports riparian vegetation. Willows (*Salix* spp.) and Fremont cottonwoods (*Populus fremontii* ssp. *fremontii*) form several stands surrounded by emergent herbaceous vegetation. The peninsula was historically a bank of the Truckee River.

A small (approximately 0.01 acre), old prospector excavation site near MP 9.5 supports several individual Fremont cottonwoods. The site had been heavily grazed by cattle prior to the January 2001 site visit. The site is an isolated feature that is not shown on the NWI maps. The ACOE would not consider this a jurisdictional feature (Kang, 2001).

White Horse to Tracy 345-kV Line Project

No wetlands were shown on the NWI maps for the study area and no wetlands were observed during field reconnaissance of the White Horse to Tracy 345-kV Line Project area.

*California*Compressor Stations

No federal-jurisdictional wetlands are located within the proposed Radar and Shoe Tree compressor station sites. The Likely Compressor Station site has one isolated wetland that may qualify as a jurisdictional wetland under the three-parameter approach discussed in the 1987 Corps Wetlands Manual. It is an alkali wetland dominated by salt grass (*Distichlis spicata*). The wetland would be north of the potential impact area.

*III. q. Wastes and Hazardous Materials**Nevada*

The proposed project would not cross any known solid or hazardous waste sites. Federal, state, and local agencies regulate the use, storage, transport, production, and disposal of solid waste and hazardous materials. The NDEP Bureau of Waste Management regulates the management of hazardous and solid waste under the federal Resource Conservation and Recovery Act, Subtitle C. In Washoe County, the Washoe County District Health Department administers Nevada solid waste management regulations, including permitting and enforcement. NDEP administers solid waste management regulations directly in Storey County.

California

The proposed compressor station sites are not located on any known solid or hazardous waste sites. The Lassen County and Modoc County Environmental Health sections regulate the management of solid waste under the enforcement regulations of the Integrated California Waste Management Board of the California Environmental Protection Agency. Hazardous waste management for each county is regulated by the OES of each county's Sheriff's Department, the Environmental Health departments for each county, and the Department of Agriculture for each county.

*III. r. Socioeconomics**Nevada*Wadsworth Lateral

The Wadsworth Lateral would be located in Washoe County, Nevada, with a small segment located in Storey County. The Lyon County boundary and the town of Fernley are located approximately 5 miles east of the proposed pipeline lateral.

Washoe County is divided into several planning areas. The Truckee Canyon planning area, located in the southeast portion of Washoe County, is the only planning area in the county that would likely be impacted by construction of the Wadsworth Lateral. The Truckee Canyon planning area encompasses approximately 1,048 square miles (Washoe County, 1999), approximately 750 square miles of which are located within the Pyramid Lake Indian Reservation.

Population and Housing

Table III-3 summarizes population and housing information for Washoe, Storey, and Lyon counties. The closest urban area in the project vicinity is the Reno-Sparks area, located approximately 15 miles west of the Wadsworth Lateral. Over 20,000 hotel rooms are available in the Reno-Sparks area. Approximately eight apartment complexes and five hotels are also available in the town of Fernley. The Pyramid Lake Paiute Tribe reported a population of 1,603 residents on the reservation in 1993.

Table III-3: Population and Housing Information by County (Nevada)

County	Estimated Population 2000	Percent Change 1990 to 2000	Population Density 2000 (per square mile)	Land Area (square miles) 2000
Lyon	34,501	72.5	17.3	1994
Storey	3,399	34.6	12.9	263
Washoe	339,486	33.3	53.5	6342

Source: U.S. Census Bureau, 2001

Employment and Income

According to 1998 U.S. Bureau of Economic Analysis data, government jobs provided approximately 10 percent of the total employment in Washoe County. Jobs in the private sector attributed to 90 percent of total employment, of which approximately 0.3 percent were employed in farming/agriculture production. The per capita income in 1998 was estimated at \$33,040.

In Storey County in 1998, the U.S. Bureau of Economic Analysis reported that government jobs provide approximately 15.2 percent of the total employment, while the remaining 84.8 percent of employees worked in the private sector. The per capita income in 1998 was estimated at \$26,462.

The majority of the Pyramid Lake Indian Reservation's economy is centered around fishing and recreational activities at Pyramid Lake, located within the reservation boundaries. The tribe also receives lease and tax revenues.

White Horse to Tracy 345-kV Line Project

The White Horse to Tracy 345- kV Line would be located within the Truckee Canyon planning area in Washoe County. The transmission line would cross the Truckee River and the Washoe-Storey County boundary near its terminus. Existing socioeconomic conditions, including population, housing, employment, and income, for the transmission line are the same as those previously described for the Wadsworth Lateral.

*California*Compressor StationsPopulation and Housing

Alturas (population 4,318 in 1998) is the largest town in the vicinity of the Radar and Likely compressor station sites and is the county seat. Susanville (population 17,422 in 1998) is the largest town near the Shoe Tree Compressor Station site in Lassen County and is the county seat. Population summary information for Lassen and Modoc counties is presented in Table III-4.

Both counties encompass large areas of national forest lands and have no urban centers. There are approximately 5 hotels/motels in Alturas with 167 rooms and approximately 11 hotels/motels with 434 rooms in Susanville. Camping is available in nearby national forests and BLM campgrounds. There are at least two mobile home parks and recreational vehicle (“RV”) parks in Alturas and at least eight mobile home parks and RV parks in Susanville.

Table III-4: Population Information by County (California)

County	Estimated Population 2000	Percent Change 1990 to 2000	Population Density 2000 (per square mile)	Land Area (square miles) 2000
Lassen	33,828	22.6	7.4	4,557
Modoc	9,449	-2.4	2.4	3,944

Source: U.S. Census Bureau, 2001

Employment and Income

According to 1998 U.S. Bureau of Economic Analysis data, government jobs provided approximately 40.3 percent of the total employment in Lassen County. Jobs in the private sector attributed to 59.7 percent of total employment, of which approximately 5.2 percent were employed in farming/agriculture production. The per capita income in 1998 was estimated at \$16,667.

In Modoc County in 1998, the U.S. Bureau of Economic Analysis reported that government jobs contributed to approximately 31.5 percent of total employment. Jobs in the private sector attributed to 68.5 percent of total employment, of which approximately 17.2 percent were employed in farming/agriculture production. The per capita income in 1998 was estimated at \$20,005.

III. s. Environmental Justice

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

In Washoe County in 1995, 9.4 percent of the population reported incomes below the poverty level. Storey and Lyon counties reported 4.4 and 10.6 percent of the population, respectively, below the poverty level. In the state of Nevada, 10.5 percent of the total population was below the poverty level in 1995.

The minority populations of the three counties are not greater than 50 percent, nor are they greater than the minority population percentage in the general population of the state. However, there are two Native American communities in the vicinity of the Wadsworth Lateral and White Horse to Tracy 345-kV Line Project. The Pyramid Lake Indian Reservation is located within 0.5 mile of the proposed Wadsworth Lateral near MP 13. The Reno-Sparks Indian Colony is located in Hungry Valley, approximately 24 miles northwest of the project area.

California

Compressor Stations

In 1995, Lassen County reported 14.5 percent of the population below the poverty level and Modoc County reported 18.4 percent. In the state of California, 16.5 percent of the total population was below the poverty level in 1995.

The minority populations of the two counties are not greater than 50 percent, nor are they greater than the minority population percentage in the general population in the state. One Native American community, the XL Ranch Indian Reservation, is located near Alturas in Modoc County, approximately 20 miles from the proposed Likely Compressor Station.

III. t. Native American Religious Concerns

The consultation process between the BLM and Native American tribal groups regarding religious concerns is ongoing. As of this time, no areas of religious significance or Traditional Cultural Properties (“TCP”) that would be affected by the project have been identified.

III. u. Indian Trust Assets

Indian Trust assets are legal interests in property held in trust by the United States for Native American tribes or individuals. The Secretary of the Interior is the trustee for the United States on behalf of the Native American tribes. All Department of the Interior agencies share the duty to protect and maintain trust assets.

The Pyramid Lake Paiute Reservation is approximately one-half mile east of the north terminus of the project. The town of Wadsworth has the largest population on the reservation and is located approximately two to three miles south of the proposed project.

CHAPTER IV - ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential direct, indirect, residual, and cumulative impacts that may result from the proposed action or alternatives. In addition, this chapter identifies potential mitigation measures and monitoring needs associated with specific resource impacts. The proposed action was designed to minimize or avoid a number of anticipated impacts. As discussed in Chapter II, Tuscarora and Sierra Pacific have proposed and committed to a number of practices to reduce impacts (refer to Applicant-committed Practices).

a. Proposed Action

Environmental Impacts

IV.a. Lands

Nevada

Wadsworth Lateral

Current Land Use

Construction of the proposed Wadsworth Lateral would have minimal effects on land use. Minor effects from dust, noise, and traffic on access roads would occur, but impacts would be minimal because only two residences are located within 0.25 mile of the Wadsworth Lateral. All construction impacts would be short-term and would be mitigated as discussed in the Applicant-committed Practices—Lands section of Chapter II.

Current land use designations and the BLM land use authorizations would not be impacted by the proposed Wadsworth Lateral. To avoid impacting utilities crossed by the pipeline, Tuscarora would coordinate with utility owners to ensure that facilities are appropriately marked and protected.

Future Land Use

Following construction of the Wadsworth Lateral, impacts to future land use would be minimal. The pipeline and aboveground facilities would preclude future development in the permanent ROW because no structures could be built above the pipeline or on land occupied by the valve site or meter stations. However, the amount of land that would be affected would be a small 50-foot-wide strip over the pipeline and approximately 1 acre total for the aboveground facilities. In addition, much of the Wadsworth Lateral would be located in an existing utility corridor, where development is already restricted.

Land Exchanges

Land transferred to the BLM through the proposed Wingfield/Washoe Land Exchange or the proposed Toquop Land Exchange would be managed consistently with the current BLM *Carson City Field Office Consolidated Management Plan*, dated May 11, 2001. Because an additional overhead electric line would be added parallel to two existing lines as a result of the project, the land may become less favorable for the proposed land exchange according to the standards established by the *Southern Washoe County Urban Interface Plan Amendment*.

However, this impact would be minimal because the pipeline and power line would be located in existing utility corridors and would have minimal impacts to the open space, visual, wildlife, and other resources protected by the plan amendment.

White Horse to Tracy 345-kV Line Project

Current Land Use

Impacts to current land uses from the White Horse to Tracy 345-kV Line Project would be the same as those described for the Wadsworth Lateral.

Future Land Use

Following construction of the White Horse to Tracy 345-kV Line Project, impacts to future land use would be minimal. The transmission line and aboveground facilities would preclude future development in the transmission line ROW and on land occupied by the substation (approximately 5.5 acres). However, much of the White Horse to Tracy 345-kV Line would be located in an existing utility corridor, where development is already restricted.

As previously described for the Wadsworth Lateral, land transferred to the BLM through a land exchange would be managed consistently with the current BLM land management policies and the impacts would be considered minimal.

California

Compressor Stations

Current Land Use

Construction of the three compressor station sites would have a minimal effect on existing land use. There would be a total net permanent loss of grazing and rangeland use of approximately 16.7 acres, as described in the Range section of this EA.

Minor effects from dust, noise, and traffic on access roads would occur, but impacts would be minimal because only one occupied residence is located within 0.5 mile of the project area (near the Shoe Tree Compressor Station site). All construction impacts would be short-term and would be mitigated as described in the Applicant-committed Practices—Lands section of Chapter II.

Existing Rights-of-way

None of the existing ROWs would be affected by construction of the compressor stations. To ensure existing utilities are not affected, Tuscarora would coordinate with the utility owners to ensure that facilities are appropriately marked and protected.

Future Land Use

Impacts to future land use from construction activities associated with the compressor station sites would be minimal. Opportunities for potential development within each of the compressor station sites and the permanently maintained access roads and driveway would be

excluded. Because of the relatively small size of these areas (less than 5 acres each) and abundance of surrounding available land, impacts would be minimal.

IV.b. Soils

Nevada

Wadsworth Lateral

One of the primary impacts resulting from construction activities along the pipeline route would be the increased potential for soil erosion caused by clearing, grading, and trenching activities. Approximately 1 acre would be permanently impacted and approximately 146 acres would be temporarily disturbed. These activities would result in a decrease of vegetative ground cover within the ROW and an increase in soil exposure to wind and water erosion. While this would occur to some degree, implementing the measures described in the Applicant-committed Practices—Soils section of Chapter II would reduce these impacts.

Soil compaction resulting from the use of heavy equipment and vehicle traffic along the pipeline ROW is another potential impact. The degree of soil compaction depends primarily on soil moisture content, soil texture, and the amount and type of equipment traffic. The predominant soils along the pipeline route are well drained to excessively drained; therefore, the potential for excessively wet soils and for soil compaction during construction is limited. As a result, this impact would be slight.

Construction could also have an adverse effect on soil fertility by mixing topsoil with less fertile subsoil, altering the soil structure, and increasing surface rock content. Topsoil along the project route is often very shallow, stony, and generally infertile. Construction activities would have little effect on the productivity of these soils. However, measures would be implemented, as described in the Applicant-committed Practices—Soils section of Chapter II, to revegetate construction areas and ensure long-term stability of the ROW and adjacent land. Impacts to soils would be short term and minimized by implementing appropriate measures.

White Horse to Tracy 345-kV Line Project

Potential impacts to soil resources from construction of the White Horse to Tracy 345-kV Line Project would be the same as described for the Wadsworth Lateral. Approximately 137.1 acres would be temporarily disturbed and approximately 37 acres would be permanently disturbed.

California

Compressor Stations

In addition to the potential impacts described for the Wadsworth Lateral, which may also result from construction of the compressor station sites, construction of the compressor stations would result in permanent soil disturbance of 16.7 acres at the proposed compressed station sites.

*IV.c. Geological Resources and Hazards**Nevada*Mineral Resources

Most previous mining activities have ended, although there are still several active mining claims in the vicinity of the proposed project. Except for the Olinghouse Mine Project, which has not gone forward with development, and the Butcher Boy Mine, no new operation plans for development have been received by the BLM and none are anticipated in the near future. The only currently active commercial mine in close proximity to the project area would be the Eagle-Picher Celatom Mine located near Tracy, approximately 2 miles south of the project area. The proposed project area would be located on the north side of the Truckee Canyon, whereas the mine is located on the south side. In addition, the project would not intersect any ore hauling roads or approach any other activities associated with this mine. As a result, the project would not impact active mining of mineral resources.

The Surface Resources Act, 30 U.S.C. 612 (1982), otherwise known as PL 167, provides a means for the United States to manage surface resources on unpatented mining claims, including issuing ROW. All surface rights of unpatented mining claims are subject to the right of the United States, its permittees, and licensees to use as much of the surface as necessary or for access to other lands; however, uses by the United States, its permittees, or licensees, shall be such as not to interfere with mineral-related operations. ROW planning and construction would be coordinated with the mining claimant to ensure the mineral operations would not be affected by the ROWs.

Blasting

There are areas along the pipeline route and the electric transmission line route where blasting may be necessary. Possible impacts associated with blasting include potential damage to nearby structures, impacts to water wells and other nearby water sources, as well as possible impacts to underground utilities in the vicinity. Other potential concerns include flyrock created by the acceleration of rock debris present on the surface prior to blasting, or any small, fractured rock pieces created by the pulverization process during blasting. All attempts would be made to prevent structural damage and minimize flyrock. The measures described in the Applicant-committed Practices—Geological Resources and Hazards section of Chapter II would minimize these impacts.

Geologic HazardsWadsworth Lateral

The fault that is present along the proposed route could have an impact on the proposed Wadsworth Lateral. The horizontal shear forces in a strong seismic event along this type of fault could damage the pipeline (Ramelli, 2001). The measures described in the Applicant-committed Practices—Geological Resources and Hazards section of Chapter II would be implemented to minimize potential impacts.

Subsidence problems would be avoided through the implementation of proper backfilling and compaction of the disturbed areas. During construction, Tuscarora would perform

compaction testing at sites where load-bearing aboveground facilities (e.g., valve supports) would be located to reduce the risk of potential ground failure. As a result, this effect would be slight. Construction would be scheduled during the dry season, so landslides, which are already uncommon in the area, would not be a concern.

White Horse to Tracy 345-kV Line Project

Standard electric line facilities design requirements would take into account ground shaking and seismic activity, as discussed in the Applicant-committed Practices—Geological Resources and Hazards section of Chapter II. As a result, potential impacts from seismic events would be minimized.

Sierra Pacific would design and construct facilities at the White Horse Substation based on results of geotechnical investigations and standard engineering practices to reduce the risk of potential structural failure from seismic activity or excessive settling. As a result, this impact would be considered minimal. The possibility of landslides affecting the project would also be minimal.

California

Compressor Stations

Mineral Resources

The proposed compressor station sites are not located at any known, commercially viable mineral resource sites or planned mines. The area affected by the compressor stations would be relatively small and should not impact any known or other mineral resources that are considered feasible for development (Tuscarora, 1993).

Geologic Hazards

All three proposed compressor station sites are located on active geological areas. Activities that could affect these sites include seismic events and possible volcanic events. A seismic event could cause ground shaking, and does have a slight potential for causing possible damage to station structures present at the site. These facilities would be engineered to current seismic standards in these areas as discussed in the Applicant-committed Practices—Geological Resources and Hazards section of Chapter II.

During backfill, proper compaction of soils would prevent most subsidence issues likely to be encountered at the proposed compressor station sites. During construction, Tuscarora would perform compaction testing at the compressor station sites to further minimize this risk. If any expansive soils are found to exist at these sites, the material may be replaced with non-expansive material prior to backfilling the disturbance zone.

*IV.d. Recreation**Nevada*Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Construction of the Wadsworth Lateral would result in minor, temporary disruption of dispersed recreation in the area. Minimal, short-term impacts to hunting opportunities in the general vicinity would occur. The aboveground facilities and pipeline markers may be exposed to recreational shooting. Tuscarora reports that in the six years of operation of its pipeline facilities, there has only been one reported incident at aboveground facilities related to recreational shooting. While pipeline markers are commonly pocked by bullets, Tuscarora maintenance staff regularly replace markers that become illegible. Impacts from recreational shooting would be minimal. Sierra Pacific also considers the potential for vandalism during siting and routing of its facilities. In addition, Sierra Pacific tracks and calculates system reliability factors annually. Potential impacts from recreational shooting would be minimal.

No other impacts to recreational opportunities are anticipated, due to the limited use of the project area for recreation purposes. Existing recreational usage in the area would not be permanently affected except for the limited loss of actual recreational opportunities within the fenced-in facility sites, totaling a maximum of approximately 6.5 acres. Similar hunting opportunities that existed prior to construction would continue in adjacent unfenced areas.

*California*Compressor Stations

Construction of the compressor stations would have minimal effect on existing dispersed recreation opportunities at each of the sites. During construction of each compressor station, hunting opportunities on private land may be limited, depending upon the timing of construction. These potential impacts would be short-term, lasting only until construction was completed.

Existing recreational uses at each of the three compressor station sites would not be permanently affected except for the limited loss of actual hunting opportunities within the three fenced-in compressor station sites, totaling a maximum of 15 acres. Similar hunting opportunities that existed prior to construction would continue in adjacent unfenced areas.

As discussed for the Wadsworth Lateral, the aboveground facilities and mainline pipeline markers may be exposed to recreational shooting. Impacts from recreational shooting would be considered slight.

IV.e. Cultural Resources

The Class III Cultural Resources Inventory Report prepared by Tuscarora's and Sierra Pacific's archaeology consultant is currently being reviewed by the BLM and the SHPO for Nevada and California. The inventory includes a proposed *Evaluation Work Plan* for unevaluated sites discovered during the surveys. Evaluation would proceed according to the plan once it is approved by the BLM and SHPO. If any of the unevaluated sites are determined to be eligible for the National Register of Historic Places, a *Historic Properties Treatment Plan* would be developed that specifies appropriate treatment (e.g., avoidance, monitoring, and/or data recovery

to minimize impacts). The *Historic Properties Treatment Plan* would also identify procedures for evaluating and treating any unanticipated cultural resources uncovered during construction.

IV.f. Paleontology

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Construction of the Wadsworth Lateral and the White Horse to Tracy 345-kV Line Project could potentially disturb portions of the Chloropagus Formation. The amount of potential disturbance to the Chloropagus Formation cannot be precisely determined because only the Pyramid Sequence, in which the formation is included, is mapped. Another geologic map (Rose, 1969), which is more detailed but covers only a portion of the Wadsworth Lateral, indicates that much of the Pyramid Sequence crossed by the pipeline contains the Chloropagus Formation.

The actual area of disturbance would be largely limited to the amount of excavation required for burial of the new pipeline and excavation of the structure foundations for the electric transmission line, and only in areas where the pipeline and electric transmission line would actually cross the formation. Paleontological resources may be disturbed by operation of equipment on the ground surface, but a greater risk is likely from excavation. This impact would be minimized with the implementation of the measures identified in the Applicant-committed Practices—Paleontology section of Chapter II.

California

Compressor Stations

At the proposed Likely and Shoe Tree compressor station sites, a short section of underground pipeline must be installed from a tee on the mainline to the proposed compressor station site, in addition to site leveling and utility installation. The measures described in the Applicant-committed Practices—Paleontology section of Chapter II would reduce potential impacts to paleontological resources (if found).

IV.g. Vegetation

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Construction of the Wadsworth Lateral and the White Horse to Tracy 345-kV Line Project would result in short-term impacts to herbaceous vegetation types and previously disturbed areas (e.g., Paiute pipeline system). All vegetation types would be temporarily impacted by the proliferation of introduced annual grasses, weedy annual forbs, and possible noxious weed establishment, in response to favorable conditions created by soil and seedbed disturbance. Diversity of perennial grasses and forbs could also be expected to decline in the short-term. However, since the Wadsworth Lateral and the White Horse to Tracy 345-kV Line have been routed to parallel existing utility corridors for most of their length, construction activity would occur on or adjacent to previously disturbed (reclaimed) sites. As described in the existing conditions discussion, vegetation types in this area have been historically altered by grazing and burning. Pipeline and electric transmission line

construction would be expected to be short-term and temporary to ongoing land uses. Shrub-dominated vegetation types would likely require many years to achieve visual and structural similarity with adjacent undisturbed areas, depending on site conditions. Long-term impacts to vegetation would occur at those sites that operate for the life of the project (i.e., valve and meter station sites, White Horse Substation, and permanent spur roads).

Based on a typical 85-foot-wide construction ROW, it is estimated that approximately 146 acres would be temporarily impacted by construction of the Wadsworth Lateral. It is estimated that approximately 137.1 acres would be temporarily impacted by construction of the White Horse to Tracy 345-kV Line Project.

Permanent impacts associated with construction would be minimized by implementing the applicant-committed practices described previously under Vegetation in Chapter II. Upon successful revegetation of all temporarily disturbed areas, there would be minimal permanent impacts to vegetation as a result of construction activities at these sites.

Permanent vegetation removal at the Wadsworth Tap, Paiute Interconnect Meter Station, and Washoe Meter Station would total approximately one acre. Vegetation removal at the White Horse Substation would result in permanent impacts to 5.5 acres of vegetation. The permanent impacts to spur road vegetation acreage are estimated at 31 acres. Permanent impacts from tower structures to vegetation are estimated to be less than one acre total.

Impacts to vegetation during the operation and maintenance phase of the Wadsworth Lateral and White Horse to Tracy 345-kV Line Project would be limited to those impacts associated with periodic monitoring and vegetation management.

Special-status Plant Species

Suitable habitat for some of the special-status plants listed in Appendix D was observed along the Wadsworth Lateral and the White Horse to Tracy 345-kV Line Project, the access roads, and ancillary facilities. If the taxa are present, construction could impact individuals and their occupied habitat. These impacts would be minimized as described in the Applicant-committed Practices—Vegetation section of Chapter II.

California

Compressor Stations

The compressor station sites would be graveled and fenced. Approximately 39 acres of vegetation would be temporarily impacted during construction of the compressor stations. Approximately 16.7 acres of vegetation would be impacted permanently. Suitable habitat for some of the special-status plants listed in Appendix C was observed at the compressor station sites. If the special-status plants are present, construction could impact individuals and their occupied habitat. These impacts would be minimized as described in the Applicant-committed Practices—Vegetation section of Chapter II. Permanent impacts to vegetation would be minimal because the habitat impacted is not sensitive and is abundant throughout the region. The amount of vegetation that would be permanently disturbed would not result in major alterations to ecosystems or biological diversity.

Operation and maintenance of the compressor stations would have similar impacts to vegetation as those described for the Wadsworth Lateral.

IV.h. Noxious Weeds

Noxious weed establishment may occur as a result of the creation of conditions favorable to their growth via soil and seedbed disturbance. These impacts would be minimized through the implementation of applicant-committed practices described under Noxious Weeds in Chapter II.

IV.i. Wildlife

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Typical Wildlife Species

Construction would result in the temporary loss of habitat along the proposed project ROW and construction and operation of the project would temporarily increase the level of disturbance in the area. Wildlife species are mobile and would generally relocate away from the area during construction and maintenance of the proposed project.

Construction on the Wadsworth Lateral would occur after the nesting and breeding season and therefore, would not affect nesting and breeding. Impacts to typical wildlife species would be short-term and would be considered minimal.

Land clearing activities during construction of the White Horse to Tracy 345-kV Line Project would not occur during the nesting and breeding season. Wildlife species would generally relocate away from the area during other project construction and maintenance activities. These impacts would be short-term and would be slight.

Special-status Wildlife Species

Surveys for special-status species were conducted during the spring of 2001. Surveys would be re-conducted by qualified biologists less than 30 days before construction of the Wadsworth Lateral and White Horse to Tracy 345-kV Line Project. If special-status species were observed during preconstruction surveys appropriate resource agencies (e.g., USFWS and BLM) would be contacted to develop measures, as necessary, to reduce the level of impact to the species. The potential impacts to special-status wildlife reported after the spring 2001 surveys are discussed below.

Cui-ui and Lahontan Cutthroat Trout

Potential impacts to cui-ui and Lahontan cutthroat trout from construction and operation of the project include the contamination of habitat and potential take associated with an accidental spill of fuel or hazardous materials at the proposed Contractor Yard 1 and during construction of the electric transmission line across the Truckee River. There would also be the potential to impact this species by increasing sedimentation to the Truckee River from stormwater runoff from the contractor yard and East Tracy Material Yard.

The probability of a spill or a significant volume of stormwater runoff entering the Truckee River is remote, based on the distance of the contractor yard from the river, the topography associated with the river, the type of equipment to be used near the river crossing, and the limited amount of disturbance associated with the construction of the transmission line. Additionally, Tuscarora and Sierra Pacific would implement mitigation to prevent hazardous material spills or stormwater runoff from leaving the project areas. However, if a spill or stormwater runoff reached the Truckee River, contaminants would be considerably diluted by the volume and flow of the river.

Fisheries in Pyramid Lake and the Truckee River, including the endangered cui-ui and the threatened Lahontan cutthroat trout, could be impacted by a large withdrawal of water from the Truckee groundwater basin. Tuscarora's hydrostatic testing would require the use of 3.38 acre-feet of water. This relatively small amount of water to be used for hydrostatic testing by Tuscarora would represent a temporary, one-time use. The amount of water needed for testing is so small that impacts on the groundwater are not expected nor can they be measured. The one-time use of 3.38 acre-feet of water is not likely to adversely affect the endangered cui-ui and threatened Lahontan cutthroat trout.

Based on these factors, cui-ui and Lahontan cutthroat trout are unlikely to be adversely affected by construction and operation of the project. The BLM has initiated consultation with the USFWS for the gas pipeline and electric transmission line. The consultation will examine potential effects to listed species and identify reasonable and prudent measures to protect listed species. The consultation process with the USFWS is ongoing.

Golden Eagles, Raptors, and Migratory Birds

Golden eagles, raptors, and migratory birds are known to occur in the proposed project area. Construction of the Wadsworth Lateral and land clearing activities for the White Horse to Tracy 345-kV Line Project would occur after the breeding season and would, therefore, not damage or destroy active nests that occur in the proposed ROW. Construction and operation activities would temporarily increase the level of disturbance in the area and would result in the temporary loss of habitat along the proposed ROW, which could temporarily displace some of these species. Additionally, raptors and migratory birds could be harmed from collision with new transmission lines, particularly during periods of low visibility, such as early morning, late evening, and periods of dense fog. However, the White Horse to Tracy 345-kV Line would be sited parallel to existing transmission lines and the potential for collision into the new lines would not present a significant additional risk. Adverse impacts from construction and operation of the project would be minimized as described in the Applicant-committed Practices—Wildlife section of Chapter II.

Sage Grouse

The potential impacts to sage grouse from construction and operation of the electric transmission line would be the same as previously described for migratory birds. In addition, sage grouse could be affected by the presence of new transmission line tower sites. However, the White Horse to Tracy 345-kV Line would be sited parallel to existing transmission lines and below the line-of-site of a potentially active sage grouse lek; therefore, the new towers

would not affect the potential lek site. Figure IV-1A presents a profile drawing of the typical placement of a new tower structure in reference to the potential sage grouse lek. Figure IV-1B presents a profile drawing of the nearest possible tower structure to the potential sage grouse lek. In both cases, the potential lek would be out of the line of sight of the new tower structures by at least 100 feet.

Bats

The projects would not adversely affect bat foraging or breeding and rearing. Associated cliffs and rock outcrops are sufficiently distant from the alignment that construction and operation of the pipeline and powerline would not affect bat roost sites on cliffs. However, the removal of any trees at the oxbow wetland would reduce roosting habitat for small-foot myotis. Adverse impacts from construction and operation of the project would be minimized as described in the Applicant-committed Practices—Wildlife section of Chapter II.

Trenching through the oxbow wetland may lead to standing water in the trench, which would be utilized by bats. The water would be beneficial, provided no contamination is allowed and construction is confined to daylight hours. The clearing of dense willow vegetation at the oxbow wetland may provide additional foraging space by creating more open habitat.

California

Compressor Stations

Typical Wildlife Species

The potential impacts to typical wildlife species at the proposed Radar, Likely, and Shoe Tree compressor stations would be the same as previously described for the Wadsworth Lateral. These impacts would be short-term and minimal.

Special-status Wildlife Species

No special-status species were observed occupying the proposed project areas during reconnaissance surveys of the Radar, Likely, and Shoe Tree compressor stations. Surveys for special-status species would be conducted by qualified biologists less than 30 days before construction. If special-status species were observed during preconstruction surveys, or during construction or operation, appropriate resource agencies (e.g., USFWS and CDFG) would be contacted to evaluate existing measures and develop additional measures, as necessary, to reduce the level of impacts.

IV.j. Noise

Nevada

Wadsworth Lateral

Construction

Construction is expected to proceed at approximately 0.5 mile per day. The noise generated from construction related activities during this time would be short-term. Because of the nature of this activity, the type, number, and loudness of equipment would vary throughout construction. Noise from construction may result in short-term impairment to recreational

activities along the overall pipeline route. The residences located within approximately 0.5 mile of the ROW may notice additional construction-related noise during daylight hours.

Operation and Maintenance

No noise impacts would be associated with operation of the Wadsworth Lateral. The Wadsworth Lateral is comprised of an underground pipeline, a valve, and two meter stations (one containing a natural gas-fueled booster unit). Typically, the underground pipeline and valve vaults would be buried a minimum depth of 36 inches. As a result, the ground cover would act as a natural noise insulation barrier and no noise emissions would be audible aboveground. Because there are no residences in close proximity to the meter stations and because they do not generate high levels of noise, residences would not be impacted. Noise associated with the operation and maintenance of the pipeline would be significantly less than what was described for construction. In addition, the noise impacts associated with operation and maintenance activities would be short-term in nature and are considered minimal.

A noise simulation model was applied to the booster unit site to determine noise levels at critical receptors during operation and maintenance. Noise impacts were estimated for the proposed booster unit. The noise measurements and analysis show that noise levels from operation of the unit would not increase above ambient conditions.

White Horse to Tracy 345-kV Line Project

The noise generated from construction related activities would be short-term and temporary. Because of the nature of this activity, the type, number, and loudness of equipment would vary throughout construction. Noise from construction may result in short-term impairment to recreational activities along the overall electric transmission line route. Minimal noise would be generated from operation of the proposed electric transmission line and substations.

California

Compressor Stations

Construction

Construction of the proposed compressor stations would result in temporary increases in noise levels in the immediate vicinity of the site. However, the specific impact of construction activities on the nearest receptors would depend on the method of construction and equipment used. Noise levels during construction typically range from 68 to 95 dB(A), measured at 50 feet, with the occasional exception of impact equipment, which can result in noise levels up to 105 dB(A).

The Radar, Likely, and Shoe Tree Compressor Station sites are located in relatively remote areas. The Radar Compressor Station is located within 2,000 feet of the nearest residence. Because noise levels diminish at least 6 dB(A) per doubling of distance from the source, noise emissions would be localized. As an example, construction equipment noise of 90 dB(A) (typical for a backhoe or grader) measured at 50 feet would be reduced to 60 dB(A) within 1,600 feet. The impact resulting from construction noise would be minimal and temporary. In addition, this residence is currently abandoned.

Figure IV-1: Sage Grouse Lek Profile Drawings

(Color 8.5 x 11)

Back of Figure IV-1

Operation and Maintenance

A noise simulation model was applied to the three compressor station sites to determine noise levels at critical receptors during operation and maintenance. For modeling purposes, it was assumed that noise signature from all sources was 75.0 dB(A) at 1 meter from the exterior surface of enclosure. Noise impacts were estimated for each of the proposed compressor stations. To predict the future noise levels at each noise receptor, the existing ambient noise was added to the estimated noise that would radiate to the noise receptor from the new compressor stations. The noise measurements and analysis show that installation of the new compressor stations would be well below the ambient conditions at the Radar, Likely, and Shoe Tree compressor station sites. The additional estimated L_{dn} from the Radar, Likely, and Shoe Tree stations were modeled to be 22.1 db(A), 15.2 dB(A), and 19.0 dB(A), respectively.

Noise impacts associated with the generators would be slight because the generators would be located within acoustical, modular buildings. In addition, the generators would be attenuated to standard industrial levels.

IV.k. Range

Nevada

Wadsworth Lateral

Approximately 13.1 miles of the proposed pipeline route would cross the BLM's Olinghouse Allotment. Approximately 0.5 mile of the proposed pipeline route would cross the BLM's Mustang/Spanish Springs Allotment. As a result, there would be a short-term, temporary disruption of grazing patterns, lasting approximately four to eight weeks at a given location along the pipeline. In addition, there would be a net permanent loss of grazing and rangeland use of approximately 1 acre for the gas pipeline lateral, two meter stations, and the valve site. The surface above the pipeline would be seeded and reclaimed, and therefore, grazable acreage would not be removed from these areas. Due to the small amount of acres removed from production (1 acre), and the relatively large size of the grazing allotment (30,000+ acres), of the 800 AUMs supported by these allotments, virtually no impact to AUMs is anticipated. Therefore, impact to forage resources and livestock production would be minimal.

White Horse to Tracy 345-kV Line Project

Approximately 14 miles of the proposed 345-kV transmission line route and tap and fold line would cross the BLM's Olinghouse Allotment. As a result, there would be short-term, intermittent disruptions of grazing patterns at a given location during the 6-month construction period. There would be a net permanent loss of grazing and rangeland use of approximately 37 acres (less than 1 percent of the allotment land base) for transmission tower footings, the White Horse Substation, and spur roads. Of the 800 AUMs supported by this allotment, approximately 1 AUM would be lost due to new utility facilities. Similar to the Wadsworth Lateral, the overall impact to range resources would be minimal due to the limited acres of impact relative to the size of the Olinghouse Allotment.

*California*Compressor Stations

Grazing impacts from construction activities associated with the compressor station sites would have a minimal effect on existing land use. There would be a net permanent loss of grazing and rangeland use on private land of approximately 16.7 acres (including the compressor station sites and new permanent access road and driveway). Due to the minimal loss of forage resources and the large amount of grazing land available overall in the immediate vicinity, this impact would be minimal.

*IV.1. Visual Resources**Nevada*

The proposed project would result in short-term construction related visual impacts and long-term permanent visual impacts related to the placement of permanent structures. Short-term visual impacts would occur in the form of soil displacement, compacted vegetation, and vehicle tracks within the construction ROW. The visual contrast between the project area and adjacent lands would be temporary until the disturbed lands are reclaimed. There would be a short-term visual impact to residences near MP 12 during construction of the Wadsworth Lateral; however, this impact would be temporary and minimal following successful reclamation of the ROW. There are no residences present along the proposed White Horse to Tracy 345-kV Line Project route that would be visually impacted by the project. With the applicant-committed practices in Chapter II and the prescribed mitigation described in Chapter IV.c., Section IV.1. Visual Resources, all views from Key Observation Points (“KOP”) 1 to 5 are consistent with VRM Class III Objectives.

As required by *BLM Manual 8431*, five KOPs were established in consultation with the BLM along the White Horse to Tracy 345-kV Line Project and the Wadsworth Lateral. Figure E1 in Appendix E presents the locations of all five KOPs in relationship to the proposed project route. Figures E2 through E6 present photographs from each KOP and pre-project conditions.

- KOP 1 and KOP 2 were established along I-80 near the Tracy Power Plant in Section 28, T20N, R22E.
- KOP 3 was located along I-80 at the Derby Dam interchange in Section 20, T20N, R23E.
- KOP 4 was established near the proposed Wadsworth Lateral pipeline route approximately 100 feet west of State Highway 447 in Section 31, T21N, R24E.
- KOP 5 was located on State Highway 447 towards the proposed line fold and substation facility at the north end of the proposed transmission line route in Section 19, T21N, R24E.

As directed by the VRM system, a field survey was conducted and visual contrast rating worksheet was completed at each KOP to evaluate the impacts to visual resources. The completed contrast rating worksheets are presented in Appendix E. The visual impacts of the proposed project were also evaluated by the use of a viewshed analysis and computer simulation to determine the visibility of proposed project components to travelers along I-80 and State

Highway 447. These computer simulations indicating post-project conditions are presented for KOP 2, 3, and 5 and are shown in Figures E3, E4, and E6, respectively. The visual modifications and contrast ratings were then compared with BLM management objectives for a VRM Class III area to determine if they were consistent with these objectives.

The contrast rating worksheets at all KOPs revealed that the proposed project would result in a “moderate” to “weak” degree of contrast for the elements of form, line, color, and texture. The disturbance associated with the proposed action would be linear, largely paralleling existing utility structures. Disturbance created by the proposed action may be visible to travelers along I-80; however, the extent of visibility is questionable due to the high traveling speeds of motorists, their concentration on the road, and the distance of the facilities away from the roadways. The placement of another transmission line may be visible to the general public; however, it is not likely to attract attention nor would it be a dominant fixture on the landscape.

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Following the placement of the Wadsworth Lateral, the long-term visual impacts would consist of plastic marker signs identifying the gas line location and the valve and meter station sites. Marker signs would be placed approximately every 1,000 feet on the average. The valve and meter station sites would be screened using conventional methods. Actual visual intrusion in the Wadsworth Lateral project area would be minimal once successful reclamation has been achieved.

Long-term visual impacts associated with the White Horse to Tracy 345-kV Line would include the presence of “deltoid” and angle type pole structures, (refer to Figures II-6 and II-7). The Pah Rah mountain range would conceal the majority of the transmission line alignment from motorists along I-80 and State Highway 447.

Interstate 80 KOP Analysis

The proposed White Horse to Tracy 345-kV Line at KOP 1 would be visible to motorists traveling east-bound on I-80 and would be visible from both east- and west-bound traffic at KOP 2. However, the new transmission line would parallel two existing transmission lines and would not be a dominant feature on the landscape. A post-project visual simulation of the transmission line at KOP 2 is presented in Figure E3. The contrast rating worksheets for KOP 1 and 2 revealed a “moderate” to “weak” degree of contrast for elements of form, line, color, and texture.

KOP 3 was selected at the Derby Dam interchange of I-80. The Wadsworth Lateral would be constructed on land located in the foreground, and the White Horse to Tracy 345-kV Line would be constructed in the hills in the background (refer to Figure E4). Both the Wadsworth Lateral and the White Horse to Tracy 345-kV Line would be placed parallel to existing utility ROWs in previously disturbed areas. Disturbance associated with construction of the Wadsworth Lateral would be visible to motorists traveling along I-80 only temporarily until the area is fully reclaimed. Motorists may perceive the White Horse to Tracy 345-kV Line in the distance, but would not likely be the main focus of their attention due to the high speed of travel along I-80 and the distance the project occurs from motorists on I-80. A post-project simulation of the proposed action is presented in Figure E4. A contrast rating worksheet

revealed a “moderate” to “weak” degree of contrast for the elements of form, line, color, and texture.

State Highway 447 KOP Analysis

KOP 4 was selected near the proposed Wadsworth Lateral pipeline route off of State Highway 447. The Wadsworth Lateral would be constructed approximately 3,100 feet to the west of the highway. The temporary disturbance associated with construction of the Wadsworth Lateral would not be visible to motorists traveling along the highway. Permanently located plastic markers identifying the location of the gas line would not likely be visible due to their small size and the speed of travel of the motorists. The contrast rating worksheet revealed a “weak” to “none” degree of contrast for the elements of form, line, color, and texture.

KOP 5 was also selected from State Highway 447. The proposed White Horse to Tracy 345-kV Line and the White Horse Substation would be located approximately 5,900 feet to the west of State Highway 447. The transmission line and substation facility would be visible to motorists along the highway. They would likely attract attention, even though other human-made features, including utility lines and dirt roads, exist in the immediate area. On very rare occasions, lights installed on the substation would be operated at night when emergency repairs to the substation are needed. Lights would not be operated on a continuous or regular basis at the substation. The contrast rating worksheet revealed the proposed action at this location would result in a “moderate” to “weak” degree of contrast in the elements of form, line, color, and texture. A visual simulation showing the post-construction conditions of the proposed White Horse to Tracy 345-kV Line and substation from State Highway 447 is presented in Figure E6.

California

Compressor Stations

Construction activities associated with the Likely and Shoe Tree compressor stations would be noticeable to recreationists, motorists using U.S. Highway 395, and rural residents living in the vicinity. Both of these sites would remain noticeable as aboveground equipment, and fencing would be present at each site. Compressor station buildings would range from 20 to 30 feet in height. With exhaust pipes, structures would stand approximately 35 to 40 feet tall.

Overhead electric transmission lines paralleling U.S. Highway 395 are clearly visible from the highway at the Likely and Shoe Tree compressor station sites. These sites are located adjacent to the highway ROW. These compressor stations would be a dominant part of the view from the highway, but only for a relatively short period of time when traveling at highway speeds. The compressor stations would obscure the view of distant hills only when observers are relatively close to the facilities.

Visual impacts at these sites would be minimized using conventional methods as discussed in the Mitigation section of Chapter IV and the Applicant-committed Practices—Visual Resources section of Chapter II. The Radar Compressor Station would not be visible from any major roadways because of its remoteness and would be screened by a mixed coniferous

forest rangeland community. Each of the sites would have minimal nighttime lighting that would be similar to houses in the area. Emergency floodlighting may be used in the event that emergency maintenance is required. The visual impact of emergency lighting would be short-term and temporary. Figure E7 presents a visual simulation of the proposed Likely Compressor Station.

IV.m. Air Quality

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

Construction

Fugitive Dust

One pollutant of concern during construction would be fugitive dust (PM₁₀ emissions) from the disturbance of soil during clearing, grading, trenching, and backfilling activities, construction vehicle movement along the ROW, and from distribution of the fill dirt at the substation and the valve and meter station sites. Fugitive dust could also be generated by wind erosion of disturbed dirt areas prior to revegetation. Blasting may be necessary in rocky areas. The dust suppression techniques identified in the Applicant Committed Practices—Air Quality section of Chapter II would be implemented, as necessary, to reduce airborne dust levels. With the implementation of these measures, PM₁₀ emissions from construction activities would be substantially reduced and would not constitute a significant contribution to any exceedance of the PM₁₀ standards.

Construction Vehicle Emissions

Exhaust emissions of CO, NO_x, SO₂, and reactive organic gases during construction would occur from internal-combustion engines in dump trucks, backhoes, bulldozers, generators, and other heavy construction equipment, and from construction workers' cars and supply trucks traveling to and from the sites. Impacts from construction vehicle emissions would be temporary in nature and would not result in any long-term adverse impact to local air quality.

Operation and Maintenance

After construction and revegetation of the Wadsworth Lateral and the White Horse to Tracy 345-kV Line Project is complete, there would be a negligible impact on air quality. Some dust may result from occasional inspection or maintenance vehicles traveling along dirt access roads, but this impact would be slight.

The booster unit proposed at the Paiute Interconnect Meter Station would consist of an internal gas combustion engine similar to Caterpillar model G3412LE. For modeling purposes, it was assumed that the engine would operate 8,760 hours (365 days) per year. The new unit would be located inside the Paiute Interconnect Meter Station located adjacent to the existing Paiute meter station.

The booster unit would comply with ambient air quality and permitting requirements under federal, state, and local jurisdiction. It would not interfere with local air quality goals. The booster unit would combust natural gas that is inherently low in particulate matter. Results of

the initial air quality impact analysis demonstrate that predicted air quality impacts would not exceed applicable federal or state ambient air quality standards.

Furthermore, PM₁₀ and CO are below the significance level defined by Title 40 CFR Part 60.21. NO₂ is slightly above the 1 µg/m³ significance level, but well below the ambient standard of 100 µg/m³.¹ While this source is not subject to Prevention of Significant Deterioration (“PSD”), a conservative estimate of increment consumption is 2 µg/m³. The PSD increment for NO₂ is 25 µg/m³.

California

Compressor Stations

Construction

Impacts to air quality during construction would be similar to those described for the construction of the Nevada facilities. Potential air pollutant sources at the compressor stations would be fugitive dust from land disturbance and mobile source emissions from construction vehicles.

Impacts to air quality from construction at the compressor station sites would not be expected to exceed ambient air quality standards. Construction would occur in relatively remote areas with no existing nearby sources of emissions. In addition, construction would be temporary and in compliance with applicable construction permit requirements. All federal, state, and local requirements would be addressed prior to the start of construction.

Operation and Maintenance

All of the compressor station sites would each house one Solar Taurus 60 compressor turbine unit. The type of compressors would be natural gas-fueled, turbine-driven centrifugal compressors. The sites would be located in relatively remote areas with no existing nearby sources of emissions. The compressor turbine operating schedule would be 8,760 hours per year.

Natural gas fired generator sets would be located at the three sites. The generator sets would be comprised of either reciprocating engines or equivalent microturbines producing a maximum of 300 kilowatts of power. The generator sets are designed for use as alternative power to each compressor station. The generator sets would be used to power the station loads, such as lighting, air conditioning, and control systems. They would also be used to start the main turbines. Each generator would operate up to 8,760 hours per year. The emissions from the generators would be slight.

¹ If a source is subject to PSD, sources below the significance level are exempted from more extensive modeling requirements due to their limited air impacts. The booster unit is not subject to PSD, because it is a minor source of emissions. However, this comparison of its emissions to the PSD modeling “significant impact level” further demonstrates the limited impact the booster unit would have on ambient conditions.

Air Dispersion Modeling

Dispersion modeling was used to predict the air quality impact of potential NO₂, CO, SO₂, and PM₁₀ air emissions from the proposed compressor stations. The dispersion modeling followed the guidance and protocols outlined in the EPA *New Source Review Workshop Manual* (EPA, 1990) and the EPA *Guidelines on Air Quality Models* (EPA, 1998).

The modeling demonstrated that the proposed compressors would comply with all applicable ambient air quality standards even if two compressor units were present at the Likely and Shoe Tree compressor stations (Tuscarora, 2001d).

Results of the air quality impact analysis demonstrate that the predicted impacts for the criteria pollutants are below significant impact levels as defined in the *New Source Review Workshop Manual*, and would not affect the Modoc County APCD's ability to achieve either California or national ambient air quality standards. While the analysis showed an exceedance of the California Ambient Air Quality Standard for PM₁₀ at the Likely and Shoe Tree compression station sites, these values were based on background concentrations of PM₁₀ from the Alturas Ranger Station and Susanville Airport monitors. The exceedance of the standard does not necessarily represent the concentration in the vicinity of the proposed turbine compressor. In fact, the modeling demonstrates that the compressors would have a minimal impact on air quality for every pollutant and averaging period for which the EPA has established a significant impact level. In addition, the actual emissions would be lower at these two stations since they would only have one compressor unit each.

IV.n. Water Quality

Nevada

Wadsworth Lateral

With implementation of appropriate measures, the project would minimal adverse impacts on waterbodies within federal jurisdiction, other jurisdictional waters of the U.S., groundwater, or other relevant water quality concerns. Adverse impacts would include the creation of a public health hazard, such as downstream pollution or sedimentation leading to flooding, or depletion of groundwater resources. The measures discussed in the Applicant-committed Practices—Water Quality section of Chapter II are designed to minimize impacts.

Operation and maintenance of the Wadsworth Lateral would have a minimal effect on Waters of the U.S. in the vicinity. Activities near Waters of the U.S. would primarily consist of routine ground surveys of the ROW. If routine or emergency repairs to the facilities are required during the life of the facility, effects similar to those described for construction would occur. These effects would be isolated and limited to the area needing repair. There would be no impacts to groundwater resources from operation and maintenance activities.

Surface Waters

Because construction is scheduled to occur during the dry season, there is limited potential for erosion and sedimentation of the open water areas in the remnant Truckee river oxbow wetland. Hazardous materials, including fuels, chemicals, and lubricating oils, would be used during construction and could enter the open water areas if a spill occurs near the oxbow

wetland. However, the measures identified in the Applicant-committed Practices—Water Quality section of Chapter II would minimize potential impacts to surface waters.

Groundwater

In general, since excavation depths are typically less than 10 feet, and the groundwater depth is at least 28 feet (and USGS hydrologic maps approximate aquifer depths at greater than 100 feet in the vicinity of the Wadsworth Lateral), no impact to aquifers or groundwater systems would be anticipated. Groundwater depths may be higher at the Truckee River oxbow; however, measures proposed in the Applicant-committed Practices—Wetlands/Riparian section of Chapter II would minimize potential impacts to the oxbow wetland and ground water quality.

Wells and Springs

Blasting may be required in some areas from approximately MP 2 to MP 10. However, no wells or springs have been identified along this segment of the pipeline. It is not likely that blasting would be required in the vicinity of the well near MP 13.4. As a result, there would be no impact to wells or springs.

Stormwater

There is potential for erosion, sedimentation, or hazardous material contamination of the open water area near MP 4 caused by stormwater runoff during and after pipeline construction. Impacts would be minimized by implementing the BMPs to be developed in Tuscarora's SWPPP and SPCC Plan.

Hydrostatic Testing

Approximately 1.1 million gallons (3.38 acre-feet) or less of water would be needed to test the pipeline in two segments. Hydrostatic test water would likely be obtained from two private wells located near the Wadsworth Lateral terminus. The wells are located in the Dodge Flat Basin. The Dodge Flat Basin does not contain any known contaminants. Withdrawal of water from local wells for hydrostatic testing would have a minimal effect to groundwater resources and would not affect flow rates of any waterbody. The quantity of water needed for hydrostatic testing of the Wadsworth Lateral is considered slight when compared to the water yield of the Dodge Flat Basin and would result in a negligible impact to groundwater storage supplies. In addition, this water would be discharged near the area of withdrawal, allowing some groundwater recharge to occur.

The discharge site would be located near the Washoe Energy Facility. Tuscarora would coordinate with the landowner on the exact location of the discharge site. Test water would be discharged at a rate and in a manner that minimizes erosion. Test water intake and discharge would be performed in accordance with all regulations and permit requirements, as described in the Applicant-committed Practices section of Chapter II. Tuscarora would not add chemicals or otherwise treat water used for hydrostatic testing. No waste products would be generated from hydrostatic testing activities. The pipeline would be cleaned prior to hydrostatic testing. Any residual material that could become suspended or dissolved in the test water would be negligible.

White Horse to Tracy 345-kV Line Project

Surface Waters

There is limited potential for erosion and sedimentation of the open water areas in the Truckee River. Hazardous materials, including fuels, chemicals, and lubricating oils, would be used during construction and could enter the open water areas if a spill occurs near the river and drainage. However, the measures identified in the Applicant-committed Practices—Water Quality section of Chapter II would minimize potential impacts to surface waters. Blasting is not anticipated near the Truckee River and associated drainage. Therefore, blasting activities during construction would have no effect on water quality.

Groundwater

Groundwater quality could potentially be affected by an accidental release of petroleum hydrocarbons from equipment associated with construction. Measures proposed in the Applicant-committed Practices—Water Quality section of Chapter II would minimize potential effects to groundwater. Construction related activities would not deplete groundwater supplies or lower the local groundwater level.

Wells and Springs

No springs have been identified along the project route. Location of wells would be considered in the design of the project to ensure tower structure locations do not interfere with existing wells. Therefore, construction activities would have a minimal effect on wells or springs.

Stormwater

There is potential for erosion, sedimentation, or hazardous material contamination of the Truckee River and drainage caused by stormwater runoff during and after construction of the electric transmission line. Impacts would be minimized by implementing the BMPs discussed in the Applicant-committed Practices—Water Quality section of Chapter II.

California

Compressor Stations

Hydrostatic Testing

Hydrostatic test water would likely be obtained from municipal water sources or legally permitted local wells and transported by truck to the compressor station sites.

The approximate quantity of water that would be needed to test the piping at the compressor station sites would be as follows:

- Radar Compressor Station: 17,000 gallons
- Likely Compressor Station: 47,000 gallons
- Shoe Tree Compressor Station: 30,000 gallons

Test water would be discharged on-site at a rate or in a manner that minimizes erosion at all three compressor station locations. At the Likely Compressor Station, test water would be discharged to an upland area at a rate that would prevent test water from entering the nearby wetland (wetlands are not present at the Radar or Shoe Tree compressor station sites). Test water intake and discharge would be performed in accordance with all regulations and permit requirements, as described in the Applicant-committed Practices—Water Quality section of Chapter II.

With the measures discussed in the Applicant-committed Practices—Water Quality section of Chapter II, construction of the compressor stations would minimal adverse impacts on wetlands or waterbodies within federal jurisdiction, other waters of the U.S., groundwater, or water quality.

Operation and maintenance of the compressor station sites would have a minimal effect on Waters of the U.S. in the vicinity. All oils, lubricants, and other hazardous materials used to maintain the compression equipment would be handled and disposed of in accordance with the manufacturer's instructions and applicable state and federal laws. There would be no impacts to floodplains or groundwater resources from operation and maintenance activities. The wells that would be installed to serve the compressor stations would only withdraw approximately 20 gallons of water per working day. In addition, neighboring landowners may use approximately 1,000 gallons per day to water livestock. This limited amount of withdrawal would have a negligible effect on groundwater supplies.

Surface Waters

Because no surface waters are located in the vicinity of the compressor station sites, no impacts would occur.

Groundwater

Due to the depth to groundwater, there would be no impacts to groundwater quality. Wells that would be installed at the compressor station sites would have a minimal impact to groundwater.

Stormwater

Construction of the compressor station sites has the potential for erosion, sedimentation, or hazardous material contamination caused by stormwater runoff during and after construction. Impacts would be minimized by implementing the BMPs to be discussed in Tuscarora's SWPPP and the SPCC Plan.

IV.o. Floodplains

Nevada

Wadsworth Lateral

The only section of the Wadsworth Lateral that would be within the 100-year flood zone is at the oxbow wetland near MP 4. Because impacts to the wetland would be short term and temporary and would not dam the water in a manner that would increase the flood risk of the

adjacent areas during a 100-year event, the Wadsworth Lateral would have minimal effect on flood zones.

White Horse to Tracy 345-kV Line Project

While some towers may be located in the 100-year flood zone near the Truckee River, standard tower structure design and engineering practices are sufficient to take into account such floodwater levels so that risks to public safety would be slight. Towers would be sited as far from the streambanks as practical, similar to existing structures, and the electric transmission lines would span the Truckee River. The tower structures would not increase the flood risk of adjacent areas during a 100-year event. The East Tracy Substation was not affected by the 100-year flood event that occurred in 1997 and is not anticipated to have any adverse effects on floodplains as a result of the project.

California

Since the compressor stations are not located in a flood zone, there would be no impacts.

IV.p. Wetlands/Riparian

Nevada

Wadsworth Lateral

The Wadsworth Lateral would follow an existing utility route through the oxbow wetland. Based on a routine wetland delineation completed in June 2001, the length of the wetland crossing is approximately 115 feet at the western channel and 85 feet at the eastern channel. The total wetland area of the east and west channel crossing, within the narrowed 75-foot ROW, is approximately 0.34 acre.

The wetland would be temporarily impacted during construction of the wetland crossing. Tuscarora would use either a “push-pull”² or open cut method to cross the wetland, depending on site conditions at the time of construction. Other potential impacts are described in the surface waters discussion above. There would be no permanent impacts to this wetland.

The ROW would be narrowed to 75 feet at the wetland crossing with a temporary 10-foot setback for extra workspace, due to the steep topography and rocky soils in the area. A temporary 15-foot-wide by 635-foot-long extra workspace area would be located on the west side of the wetland crossing, in addition to a temporary extra workspace area measuring 65 feet by 400 feet on the east side of the crossing.

There is a possibility that blasting could impact the hydrology of the oxbow wetland located near MP 4. If blasting occurs at this wetland, Tuscarora would implement the measures

² A typical “push-pull” crossing entails the simultaneous lowering of pipe into the trench on one side of the wetland crossing while the pipe is floated/pulled through the trenched wetland by use of a cable and winch system on the other side of the crossing. Generally, a section of pipe is welded together in a staging area and floats are attached to the welded section prior to pulling it across the wetland.

described in the Applicant-committed Practices—Geological Resources and Hazards section of Chapter II to minimize this impact.

Wetland crossing procedures would comply with the FERC Procedures with slight modifications as specified in the Applicant-committed Practices—Wetlands/Riparian section of Chapter II.

White Horse to Tracy 345-kV Line Project

No wetlands or other waters of the U.S. would be crossed by the proposed electric transmission line. The Truckee River would be spanned by the proposed electric transmission line and tower structures would be located outside of any riparian zones. Each crossing method used to span the sock lines across the river (as described in the Applicant-committed Practices—Water Quality section of Chapter II) would avoid impacts to any wetland/riparian resources along the river. There would be no impact to wetland/riparian resources as a result of construction and operation of the White Horse to Tracy 345-kV Line Project.

California

Compressor Stations

There would be no impacts to wetlands or other waters of the U.S. at the compressor station sites. The wetland at the Likely Compressor Station site would be avoided.

IV.q. Wastes and Hazardous Materials

Nevada

Wadsworth Lateral and White Horse to Tracy 345-kV Line Project

There would be a minor temporary impact to the project area from solid waste generated by the proposed project. Potential for this impact would be minimized by cleanup and disposal of solid wastes generated by the proposed project as described in the Applicant-committed Practices—Wastes and Hazardous Materials section of Chapter II.

Hazardous Materials

Use of hazardous materials during project construction, operation, and maintenance may pose potential health and safety hazards to construction and maintenance workers and nearby residents. These impacts would be associated with blasting during tower and pipeline installation, use of hazardous substances during construction and maintenance activities, and the potential for spills. Table IV-1 displays hazardous materials that are typically used for Tuscarora and Sierra Pacific gas pipeline and electric transmission line projects.

Detailed information about the use, storage, and disposal of hazardous materials would be provided in the SPCC Plan that would be submitted to the BLM, as required by federal regulations. This Plan would define specific procedures for vehicle refueling and servicing, transportation and storage of hazardous materials, and disposal of hazardous wastes.

Table IV-1: Hazardous Materials List

Hazardous Materials	
2-cycle oil (contains distillates and hydrotreated heavy paraffinic)	Battery acid (in vehicles and in the meter house of substations)
Fire extinguisher	Insect killer
Acetylene gas	Canned spray paint
Air tool oil	Chain lubricant (contains methylene chloride)
Automatic transmission fluid	Connector grease (penotox)
X-ray sealed source, Iridium 92	Oxygen
Diesel de-icer	Paint thinner
Diesel fuel additive	Petroleum products (gasoline, diesel fuel, jet fuel A, lubricants, brake fluid, hydraulic fluid)
Explosives (detonators, detonator assemblies – non-electric, tubular primers, cap-type primers, ammonium nitrate fertilizers)	Antifreeze
Gasoline	Safety Fuses
Gasoline treatment	Starter Fluid
Film development solution for x-ray film	Sulfur hexafluoride (within the circuit breakers in the substation)
Insulating oil (inhibited, non-PCB)	Brake Fluid
Lubricating grease	Propane
Mastic coating	Safety solvent
Methyl alcohol	ZIP (1,1,1-Trichloroethane)
Wasp and hornet spray (1,1,1-trichloroethane)	Fusion bond epoxy

Use of hazardous materials during project construction, operation, and maintenance would pose potential health and safety hazards to construction and maintenance workers and nearby residents. These impacts would be associated with blasting during pipeline or tower structure installation, use of hazardous substances during construction and maintenance activities, and the potential for spills. However, compliance with existing laws regulating the use, storage, transportation, and disposal of hazardous materials, and the preparation and implementation of the Fire Prevention and Suppression Plan and SPCC Plan would minimize these public health and safety hazards. Therefore, potential health and safety impacts from use, storage, and disposal of hazardous materials would be minimal.

California

Compressor Stations

During construction of the compressor station sites, the potential would exist for a limited release of hydraulic fluid, oil, or fuel to occur from construction equipment. However, if a fuel or lubricant spill occurs, the material would be contained in the immediate area and removed. The spilled material and any affected soil would be disposed of properly. Therefore, the potential impacts associated with routine transportation, use, or disposal of hazardous materials for this project would be considered slight.

The possibility of a significant release of hazardous materials to the environment resulting from an upset would be remote. There would be a limited amount of hazardous materials associated with construction and any spills would be handled in accordance with standard practices. In addition, the compressor stations would be built to rigorous engineering and safety standards. Therefore, the potential impacts of this project would be minimal.

IV.r. Socioeconomics

Nevada

Wadsworth Lateral

Population and Housing

Tuscarora expects to employ a maximum of 160 people to construct the Wadsworth Lateral. Construction would likely require three months, with a predicted in-service date of November 2002. It is anticipated that most workers (80 to 90 percent) would require special skills or certification and would come from outside the project area.

Nonlocal employees would likely find accommodations in the Reno-Sparks area because of its large selection of hotels and motels, trailer and RV parks, apartments, and other temporary housing. The town of Fernley, while closer to the job site, provides a more limited selection of single-family homes, apartments, motels, and hotels. In general, nonlocal workers would not have difficulties locating housing because of the limited period of construction, small size of the workforce, and ample supply of temporary housing in the area.

No permanent impacts to the local population size or housing are expected because the construction phase of the project is of limited duration. Transient impacts of the construction

workforce on the supply of local temporary housing would be minimal, given the ability of the Reno-Sparks area to accommodate large numbers of tourists and other visitors.

Employment and Income

While most construction workers would come from outside the project area, it is likely that a limited number of construction workers and unskilled laborers from the local area would also find employment on the project.

The total projected payroll for engineering and construction would be \$6,000,000, a portion of which would go to local hires. Most of the disposable income of resident workers would be spent in the local area, generating additional tax revenues and income for local businesses. Nonresident workers would also spend a considerable portion of their disposable income locally to secure housing and meals, and for recreation.

It is estimated that approximately \$150,000 in additional sales tax would be paid in Washoe County as a result of local purchases, rentals, and other local contracts during construction of the Wadsworth Lateral. A small portion of this total construction spending on local purchases may take place in the nearby town of Fernley, in Lyon County, generating additional sales tax revenues and income for businesses in that community.

An estimated \$150,000 in additional property taxes would be paid annually during the operation and maintenance phase of the project, and approximately \$5,000 would be spent annually for local purchases, rentals, and contracts. Washoe County would be the primary beneficiary from an increase in property tax revenues and, to a lesser degree, sales tax revenues. The local gas distribution companies in Nevada would also benefit from new gas supplies that would be transported on the Wadsworth Lateral. This would result in increased revenue for the distributors and increased gas supplies for residents and businesses in the area.

White Horse to Tracy 345-kV Line Project

Population and Housing

Sierra Pacific expects to employ 60 people to construct the White Horse to Tracy 345-kV transmission line and associated facilities. Construction would likely occur intermittently over 13 months, with a predicted completion date of November 2003. Impacts to population and housing from the White Horse to Tracy 345-kV Line Project would be the same as those described for the Wadsworth Lateral.

Employment and Income

It is anticipated that all workers needed to construct the White Horse to Tracy 345-kV Line Project would require special skills or certification and would come from outside the project area, thus, no employment opportunities would be available to local workers.

The total projected payroll for engineering and construction would be \$2,000,000. Disposable income expenditures of workers would be the same as those described for the Wadsworth Lateral. It is estimated that approximately \$90,000 in additional sales tax would

be paid in Washoe County, and approximately \$30,000 in Storey County, as a result of local purchases, rentals, and other local contracts, and from sales taxes levied against materials shipped from out of state during construction of the White Horse to Tracy 345-kV Line Project. As previously described for the Wadsworth Lateral, a small portion of construction spending on local purchases may take place in the town of Fernley.

It is estimated that approximately \$100,000 in additional property taxes would be paid annually during the operation and maintenance phase of the project. Approximately \$5,000 would be spent annually for local purchases, rentals, and contracts. Washoe County would be the primary beneficiary from an increase in property tax revenues and, to a lesser degree, sales tax revenues.

California

Compressor Stations

Population and Housing

Tuscarora expects to employ a maximum of 100 people for construction of the three compressor station sites, with a maximum of 50 people working on-site at any given time. Construction of each site would likely require at least seven months, with a planned in-service date of November 2002. It is anticipated that most workers would require special skills or certification and would come from outside the project area.

Nonlocal construction workers are likely to bring their own trailers or RVs and would find accommodations at RV and trailer parks. The remainder would likely find apartments, hotel or motel rooms, or rent single-family homes or rooms in homes. No permanent impacts to the local population size or housing are expected because the construction phase of the project is expected to last only seven months, and no permanent migration of workers should result. Transient impacts of the construction workforce on the supply of local temporary housing depend to some extent on the time of year, since tourism in the area is generally high during the summer months. However, during construction of the Tuscarora mainline, the 300-person workforce had no major problems locating temporary housing. As a result, even temporary effects on housing during construction of the compressor stations would be slight.

Employment and Income

It is likely that a limited number of construction workers and unskilled laborers from the local area would also find employment on the project. Tuscarora expects to employ approximately four additional people during the operation and maintenance phase of the project.

The total estimated payroll for construction of the three compressor station sites would be approximately \$8,000,000. A portion of the total payroll would be paid to local employees. Most of the disposable income of resident workers would be spent in the local area, generating additional income for local businesses. Nonresident workers would also spend a considerable portion of their disposable income in the project area to secure housing, meals, and for recreation. The modest increase in demand for temporary housing is not likely to affect the tourism industry in the area.

It is estimated that approximately \$10,500 in additional sales tax would be paid in Lassen County, and approximately \$21,000 would be paid in Modoc County. The estimated payroll during the operation and maintenance phase would be approximately \$200,000 per year. An additional \$25,000 to \$75,000 per year would be spent on local purchases, rentals, and other local contracts. It is estimated that approximately \$562,500 in additional property taxes would be paid annually during the operation and maintenance phase for all three compressor stations. Lassen and Modoc counties would benefit from an increase in annual revenues from property and sales taxes.

IV.s. Environmental Justice

Nevada

Wadsworth Lateral

The socioeconomic impacts on the Pyramid Lake Indian Reservation and the Reno-Sparks Indian Colony from construction of the Wadsworth Lateral would generally be positive because the project would result in additional jobs, tax revenues, and local purchases. The communities of concern would benefit to the extent that they find employment on the project, have additional business profits from sales related to the project, or sales to construction workers spending disposable income. Any minor negative effects on other environmental resources (e.g., recreation, air quality, visual resources, etc.) would affect the area's population equally, without regard to income level or minority status.

White Horse to Tracy 345-kV Line Project

Impacts to the Pyramid Lake Indian Reservation and the Reno-Sparks Indian Colony from construction of the White Horse to Tracy 345-kV Line Project would be the same as those described for the Wadsworth Lateral.

California

Compressor Stations

The socioeconomic effects on the XL Ranch Indian Reservation from construction of the compressor station sites would generally be positive because the project would result in additional jobs, tax revenues, and local purchases as previously described for the pipeline and electric transmission line. Any minor negative effects on other environmental resources (e.g., recreation, air quality, visual resources, etc.) would affect the area's population equally, without regard to income level or minority status.

IV.t. Native American Religious Concerns

The consultation process between the BLM and Native American tribal groups regarding religious concerns is ongoing. All potential impacts would be minimized by measures to be identified by the BLM, in consultation with Native American tribal groups.

IV.u. Indian Trust Assets

Potential impacts on Indian Trust assets resulting from the Wadsworth Lateral and the White Horse to Tracy 345-kV Line related to cultural resources, wildlife and fisheries (including threatened and endangered species), noise, visual resources, air quality, and water resources are discussed in Chapter IV.a. of this EA in sections IV.e. Cultural Resources; IV.i. Wildlife; IV.j. Noise; IV.l. Visual Resources; IV.m. Air Quality; and IV.n. Water Quality.

b. AlternativesEnvironmental Impact*No-action Alternative**Tuscarora 2002 Expansion Project*

The No-action Alternative would not result in impacts to any of the resources discussed above, with the exception of air quality and socioeconomics. As a result, only these resource topics are discussed below. These resource topics are identified by the same letters that have been tracked through the document.

IV.l. Air Quality

While the No-action Alternative may not have any direct environmental impacts, the use of alternative fuel for power generation as a result of natural gas shortage would increase exhaust emissions and affect air quality. If gas were not available and electric generation was needed in the area, plants would switch to their standby supply of fuel oil to power their generators. Air pollutant emissions from the burning of fuel oil are significantly higher than from natural gas, resulting in reduced air quality.

IV.q. Socioeconomics

Without new additional gas transmission capacity and associated power generation resources, an energy power crisis in northern Nevada could potentially occur. Additionally, if new facilities are not constructed, the local distribution companies would be constrained in their ability to provide natural gas service to end users in northern Nevada and California. Customer curtailments would likely occur during peak winter usage as a result of inadequate supply. The potential for curtailments would be dependent upon availability from suppliers outside the region. In addition, the current gas pipeline infrastructure would not be able to serve new natural gas customers or the increasing demand of existing customers in the area.

Under the No-action Alternative, the Naniwa Energy Facility would not be able to operate at its full capability during winter peak periods. In addition, DENA would be unable to construct its proposed Washoe Energy Facility if the Tuscarora 2002 Expansion Project were not constructed. Failure to provide gas to these new power plants would exacerbate the current energy crisis in the western United States. Without new generation facilities, northern Nevada and California would be denied the opportunity to access a new electrical energy supply source.

The limited supply of natural gas and increased demand would increase customer costs for energy. Adverse indirect impacts to human health and welfare, and direct adverse impacts to the local and regional economy could potentially occur as a result of prolonged natural gas outages. Economic expansion would be hindered by the unavailability of energy and the high costs of operation that would result.

Mitigation Measures

No mitigation measures would be required for the No-action alternative.

White Horse to Tracy 345-kV Line Project

IV.q. Socioeconomics

Although there would be no direct impacts to the surrounding environment under the No-action Alternative, indirect adverse impacts to the local and regional economy may ultimately result if the proposed Washoe Energy Facility, and consequently the proposed White Horse to Tracy 345-kV Line Project, is not constructed.

As with the No-action Alternative for the Wadsworth Lateral, northern Nevada and California would be denied the opportunity to access a new electrical energy supply source without new energy facilities. A lack of new energy supply sources could escalate energy prices, adversely impacting the local and regional economy.

With the projected increase in energy demand for northern Nevada, an inadequate power generation and transmission infrastructure could also result in an energy crisis for the area. As has happened recently in California and in southern Nevada, this could potentially lead to temporary disruption of electrical service to customers.

Mitigating Measures

No mitigation would be required for the No-action Alternative.

c. Mitigating Measures

The following measures apply to both the Tuscarora 2002 Expansion Project and the Sierra Pacific electric transmission line project, unless otherwise noted.

IV.a. Lands

No additional mitigation is recommended.

IV.b. Soils

- For the compressor stations in California, Tuscarora shall implement erosion control measures in compliance with the FERC Erosion Control, Revegetation, and Maintenance Plan and the *Right-of-way Reclamation and Revegetation Plan*. Sites having high probability of water or wind erosion shall be identified in the SWPPP. Copies of the SWPPP shall be in

the possession of all appropriate construction personnel. Responsible agencies shall be provided copies of the SWPPP 30 days prior to the start of construction.³

IV.c. Geological Resources and Hazards

- Notification by the BLM shall be given to the respective mining claimants during the planning and construction phases of the project. The objective of the notification is to coordinate the development of the project with the mining operations.

IV.d. Recreation

- Signs warning the public of construction activities shall be placed at key locations during construction.
- Where the proposed pipeline ROW is adjacent to an existing road, the surface disturbance on the ROW shall be completely reclaimed. Existing roads shall be left in as good or better condition than their preconstruction condition. No berms or fencing that would impede public travel shall be installed along these segments. Carsonite-style signs may be used, as specified by the BLM, to inform the public of reclamation efforts.
- Where the proposed pipeline ROW is not adjacent to an existing road, and if there are adjacent two-track trails or other access roads, these roads shall remain open for public use and be restored to their preconstruction condition or better.
- Where roads or trails cross the proposed ROW, such alignments shall be reconstructed to their original profiles to preserve existing access. Carsonite-style signing may be used, as specified by the BLM, to inform the public of reclamation efforts.

IV.e. Cultural Resources

- Cultural resources determined eligible for the National Register of Historic Places that cannot be avoided by the project shall be mitigated through the implementation of a *Historic Properties Treatment Plan* developed by the archaeological contractor and approved through consultation between the Nevada State Historic Preservation Office and the Carson City Field Office of the BLM.
- Due to concerns of Native American tribes regarding prehistoric resources, an attempt shall be made to avoid or lessen impacts on prehistoric cultural resources regardless of National Register eligibility.

IV.f. Paleontology

No additional mitigation is recommended.

³ The mitigation measures from the *Tuscarora Natural Gas Pipeline Project Final Environmental Impact Report and Environmental Impact Statement, April 1995*, were requested to be included in this EA by the CDFG as part of the mitigation for the proposed compressor station sites.

IV.g. Vegetation

The following mitigation measures apply to the compressor stations in California.

- Construction equipment shall be regularly inspected and maintained to prevent spillage of petroleum products and other chemicals potentially harmful to native vegetation. Best Management Practices should be followed during construction to minimize degradation of water quality and associated plant species of concern.³
- Areas subject to temporary ground disturbance that have known or potential California state-listed plant species of special concern shall be restored after construction. Immediately prior to construction, the top 12 inches of topsoil, or thinner layer where appropriate to obtain a maximum seed bank concentration, shall be excavated and segregated on-site. In areas that would not be covered with gravel, excavated soils shall be spread over the site after installation of the pipeline and the original topography restored. Plant materials such as seeds, cuttings from roots or stems, bulbs and whole plants could be salvaged, as appropriate, and used in post-construction revegetation activities.³
- In areas that would not be reclaimed (i.e., covered by facilities or gravel), topsoil shall be salvaged and stockpiled on the site for future use. Stockpiled topsoil may be used to enhance reclamation of the temporary work areas.³
- Tuscarora shall ensure that trenching excavation, compaction, and grading are kept to the minimum necessary to construct the project and restore affected areas to preconstruction conditions. Tuscarora shall include these disturbed areas in the existing weed management program established with Lassen and Modoc counties.³

IV.h. Noxious Weeds

No additional mitigation is recommended.

IV.i. Wildlife

The following mitigation measures apply to the compressor stations in California.

- The *Right-of-way Reclamation and Revegetation Plan* to be implemented by Tuscarora provides specific procedures for erosion control, topsoil salvage, revegetation, and maintenance and monitoring requirements. Tuscarora shall prepare and implement the required *Right-of-way Reclamation and Revegetation Plan*.³
- The *Right-of-way Reclamation and Revegetation Plan* shall include provisions for including appropriate, valuable shrubs in the revegetation mix that would be used in shrubland habitats, including the identified critical winter range areas. Tuscarora shall prepare and implement the required *Right-of-way Reclamation and Revegetation Plan*.³
- Tuscarora shall not construct on deer or pronghorn antelope winter ranges from November 1 through April 15. These dates can be modified by CDFG based on the actual or anticipated presence of deer or antelope.³

- No overflights shall occur at less than 1,500 feet over deer and pronghorn winter ranges during the period of November 1 through April 15. These dates can be modified by CDFG to be earlier or later based on the actual or anticipated presence of deer or pronghorn.³
- Tuscarora shall inspect all open trench on a daily basis for trapped animals, and in areas of active construction, inspections shall occur immediately prior to activities which could harm trapped animals. In-place open pipe shall also be blocked at the end of each workday with plywood or other suitable materials to prevent animals from entering.³
- Tuscarora shall not disturb nesting Swainson's hawks. Preconstruction surveys shall be completed to identify nests of this species. In areas where active nesting is determined to occur Tuscarora shall adhere to the following conditions:³
 - When construction activities within 0.5 mile of an active Swainson's hawk nest cannot be avoided, the nest must be monitored by a qualified biologist for the effects of activity. Some less intrusive activities, such as most types of biological or engineering survey work, may be allowed to within one-quarter mile without monitoring. No foot traffic shall be allowed within 200 yards of a nest during the period of April 15 through August 1.
 - Some additional latitude may be possible for those nests situated in farmyards, or otherwise adapted to human activities. Contact CDFG for further discussion.
 - When a nest is being monitored, activities shall cease if incubating or brooding birds leave the nest or if adults are prevented from feeding young. Contact CDFG for further discussion.
 - No Swainson's hawk nest tree and/or nest shall be removed during the period of March 1 through August 15 of each year.
- Prior to construction, Tuscarora shall conduct surveys for sandhill crane nesting activity in suitable wetland areas within 0.5 mile of the ROW. If nesting cranes are found, territory specific mitigation and monitoring plans shall be developed in consultation with the CDFG.³
- Flyovers shall not be more frequent than once every two months (except in emergency situations). Tuscarora shall contact the CDFG prior to a flight and shall make space available for an agency monitor. Flyovers shall not be less than 500 feet unless the agency monitor allows a specific exemption.³
- Submit documentation of nest sites (raptor and special-status species), distances of the nests from construction activities, and timing of the proposed construction periods to the appropriate resource agency for approval prior to construction.³
- Tuscarora shall conduct preconstruction surveys to determine the presence of special-status wildlife species following protocols established by CDFG. Should such species be

discovered within 0.5 mile Tuscarora shall consult with the CDFG and other agencies as appropriate to develop applicable mitigation measures.³

- No construction activities shall occur on or within one-half mile of active antelope migration during the period of March 1 through April 30. No blasting shall occur within one mile of active antelope migration during the period of November 1 through December 15 and March 1 through April 30.³

IV.j. Range

- The respective landowner/permittee shall be contacted prior to cutting of any livestock management fences.

IV.k. Noise

No additional mitigation is recommended.

IV.l. Visual Resources

- Beacons on top of transmission line structures used to minimize the hazard for aviation should be avoided in any locations visible from any highways or viewsheds through the Truckee River Corridor, unless required by the Federal Aviation Administration.

IV.m. Air Quality

- A dust control plan must be approved by the Washoe County District Health Department, Air Quality Management Division prior to the beginning of construction.

IV.n. Water Quality

The following mitigation measures apply to the compressor stations in California.

- Refueling activities and all temporarily stored materials shall be kept at least 100 feet away from stream banks. Where conditions require construction equipment (e.g., dewatering pumps) to be refueled within 100 feet of any wetland boundary, the procedures outlined in the SPCC Plan shall be implemented. Sorbent materials shall be kept on site to recover any accidental spills.³
- Tuscarora shall follow the FERC Procedures for hydrostatic testing. Any conditions imposed by the FERC on any withdrawal or dewatering activities shall be followed. In addition, all mitigation measures and permit requirements from the California State Water Resources Control Board shall be incorporated into the construction specifications.³
- In areas where the water table creates saturated soils at the ground surface, construction shall include the use of mats, wide-track equipment, low-pressure tires, and temporary drive around roads.³
- If hazardous materials are found, the RWQCB and the CDFG shall be notified immediately. The materials shall be removed in accordance with all current hazardous material laws.³

For the Wadsworth Lateral in Nevada, Tuscarora shall use the FERC Plan and Procedures and a SWPPP to guide the discharge of the water used for the hydrostatic testing. The FERC Plan and Procedures and the SWPPP shall identify ways to reduce the potential for surface erosion associated with the discharge of 3.38 acre-feet of water onto the ground. The FERC Plan and Procedures and the SWPPP shall be included as part of the project's specific plans.

IV.o. Floodplains

No additional mitigation is recommended.

IV.p. Wetlands/Riparian

- As would be specified in the *Right-of-way Reclamation and Revegetation Plan*, for the compressor stations in California, Tuscarora shall attempt to avoid wetlands within the ROW or ancillary area wherever feasible through ROW reduction or realignment of the corridor within the ROW. For unavoidable impacts, Tuscarora shall develop detailed restoration plans specific to each impact site prior to construction and the plans shall be submitted to the appropriate resource/regulatory agencies (e.g., ACOE and CDFG) for approval at least 60 days prior to construction.³
- For the Wadsworth Lateral in Nevada, the specific route for the gas pipeline through the oxbow area has been reviewed on the ground with the BLM and BOR. Any specific construction, maintenance, or mitigation requirements developed from the review shall be described in the specific plans.

IV.q. Wastes and Hazardous Materials

- Construction vehicles and equipment shall be required to be serviced and fueled at least 100 feet from wetlands and streams. Refueling locations should be generally flat to decrease the chance of a spilled substance reaching a stream or wetland.
- Procedures shall be outlined to minimize the chance of a fuel spill during servicing and refueling. Vehicles would be required to carry absorbent material to handle potential spills, would be inspected for fuel leaks regularly, and would be equipped with fire fighting equipment. Hazardous materials shall be transported in DOT approved containers and allowed only on approved access roads. Vehicles carrying hazardous materials shall be equipped with appropriate materials to contain a small spill should one occur during transport. Vehicles and storage containers shall be properly signed/marked and inspected for leakage and other potential safety problems prior to transportation
- Hazardous materials shall be stored in proper containers in material yards and designated construction areas. Cleanup materials shall be stored in these areas. Hazardous wastes, including used oil, used oil filters, used gasoline containers, spent batteries, and other items, shall be collected regularly and disposed of in accordance with all applicable laws. Every effort shall be made to minimize the production of hazardous waste during the project, such as using non-hazardous substances when available, minimizing the amount of hazardous materials used for the project, and recycling and filtering of hazardous materials.

IV.r. Socioeconomics

No additional mitigation is recommended.

IV.s. Environmental Justice

No additional mitigation is recommended.

IV.t. Native American Religious Concerns

No additional mitigation is recommended.

IV.u. Indian Trust Assets

No additional mitigation is recommended.

d. Residual Impacts (Impacts Remaining after Mitigation)

Tuscarora 2002 Expansion Project

With the successful implementation of the applicant-committed practices and the mitigation measures, the proposed project would result in only minimal residual impacts. The aboveground facilities would be permanently converted from natural areas to utility facilities and visual intrusion to the surrounding areas would be within acceptable levels for an area designated as VRM Class III. The permanent 50-foot-wide pipeline easement would continue to be available for grazing, recreational, and other uses that do not involve construction or excavation over the pipeline.

White Horse to Tracy 345-kV Line Project

The White Horse to Tracy 345-kV Line Project would result in only minimal impacts with the successful implementation of the applicant-committed practices and the mitigation measures. While the overhead electric transmission lines and the White Horse Substation would be visible at certain locations along I-80 and State Highway 447, they would still be within acceptable levels for an area designated as VRM Class III. The permanent establishment of the White Horse Substation and the spur roads would have a minimal affect on grazing, plant and wildlife habitat, recreation, and other uses.

e. Cumulative Impacts

NEPA requires the consideration of cumulative impacts, which are the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions (CFR 40 Part 1508.7). Cumulative impacts can result from individually minor, but collectively significant actions occurring over a period of time. Where there are few existing projects or developments, and where the environment has not been degraded, the impacts of past and present actions combine to form existing conditions. Existing conditions were considered during the evaluation of the baseline inventory as presented in the Affected Environment section of this EA.

Based on discussions with Lassen and Modoc counties, existing or proposed projects do not exist in the vicinity of the compressor stations. Therefore, cumulative impacts analysis is not required for the California facilities. To identify reasonably foreseeable actions within 5 miles of the proposed Wadsworth Lateral and the White Horse to Tracy 345-kV Line Project, discussions were held with the BLM, Sierra Pacific, Tuscarora, and Washoe and Storey counties. The following existing and proposed projects were identified in the vicinity of the proposed action:

Existing Projects/Developments Under Construction

- **Mines:** The only active mines in the area are the Eagle-Picher Celatom Mine (diatomite), located approximately 2 miles east of the East Tracy Substation, and the Butcher Boy Mine, located approximately one-half mile north of Olinghouse Canyon Road and approximately 2 miles west of Highway 447. Other mines that have been active recently include the Olinghouse Mine (gold and silver), located several miles west of the White Horse to Tracy 345-kV Line Project, and the Derby Mine (tungsten), located approximately 2 miles southeast of MP 10 on the Wadsworth Lateral.
- **Tracy Power Plant:** Sierra Pacific's Tracy Power Plant is located adjacent to the East Tracy Substation. The plant has a capacity to produce 545 megawatts and is located on approximately 500 acres 17 miles east of Reno. Commercial operations at the plant began in 1960.
- **Industrial Park:** The Tahoe-Reno Industrial Center, located approximately 1.5 miles from the project area in Storey County, would be developed in three phases and would be approximately 30,000 acres in size when fully developed. Construction has already commenced and would continue over the next 20 years.
- **BLM Land Exchange:** The Wingfield/Washoe Land Exchange, if authorized, would create additional federal land ownership by the BLM in the area (approximately 5,280 acres of land currently under private ownership). The land exchange is in progress and should be completed in the next six months.
- **360-megawatt Power Plant:** In a joint venture, Morgan Stanley Dean Witter and Kansai recently constructed a new 360-megawatt power plant, commonly referred to as the Naniwa Energy Facility, adjacent to the existing Tracy Power Plant. The plant began operations in June 2001 and is located on a 10-acre site approximately 1,000 feet southeast of the existing Tracy Power Plant.

Planned/Future Projects

- **Washoe Energy Facility:** DENA is currently in the process of obtaining permits for a 540-megawatt power plant near the Wadsworth Lateral terminus. The approximately 40-acre plant would be located on a 480-acre parcel. DENA is scheduled to begin construction of the plant in winter 2001 and commence operation in early 2003.
- **Nevada Bell Fiber Optic Line:** Nevada Bell has expressed an interest in extending a buried fiber optic communication line from their existing line near I-80 just west of Wadsworth to

DENA's proposed Washoe Energy Facility. Nevada Bell proposes to install the cable in one of the existing ROWs, although no final proposal or location has been developed.

- BLM Land Exchange: As part of the proposed Toquop Land Exchange the BLM would exchange 640 acres in Lincoln County to Nevada Land and Resources Company for Section 9, T20N, R23E (640 acres).

To determine the temporal scope of potential cumulative effects, this analysis assumes that both the Wadsworth Lateral (and associated facilities) and the White Horse to Tracy 345-kV Line Project would be maintained indefinitely into the future. Many of the project effects would be limited to the construction period. Construction of the Wadsworth Lateral and associated facilities is anticipated to take approximately three months and is scheduled to begin in August 2002. Construction of the White Horse to Tracey 345-kV Line Project is anticipated to take approximately nine months and is scheduled to begin in September 2002. After construction, most temporarily disturbed areas would be reclaimed, as described in the project description. The effects of reclamation efforts for the pipeline lateral and electric transmission line would likely be seen over a period of approximately three to five years following construction.

Resource Categories Included in the Cumulative Impact Analysis

IV.a. Lands

Due to the remote location of the proposed facilities and the relatively minor permanent impact area of the meter station and substation sites, the project would contribute minimally to adverse impacts to lands. Development would be limited to the pipeline and electric line ROWs. However, because the proposed temporary and net permanent land disturbances of the pipeline and electric line are small, they would contribute only slightly to cumulative impacts when considered collectively with other projects in the area. In addition, these facilities are sited in existing utility corridors where development is already limited. The effects to mining and mining claims would be mitigated so as not to contribute to a cumulative effect, as described below under Geological Resources and Hazards, as would grazing effects, which are discussed more fully under Range Resources, below. As a result, this project would not contribute to cumulative impacts to lands.

DENA plans to use the existing access roads, specifically AR4, AR4a, and AR5, to construct and operate the future Washoe Energy Facility. It is anticipated that traffic on these access roads would increase temporarily during construction, but only a slight cumulative effect is anticipated due to the short-term increase in road use.

Because an additional overhead electric line would be added parallel to two existing lines as a result of the project, the land may become less favorable for the proposed land exchange according to the standards established by the *Southern Washoe County Urban Interface Plan Amendment*. However, this impact would be minimal because the pipeline and power line would be located in existing utility corridors and would have minimal impacts to the open space, visual, wildlife, and other resources protected by the plan amendment.

IV.b. Soils

The existing and planned/future projects listed above would involve potential soil disturbance in the project area. Mining activity would disturb significant volumes of soil. However, all mined areas would be reclaimed in accordance with a BLM-approved reclamation plan. The other existing and planned projects in the vicinity of the project also either cause, or would cause, soil disturbance in the project area. Currently, the Olinghouse Mine is not operational and there is no planned timeframe to bring it back into production. The other existing projects operate under strict regulations for clean water, air, and sediment control, and have minimal soil impact.

The construction schedules for the pipeline and electric line are relatively short, and are timed to occur during a period of the year that should reduce the potential for soil erosion from wind and water. Given the temporary, short-term nature of the project's impacts, the timing of construction, and the soil conservation measures proposed in the Applicant-committed Practices—Soils section of Chapter II, construction would not likely contribute to cumulative impacts to soils. With appropriate reclamation measures following construction of the pipeline and electric line (refer to Chapter II), no major permanent impacts to soils are anticipated as a result of the proposed project. Access roads to tower locations that would not be reclaimed would not contribute substantially to a cumulative effect on soils because they would be stabilized and would not be expected to erode substantially. Therefore, the project would contribute only slightly to a cumulative effect on soils.

The only areas of the project that are anticipated to have a permanent impact to soils would be at the valve and meter station sites, and the substation, and the spur roads. These areas are very limited in size (under 37 acres), and therefore, contribute only minimally to a cumulative effect on soils.

IV.c. Geological Resources and Hazards

No active mines are crossed by the project; therefore, construction would not contribute to a cumulative effect to mineral resources. Potential impacts from blasting are short-term and temporary and would also not contribute to a cumulative effect. Because potential impacts relating to seismicity and liquefaction would be mitigated and no other projects are anticipated to have substantial impacts to these resources, a cumulative impact is not anticipated.

Because the proposed facilities are located in existing utility corridors, a cumulative effect to mining claims is not anticipated.

IV.d. Recreation

Because the proposed project would have minimal, temporary effects to recreation, it would contribute only minimally to a cumulative effect.

IV.e. Cultural Resources

Based on the inventory surveys, there are limited cultural resources in the project area and cumulative effects are not anticipated. Construction of these projects would increase access to parts of the project areas, potentially increasing the risk of disturbance to cultural resources in some areas. In addition, erosion resulting from soil disturbance during construction of these

projects could also potentially impact cultural resources. The pipeline and electric line, however, are sited in existing utility corridors adjacent to existing roadways and recreational areas accessible to the public and would not, therefore, contribute to the risk of increased disturbance. In addition, measures to control wind and water erosion would be implemented to reduce disturbance to the greatest extent possible. Therefore, the project would not contribute to cumulative cultural resource impacts in the area.

IV.f. Paleontology

Construction of these projects could increase potential disturbance to unidentified paleontological resources in the area. However, because the BLM would require excavation and analysis of any paleontological resources uncovered, excavation associated with construction activities also presents an opportunity to discover more information about the paleontological record. Therefore, construction of the project would not contribute to a cumulative adverse effect to paleontological resources.

IV.g. Vegetation

Construction of one or more of the known additional projects in this area would contribute to an overall diminishment of habitat values for wildlife and native plants, and would result in temporary and permanent increases in disturbance to vegetation in the general area. However, the combined permanent impact area for the pipeline and electric transmission line is relatively small (approximately 38 acres in Nevada and 16.7 acres in California). In addition, by siting the pipeline and electric line in existing utility corridors, cumulative effects to large areas of undeveloped land from this project would be minimized. Impacts to vegetation from construction of the electric line would be primarily temporary and short-term. Furthermore, reclamation would reduce cumulative effects.

IV.h. Noxious Weeds

Construction of the proposed projects would increase vegetation clearing and soil disturbance, which could contribute to the spread of noxious weeds in the area. However, the weed control measures proposed in the Applicant-committed Practices—Noxious Weeds section of Chapter II and the *Right-of-way Reclamation and Revegetation Plan* would minimize the contribution to weed control problems in the area. With the implementation of weed controls, this project would contribute minimally to cumulative impacts.

IV.i. Wildlife

The cumulative impacts to vegetation could also affect wildlife habitat use in disturbed areas (refer to the discussion on Cumulative Impacts to vegetation). However, by siting the ROWs in existing utility corridors, which have been previously disturbed, and adjacent to existing roads, potential impacts to large areas of habitat would be minimized. In addition, the areas proposed for temporary disturbance represent a small portion of the total wildlife habitat available in the region.

Impacts to vegetation and wildlife from construction of the project would be temporary and short-term. Furthermore, the measures proposed in the Applicant-committed Practices—Wildlife section of Chapter II would reduce cumulative effects to vegetation and wildlife from this project

to minimal levels. Therefore, the project would not substantially contribute to a cumulative effect to wildlife.

The addition of the 345-kV electric transmission line across the Truckee River may increase the potential for birds striking the line. However this particular area where the line would be located does not have a known history of birds striking the existing transmission lines. Sierra Pacific would work with the BLM and/or the Nevada Division of Wildlife in the future should a problem arise.

Fisheries

For hydrostatic testing, Tuscarora would use groundwater from the Dodge Flat groundwater basin, which is the same groundwater basin that DENA proposes to use for operation of the Washoe Energy Facility. In the past year there has been substantial public review and discussion of the impact of groundwater pumping on surface water in the Truckee River and Pyramid Lake. These surface waters support important fisheries, including the endangered cui-ui and threatened Lahontan cutthroat trout. This section provides an overview of the fisheries issues associated with the Washoe Energy Facility in order to evaluate whether or not Tuscarora and Sierra Pacific's proposed facilities would contribute to a cumulative effect on these sensitive fisheries.

State Engineer's Findings

DENA applied to the Nevada State Department of Conservation and Natural Resources, Division of Water Resources for approximately 2,900 acre-feet of water to operate the proposed Washoe Energy Facility. The applications were to change the place of use and manner of use for underground water previously appropriated under Permits 46908, 57310, and 52763. The application would change the proposed manner of use from mining, milling, and domestic purposes (considered a temporary use) to industrial power generation (considered a permanent use). The State Engineer has jurisdiction over water rights in Nevada.

DENA's application for water was protested and a hearing was conducted by the State Engineer June 19 through 21, 2001. The basis for the protest was concerns expressed over the potential impacts on other water rights in the area and on the Truckee River and Pyramid Lake, including effects on the endangered cui ui fish and Lahontan cutthroat trout. An estimate was provided at the hearing that indicated DENA's groundwater pumping could result in a potential reduction in Truckee River flows from 3.0 to 3.5 cubic feet per second (Pyle, 2001). This estimate of impacts on the Truckee River was not challenged during the hearing.

Pursuant to applicable state requirements, as well as other applicable legal requirements, including the Endangered Species Act, the State Engineer considers a number of factors when making his decision. The State Engineer's technical determination is based primarily on hydrologic conditions in the water basin. NRS 533.370, Subsection 3 entitled Approval or Rejection of Application by the State Engineer: Conditions, Considerations, Procedures also requires the State Engineer to reject any application that "conflicts with existing rights or threatens to prove detrimental to the public interest." On September 27, 2001, the State Engineer issued a finding that provides for a transfer of use of 1,428.00 acre-feet annually on a permanent basis. (State Engineer's Ruling #5079 dated September 27, 2001 is incorporated by reference in this EA).

The State Engineer reaffirmed the state's policy to manage surface and ground water as distinct sources. The ruling determined that DENA's proposed use would require an allocation of permanent water rights and assessed the availability of water for permanent appropriation. The State Engineer concluded that:

“the water available for appropriation on a permanent basis must not allow the perennial yield of the Dodge Flat ground-water basin to be exceeded with long-term permits. The State Engineer concludes that by taking the perennial yield of 2,100 acre-feet and deducting the 672.00 acre-feet [BLM note: the existing permanent allocation is 672.00 acre-feet] leaves a difference of 1,428.00 acre-feet annually available from the perennial yield on a permanent basis under change Applications 66555, 66556 and 66557.”

On page 17 of Ruling #5979, the State Engineer concluded:

“The State Engineer finds, particularly in light of the decision to reduce the amount authorized for use under these change applications, that there is not substantial evidence to support the claims of the threat of an Endangered Species Act jeopardy opinion, interference with the conservation or recovery of the endangered cui-ui and threatened Lahontan cutthroat trout, adverse affects to the recreational value of Pyramid Lake, interference with the purposes for which the Pyramid Lake Indian Reservation was established, or adverse affects to the interest of the Tribe.”

“The State Engineer concludes by limiting the ground water allowed to be utilized under these permits to the amount available from the perennial yield of the ground-water basin, the use will not be detrimental to the water quality of the ground water basin or the surface-water source and will not present risk of injury to the endangered cui-ui or threatened Lahontan cutthroat trout.”

U.S. Fish and Wildlife Service Consultation

While the State Engineer has determined that 1,428 acre feet of annual groundwater pumping would not affect the endangered cui-ui or threatened Lahontan cutthroat trout, the BLM is required to consult directly with the USFWS under Section 7 of the Endangered Species Act to evaluate the potential impact on these federally listed species as discussed in the proposed action section of this chapter, under IV.i. Wildlife.

As previously discussed, Tuscarora's hydrostatic testing would require the use of 3.38 acre-feet of water. This relatively small amount of water to be used for hydrostatic testing by Tuscarora would represent a temporary, one-time use. The amount of water needed for testing is so small that impacts on the groundwater are not expected nor can they be measured. As a result, the one-time use of 3.38 acre-feet of water by Tuscarora would not contribute to an adverse cumulative impact to the cui-ui and Lahontan cutthroat trout.

On January 12, 2001, the USFWS sent a letter to DENA, which concluded that: “Based on the information provided, we believe that the project as proposed will not affect the Truckee River or the listed fish which occur therein” (Williams, 2001a). At the time of the letter, the project

proposed to pump 3,000 acre-feet of water per year from the Dodge Flat basin. After reviewing additional information presented to the USFWS by the Pyramid Lake Paiute Tribe, the USFWS issued a second letter to DENA on June 12, 2001, which indicated that the USFWS would revisit the issue during Section 7 consultation with the BLM on the pipeline and powerline projects (Williams, 2001b). This consultation is ongoing.

IV.j. Noise

Because the Wadsworth Lateral would not be located near very many residences, construction of the project would not contribute to a cumulative impact to noise levels. The operation of the pipeline would not result in any cumulative adverse noise impacts due to the depth at which the pipeline is buried. Noise associated with operation of the valve and meter stations, including the booster unit, is typically negligible and would result in minimal impact to residences located within 0.5 mile of the ROW. Construction of the compressor stations would not result in cumulative effects because no other projects are proposed in the vicinity.

IV.k. Range

The only other projects that could contribute to a cumulative permanent effect would be existing projects located on lands previously used for range, such as the Butcher Boy Mine, and the proposed Washoe Energy Facility. Intermittent operations at the Butcher Boy Mine would not be expected to affect more than 100 acres at a time, taking into account BLM requirements to reclaim and reseed specified amounts of the disturbed land before continuing further land disturbance from mining (Randolph, 2001). As such, these operations would be considered a minimal contribution to cumulative impacts to grazing in the area. Since the Washoe Energy Facility is the only other proposed project located in the Olinghouse Allotment, the combined impact to this allotment would be less than 180 acres (including approximately 37 acres from the proposed project and 40 acres from the Washoe Energy Facility), or less than 1 percent. Permanent impacts to the Mustang/Spanish Springs Allotment would be less than one acre and would be considered minimal. As a result, the proposed project's contribution to cumulative range impact in the project area would be considered slight.

IV.l. Visual Resources

Permanent visual impacts from these projects would occur in some portions of the project area. The Wadsworth Lateral and associated valve and meter station sites would contribute little to the cumulative loss of aesthetic value of the area because the pipeline would be underground, the valve and meter station sites are relatively small facilities, and the project is located in an area previously disturbed by pipeline construction. The White Horse to Tracy 345-kV Line, with the use of non glare metal structures, would contribute little to cumulative effects because it would be located in an existing utility corridor parallel to existing lines, generally in a remote area. The non glare material would be considerably less noticeable than the existing aluminum structures when viewed from the major travel routes in the area.

The White Horse Substation and a portion of the 345-kV transmission line would be located adjacent to the Washoe Energy Facility, thereby increasing cumulative effects. Both of these facilities would be visible from Highway 447. However, as discussed in the Environmental Impacts section of Chapter IV, the degree of contrast would be "moderate" to "weak." In

addition, the close proximity of the White Horse Substation to the Washoe Energy Facility would make it appear as one facility. As a result, the net effect of the facilities would be no greater than if only the Washoe Energy Facility was constructed. Therefore, because the proposed temporary and net permanent disturbance of the project would be small and the substation would be similar in appearance to the Washoe Energy Facility, it would contribute only minimally to cumulative impacts from these other projects in the area.

IV.m. Air Quality

The only other projects that could occur during the same timeframe as the project are the Tahoe-Reno Industrial Center, the Washoe Energy Facility, the Eagle-Picher Celatom Mine, and the Butcher Boy Mine. Washoe County and NDEP Bureau of Air Quality require all projects that disturb more than 1 acre of land to prepare a dust control plan for review and approval prior to construction. Therefore, all other projects would be required to implement appropriate dust control measures during construction. In addition, potential impacts associated with pipeline and electric transmission line construction would be mitigated. As a result, the project would not contribute to a cumulative air quality impact.

The proposed booster unit would be located within the fenced Paiute Interconnect Meter Station site adjacent to the existing Paiute meter station. It would be a minor source under Washoe County Air Quality Management District (“AQMD”) rules and would be required to meet BACT requirements. The predicted emissions from the booster unit would have a minimal effect on air quality and the ability to maintain air quality standards and PSD increments. Tuscarora would file for an Authority to Construct and a Permit to Operate the booster unit with the Washoe County AQMD. Because the unit would have low emissions, it would not contribute to a cumulative air quality impact.

IV.n. Water Quality

Impacts to water resources from other projects in the vicinity could occur as a result of sediment or pollution discharges to waterways or disturbance to wetlands. Because neither the pipeline nor the electric line would permanently impact water resources, and temporary impacts would be mitigated, it would not contribute to a cumulative impact on water resources in the area. The 3.38 acre-feet of water that would be used to hydrostatically test the Wadsworth Lateral would be withdrawn from the same groundwater basin that would supply water for operation of the Washoe Energy Facility. However, this relatively small amount of water that would be used for hydrostatic testing would represent a temporary, one-time use that would contribute slightly to impacts to groundwater resources. The Nevada Department of Conservation and Natural Resources, Division of Water Resources, has jurisdiction over water rights in Nevada and would consider cumulative impacts when authorizing water use for the Washoe Energy Facility.

IV.o. Floodplains

Because this project would have no effect on floodplains, it would not contribute to a cumulative effect.

IV.p. Wetlands/Riparian

The measures proposed in the Applicant-committed Practices—Wetlands/Riparian section of Chapter II would fully mitigate the minimal, temporary impacts that may occur to the one wetland that is crossed by the pipeline. Wetlands would not be impacted by the electric transmission line. Therefore, no cumulative impacts to wetland resources would occur.

IV.q. Wastes and Hazardous Materials

The cumulative impact of the proposed project to the Reno metropolitan waste stream would be a very small percentage of the total waste generated in the metropolitan area. No new facilities would be needed to accommodate the waste generated from the project. As a result, the project would contribute minimally to a cumulative impact.

IV.r. Socioeconomics

The proposed project would result in beneficial impacts to socioeconomics because it would provide additional power, natural gas, and tax income to the area. The other projects in the area would also likely have a positive effect by fostering economic growth. As a result, the project would contribute to a cumulative positive socioeconomic effect.

IV.s. Environmental Justice

Because this project would have no impact on environmental justice, it would not contribute to an adverse cumulative effect.

IV.t. Native American Religious Concerns

No cumulative impacts are anticipated.

IV.u. Indian Trust Assets

The proposed project would potentially affect land resources related to Indian Trust assets primarily through potential cumulative impacts resulting from the siting of the proposed Washoe Energy Facility on private lands adjacent to the Pyramid Lake Paiute Reservation in the Dodge Flat area. The potential cumulative impacts projected from the use of ground water for the Washoe Energy Facility are described under the Cumulative Impacts section of Chapter IV, IV.i. Wildlife, on page 140 of this document.

f. Monitoring

The monitoring described in the Applicant-committed Practices section of Chapter II is sufficient for this action.

Additional descriptions of proposed monitoring would be included in the specific plans, as appropriate.

CHAPTER V - CONSULTATION AND COORDINATION

a. List of Preparers

BLM – Carson City Field Office

Terry Randolph – Team Lead, Lands and Realty, Socioeconomics
Terri Knutson – Air Quality, Environmental Justice, National Environmental Policy Act
Coordination
Peggy Waski – Cultural Resources, Native American Consultation
Jim DeLaureal – Noxious Weeds, Soils
Jim Schroeder – Water Resources, Wetland/Riparian
William R. Brigham – Wildlife, Threatened and Endangered Species, Migratory Birds
Pete Raffetto – Vegetation, Livestock
Desna Young – Recreation, Visual Resources
Terry Newman – Hazardous Wastes
Neal Brecheisen – Minerals
Charles Pope – Management Input
Richard Conrad – Management Input

FERC

Alisa Lykens, Environmental Project Manager, Biologist
Laurie Boros, Archaeologist
Terry Turpin, Environmental Engineer

Essex Environmental

Lynette Curthoys, Planning and Training Director
Anne Marie Roeser, Senior Associate
Donna Lindquist, Senior Associate
Kevin Kilpatrick, Planning Associate
Dan Artho, Planning Associate
Stacey Atella, Planning Associate
Armen Keochekian, Planning Associate

Stantec Consulting, Inc.

Mark Morberg, Project Coordinator
Glen Armstrong, GIS Coordinator

Kelly Biological Consulting

Micki Kelly, Plant Ecologist/Wetland Biologist

JBR Environmental Consultants, Inc.

Catherine Clark, Manager, Reno Office
Richard Duncan, Biologist
Amy Linnerooth, Biologist

Far Western Anthropological Research Group, Inc.

Kelly McGuire, Principal Investigator for Cultural Resources
D. Craig Young, Field Director for Cultural Resources

Westech Environmental Services, Inc.

Lisa Larsen, Senior Botanist
Dean Culwell, Senior Botanist
Gary Schoolcraft, Senior Botanist

TetraTech EM Inc.

Eric Farstad, Senior Meteorologist
Mari Willis, Senior Engineer
Darrell Sawyers, Engineer
Aaron Mann, Senior Scientist

b. Persons, Groups, or Agencies Consulted

All letters and comments received during the scoping process for this EA are included in the ROW case files at the BLM Carson City, Nevada office. In addition, following is a list of persons, groups, or agencies consulted:

Cosentino Consulting
Duke Energy North America, LLC
Lassen County Community Development Department
Modoc County Planning Department
Nevada Division of Environmental Protection
Nevada Division of Wildlife
Nevada Natural Heritage Program
Nevada State Engineers Office
Pipeline Technologies, Inc.
Pyramid Lake Paiute Tribe
Reno-Sparks Indian Colony
Sierra Pacific Power Company
Storey County Building and Planning Department
Truckee Meadows Regional Planning Agency
Tuscarora Gas Transmission Company
U.S. Bureau of Reclamation
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
Washoe County Department of Community Development
Washoe Tribe of Nevada and California
Yerington Paiute Tribe
Honey Lake Maidu
United Maidu Nation
Pit River Tribal Council (Hammawi Band)
Klamath Tribes
Susanville Rancheria

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Attachment A: Legal Descriptions

Legal Descriptions

Nevada

Wadsworth Lateral

The Wadsworth Lateral traverses private lands, Bureau of Land Management (BLM)- and Bureau of Reclamation (BOR)-managed public lands.

The route begins on private property and proceeds through the following aliquot parts of sections:

T20N, R22E

SEC 21 NW $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$

The pipeline leaves private property and continues onto BLM-managed public land.

T20N, R22E

SEC 22 NW $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$

The pipeline leaves BLM-managed public land and continues onto private property.

T20N, R22E

SEC 23 NW $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$

The pipeline leaves private property and continues onto BLM-managed public land.

T20N, R22E

SEC 24 SW $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$

The pipeline leaves BLM-managed public land and continues onto BOR-managed public land.

T20N, R22E

SEC 24 NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$

The pipeline leaves BOR-managed public land and continues onto private property.

T20N, R23E

SEC 19 LOT 1, NE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$

The pipeline leaves private property and continues onto BOR-managed public land.

SEC 20 NW $\frac{1}{4}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$

The pipeline leaves BOR-managed public land and continues onto private property.

SEC 21 NW $\frac{1}{4}$ NW $\frac{1}{4}$

The pipeline leaves private property and continues onto BLM-managed public land.

T20N, R23E

SEC 16 LOT 1, LOT 2, LOT 3, LOT 4, NE $\frac{1}{4}$ SE $\frac{1}{4}$

The pipeline leaves BLM-managed public land and continues onto private property.

T20N, R23E

SEC 15 NW $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$

The pipeline leaves private property and continues onto BLM-managed public land.

T20N, R23E

SEC 14 NW $\frac{1}{4}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$

SEC 11 SE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$

The pipeline leaves BLM-managed public land and continues onto private property.

T20N, R23E

SEC 11 N $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$

The pipeline leaves private property and continues onto BLM-managed public land.

T20N, R23E

SEC 12 NW $\frac{1}{4}$ NW $\frac{1}{4}$

The pipeline leaves BLM-managed public land and continues onto private property.

T20N, R23E

SEC 1 SW $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, LOT 2,
LOT 1

The pipeline leaves private property and continues onto BLM-managed public land.

T21N, R23E

SEC 36 LOT 7

The pipeline leaves BLM-managed public land and continues onto private property.

T21N, R24E

SEC 31 LOT 4, LOT 3, LOT 2, LOT 1

The pipeline leaves private property and continues onto BLM-managed public land.

T21N, R23E

SEC 36 NE $\frac{1}{4}$ NE $\frac{1}{4}$

The pipeline leaves BLM-managed public land and continues onto private property.

T21N, R23E

SEC 25 SE $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$

White Horse to Tracy 345-kV Line Project

The White Horse to Tracy 345-kV Line Project traverses private lands and BLM-managed public lands. The route begins on private property and proceeds through the following aliquot parts of sections:

T21N, R23E

SEC 25 NE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$

The power line leaves private property and continues onto BLM-managed public land.

T21N, R23E

SEC 26 LOT 1, LOT 2, LOT 3, LOT 4, LOT 5, LOT 12

The power line leaves BLM-managed public land and continues onto private property.

T21N, R23E

SEC 27 SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$

The power line leaves private property and continues onto BLM-managed public land.

T21N, R23E

SEC 34 LOT 2, LOT 3, LOT 6, LOT 5, LOT 12, LOT 13

The power line leaves BLM-managed public land and continues onto private property.

T21N, R23E

SEC 33 SE $\frac{1}{4}$ SE $\frac{1}{4}$

The power line leaves private property and continues onto BLM-managed public land.

T20N, R23E

SEC 4 LOT 1, LOT 2, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$

The power line leaves BLM-managed public land and continues onto private property.

T20N, R23E

SEC 9 NW $\frac{1}{4}$ NW $\frac{1}{4}$

The power line leaves private property and continues onto BLM-managed public land.

T20N, R23E

SEC 8 NE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$,
SW $\frac{1}{4}$ SW $\frac{1}{4}$

The power line leaves BLM-managed public land and continues onto private property.

T20N, R23E

SEC 7 SE $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$

The power line leaves private property and continues onto BLM-managed public land.

T20N, R23E

SEC 18 NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, LOT 1, LOT2

The power line leaves BLM-managed public land and continues onto private property.

T20N, R22E

SEC 13 SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$

The power line leaves private property and continues onto BLM-managed public land.

T20N, R22E

SEC 14 SE $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$

The power line leaves BLM-managed public land and continues onto private property.

T20N, R22E

SEC 23 NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$

The power line leaves private property and continues onto BLM-managed public land.

T20N, R22E

SEC 22 SE $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$

The power line leaves BLM-managed public land and continues onto private property.

T20N, R22E

SEC 27 NE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$

SEC 28 NE $\frac{1}{4}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$

SEC 33 NW $\frac{1}{4}$ NE $\frac{1}{4}$

California

Radar Compressor Station

Located within the following described aliquot parts:

T45N, R6E

SEC 21 NE $\frac{1}{4}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$,

Likely Compressor Station

Located within the following described aliquot part:

T40N, R13E

SEC 17 SE $\frac{1}{4}$ SW $\frac{1}{4}$

Shoe Tree Compressor Station

Located within the following described aliquot parts:

T31N, R15E

SEC 27 SW $\frac{1}{4}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$,

Appendix A: Project Land Requirements Tables and Figures

Table A1 – Summary of Permanent Tuscarora 2002 Expansion Project Facilities that would be Constructed

Table A2 – Proposed Access Routes for the Tuscarora 2002 Expansion Project

Table A3 – Summary of Permanent White Horse to Tracy 345-kV Line Facilities that would be Constructed

Table A4 – Proposed Access Routes for the White Horse to Tracy 345-kV Line Project

Figure A1 – Pipe Storage Area 2

Figure A2 – Disposal Site 1

Table A1
Summary of Permanent Tuscarora 2002 Expansion Project Facilities that would be Constructed

Facility	Length	Width	Land Disturbance		County, State
			During Construction (acres)	During Operation (acres)	
Wadsworth Lateral	14.2 miles	50 feet ¹	146.4	0	Washoe and Storey counties, Nevada
Wadsworth Tap	100 feet	100 feet	0.23	0.23	Washoe County, Nevada
Paiute Interconnect Meter Station	200 feet	120 feet	0.76	0.55	Washoe County, Nevada
Washoe Meter Station	100 feet	100 feet	0.23	0.23	Washoe County, Nevada
Radar Compressor Station	— ²	— ²	10.0	5.6	Modoc County, California
Radar Compressor Station permanent access road	2,325 feet	25 feet	— ³	1.3	Modoc County, California
PacifiCorp powerline extension	3,000 feet	35 ⁴ feet	4.1 ⁵	0	Modoc County, California
Likely Compressor Station	— ²	— ²	10.0	4.3	Modoc County, California

¹ The permanent easement for the Wadsworth Lateral is 50 feet; however, the construction ROW is 85 feet (50 feet plus 35 feet of temporary workspace). The land disturbance also includes temporary extra workspace.

² Dimensions vary on each side.

³ A portion of the temporary construction work area would be located within the 10-acre compressor station work area.

⁴ Engineering and routing of the powerline extension has not been finalized. However, for estimating purposes it was assumed that a 60-foot-wide temporary construction right-of-way ("ROW) and a 35-foot-wide permanent easement would be used.

⁵ A portion of the temporary construction work area would be located within the 10-acre compressor station work area. However, engineering and routing has not been finalized to determine the amount.

Facility	Length	Width	Land Disturbance		County, State
			During Construction (acres)	During Operation (acres)	
Likely Compressor Station permanent access road	700 feet	25 feet	— ⁴	0.4	Modoc County, California
Likely Compressor Station suction and discharge piping	700 feet	100 feet	— ⁴	0	Modoc County, California
Surprise Valley powerline extension	500 feet	— ⁶	— ⁴	— ⁷	Modoc County, California
Surprise Valley powerline underbuild	3,500 feet	35 ⁵ feet	4.8 ⁶	0	Modoc County, California
Citizens Utilities telephone line extension	5,280 feet	— ⁷	— ⁶	— ⁸	Modoc County, California
Shoe Tree Compressor Station	— ²	— ²	10.0	5.0	Lassen County, California
Shoe Tree Compressor Station permanent driveway	100 feet	25 feet	— ⁸	Less than 0.1	Lassen County, California
Shoe Tree Compressor Station suction and discharge piping	200 feet	100 feet	— ⁹	0	Lassen County, California
Citizens Utilities telephone line extension	100 feet	— ⁹	— ⁹	— ¹⁰	Lassen County, California

⁶ The powerline would be installed in the new permanent access road at the Likely Compressor Station.

⁷ The telephone line would be installed in both the existing county road and the new permanent access road.

⁸ The temporary construction work area would be located within the 10-acre compressor station work area.

⁹ The telephone line would be installed in the permanent driveway.

**Table A2
Proposed Access Routes for the Tuscarora 2002 Expansion Project**

Access Road Number	Current Road Conditions			Improvements Needed	Comments
	Width (feet)	Status	Type		
<i>Wadsworth Lateral</i>					
AR1	15	Improved	Dirt	Light blading	
AR2	15	Improved	Dirt	Light blading	
AR3	15	Improved	Dirt	Light blading	Existing operations and maintenance road for Paiute pipeline system
AR3a	15	Improved	Dirt	Light blading	
AR3b	15	Improved	Paved	None	Old highway
AR4	25	Improved	Paved/ Gravel	Light blading	Existing operations and maintenance road for Paiute pipeline system
AR4a	20	Improved	Gravel	None	Existing access road adjacent to Interstate 80
AR5	25	Improved	Gravel	Light blading	Existing operations and maintenance road for Paiute pipeline system
AR6	25	Improved	Gravel	None	
AR7	15	Improved	Dirt	Light blading and widening	
AR7a	15	Improved	Dirt	Light blading	

Access Road Number	Current Road Conditions			Improvements Needed	Comments
	Width (feet)	Status	Type		
<i>Compressor Stations</i>					
C1AR1	15	Unimproved	Dirt	Widening and gravel	Existing jeep trail would be improved and maintained as a permanent access road to the Radar Compressor Station
C1AR2	25	Improved	Gravel	None	
C2AR1	25	Improved	Paved	None	County Road 189
C2AR2	25	Improved	Paved	None	County Road 187A
C2AR3	—	—	—	Blading and gravel	New permanent access road to Likely Compressor Station
C3AR1	25	Improved	Dirt	Light blading and gravel	County Road (Deep Cut Road)

Table A3
Summary of Permanent White Horse to Tracy 345-kV Line Facilities that would be Constructed

Facility	Length	ROW Width	Land Disturbance		County, State
			During Construction (acres)	During Operation (acres)	
345-Kilovolt Electric Transmission Line	12.0 miles	160 feet	72 ¹	<1 ²	Washoe and Storey counties, Nevada
Electric Transmission Line tap and fold	2.5 miles	320 feet	18 ¹	<1 ²	Washoe County, Nevada
White Horse Substation	600 feet	400 feet	5.5	5.5	Washoe County, Nevada

¹ Areas of disturbance during construction for the 345-kV line and the tap and fold lines assume that a total of 60 delta tower structures and 20 3-mast structures would be installed. The areas of disturbance for construction were estimated at 0.5 acres for each delta tower structure and 2 acres for each 3-mast structure; however, probable disturbance areas would be much less at each site. Ten wire pull sites are also included as 2 acres for each site.

² Permanent land disturbance from the tower structures would result only from the tower footings and the anchor points for each guy wire, each of which would be approximately 2 square feet.

**Table A4
Proposed Access Routes for the White Horse to Tracy 345-kV Line Project**

Access Road Number	Current Road Conditions			Land Disturbance		Improvements Needed	Comments
	Width (feet)	Status	Type	During Construction (acres)	During Operation (acres)		
New access road	30	—	—	30.6	0	Blading and hydro-axing; erosion and sediment control	Temporary road within ROW from MP 0.4 to MP 1.0 and MP 7.0 to MP 12.0 on flat to rolling topography.
Spur roads	30	—	—	31.0	31.0 ¹	Blading; erosion and sediment control	Various permanent roads from existing Valmy-Tracy line maintenance road to tower locations in difficult topography. Between MP 1.0 and MP 7.0.
AR8	15	Unimproved	Dirt	0	0	Light blading if needed	Existing Valmy-Tracy line maintenance road
AR9	30	Improved	Gravel	0	0	—	Olinghouse Canyon Mine Road
AR10	15	Unimproved	Dirt	0	0	Light blading if needed	

¹ Spur road acreages were based on an estimated 30 spur roads established for construction at an average length of 1,500 feet per road. Actual spur road locations and distances would be dependent on tower structure locations and topographic conditions at each location.

Appendix B: Land Use Authorization Table

**Table B1
Land Use Authorizations**

Serial Number	Type	Authorized User	Relationship to ROW		Township	Range	Section
			Wadsworth Lateral	Duke 345-kV Line			
N24394	Power transmission line ROW ¹ —FLPMA ² (varying width)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	22 E	14
N7639	Power transmission line ROW—FLPMA (140 feet wide)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	22 E	14
N50172	Acquired—FLPMA (60 feet wide)	Bureau of Land Management/ Tracy Company	Within and/or adjacent	—	20 N	22 E	21
N20776	Telephone/telegraph ROW—FLPMA (varying width)	Nevada Bell	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22
N21089	Telephone/telegraph ROW—FLPMA (40 feet wide)	Nevada Bell	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22
N24394	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22
N25152	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22
N55315	Oil/gas pipeline ROW (50 feet wide)	Paiute Pipeline Company	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22

¹ Right-of-way (“ROW”)

² Federal Land Policy and Management Act (“FLPMA”)

Serial Number	Type	Authorized User	Relationship to ROW		Township	Range	Section
			Wadsworth Lateral	Duke 345-kV Line			
N58689	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22
N59799	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22
N61475	Power transmission line ROW (40 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22
N7639	Power transmission line ROW—FLPMA (140 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	Within and/or adjacent	20 N	22 E	22
N20776	Telephone/telegraph ROW—FLPMA (varying width)	Nevada Bell	Within and/or adjacent	—	20 N	22 E	24
N21089	Telephone/telegraph ROW—FLPMA (40 feet wide)	Nevada Bell	Within and/or adjacent	—	20 N	22 E	24
N25152	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	22 E	24
N52960	Telephone/telegraph ROW (40 feet wide)	Nevada Bell	Within and/or adjacent	—	20 N	22 E	24
N58689	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	—	20 N	22 E	24
N61475	Power transmission line ROW (40 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	22 E	24

Serial Number	Type	Authorized User	Relationship to ROW		Township	Range	Section
			Wadsworth Lateral	Duke 345-kV Line			
N65550	Telephone/telegraph ROW—FLPMA (20 feet wide)	Williams Communications Inc.	Within and/or adjacent	—	20 N	22 E	24
N44040	Federal Aid Highway—Section 17 (varying width)	Nevada Department of Transportation	—	Within and/or adjacent	20 N	22 E	28
N48707	Federal road ROW (20 feet wide)	Bureau of Land Management	—	Within and/or adjacent	20 N	22 E	28
N49561	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	22 E	28
N56838	Power transmission line ROW—FLPMA (50 feet wide)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	22 E	28
N5933	Power transmission line ROW—FLPMA (25 feet wide)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	22 E	28
N59799	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	—	Within and/or adjacent	20 N	22 E	28
N24394	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	23 E	4
N7639	Power transmission line ROW—FLPMA (140 feet wide)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	23 E	4
4079	Water well	Bureau of Land Management range project	—	Within and/or adjacent	20 N	23 E	4

Serial Number	Type	Authorized User	Relationship to ROW		Township	Range	Section
			Wadsworth Lateral	Duke 345-kV Line			
N24394	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	23 E	8
N7639	Power transmission line ROW—FLPMA (140 feet wide)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	23 E	8
N58689	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	—	20 N	23 E	11
N61475	Power transmission line ROW (40 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	23 E	11
N58689	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	—	20 N	23 E	12
N61475	Power transmission line ROW (40 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	23 E	12
N62022	Road ROW (50 feet wide)	Alta Gold Company	Within and/or adjacent	—	20 N	23 E	12
3504	Fenceline	Bureau of Land Management range project	Within and/or adjacent	—	20 N	23 E	14
N58689	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	—	20 N	23 E	14
N61475	Power transmission line ROW (40 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	23 E	14

Serial Number	Type	Authorized User	Relationship to ROW		Township	Range	Section
			Wadsworth Lateral	Duke 345-kV Line			
N25152	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	23 E	16
N58689	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	—	20 N	23 E	16
N61475	Power transmission line ROW (40 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	23 E	16
N24394	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	23 E	18
N7639	Power transmission line ROW—FLPMA (140 feet wide)	Sierra Pacific Power Company	—	Within and/or adjacent	20 N	23 E	18
N20776	Telephone/telegraph ROW—FLPMA (varying width)	Nevada Bell	Within and/or adjacent	—	20 N	23 E	20
N25152	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	23 E	20
N43850	Material site, Section 17	Nevada Department of Transportation	Within and/or adjacent	—	20 N	23 E	20
N44014	Material site, Section 17	Nevada Department of Transportation	Within and/or adjacent	—	20 N	23 E	20
N45372	Federal aid highway, Section 17 (varying width)	Nevada Department of Transportation	Within and/or adjacent	—	20 N	23 E	20

Serial Number	Type	Authorized User	Relationship to ROW		Township	Range	Section
			Wadsworth Lateral	Duke 345-kV Line			
N46550	Federal aid highway, Section 17 (varying width)	Nevada Department of Transportation	Within and/or adjacent	—	20 N	23 E	20
N58689	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	—	20 N	23 E	20
N61475	Power transmission line ROW (40 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	—	20 N	23 E	20
N65550	Telephone/telegraph ROW—FLPMA (20 feet wide)	Williams Communications Inc.	Within and/or adjacent	—	20 N	23 E	20
N21089	Telephone/telegraph ROW—FLPMA (40 feet wide)	Nevada Bell	Within and/or adjacent	Within and/or adjacent	20 N	23 E	20
N24394	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	—	Within and/or adjacent	21 N	23 E	26
N7639	Power transmission line ROW—FLPMA (140 feet wide)	Sierra Pacific Power Company	—	Within and/or adjacent	21 N	23 E	26
N24394	Power transmission line ROW—FLPMA (varying width)	Sierra Pacific Power Company	—	Within and/or adjacent	21 N	23 E	34
N38420	Water facility ROW (50 feet wide)	Nevada Land and Resource Company	—	Within and/or adjacent	21 N	23 E	34
N51086	Road ROW (50 feet wide)	Washoe County	—	Within and/or adjacent	21 N	23 E	34

Serial Number	Type	Authorized User	Relationship to ROW		Township	Range	Section
			Wadsworth Lateral	Duke 345-kV Line			
N62023	Power transmission line ROW—FLPMA (25 feet wide)	Alta Gold Company	—	Within and/or adjacent	21 N	23 E	34
N7639	Power transmission line ROW—FLPMA (140 feet wide)	Sierra Pacific Power Company	—	Within and/or adjacent	21 N	23 E	34
N28999	Oil/gas pipeline facility sites ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	—	21 N	23 E	36
N58689	Oil/gas pipeline ROW (50 feet wide)	Southwest Gas Corporation	Within and/or adjacent	—	21 N	23 E	36
N61475	Power transmission line ROW (40 feet wide)	Sierra Pacific Power Company	Within and/or adjacent	—	21 N	23 E	36
N62022	Road ROW (50 feet wide)	Alta Gold Company	Within and/or adjacent	—	21 N	23 E	36

Appendix C: Vegetation Resource Tables

Table C1 – Special-status Plant Taxa with Potential to Occur in the Project Area

Table C2 – Plant Species Designated as Noxious Weeds by the Nevada Bureau of Land Management

Table C1
Special-status Plant Taxa with Potential to Occur in the Project Area

Species	Federal Listing Status ¹	NNHP Listing Status ¹	CNPS Listing Status ¹	Habitat Associations and Taxa Ecology ²	Occurrence Potential on the Wadsworth Lateral	Occurrence Potential on the White Horse to Tracy Line	Occurrence Potential at the Compressor Stations	Occurrence in Study Area
Twin arnica <i>Arnica sororia</i>	-	-	CNPS2/ R2E1D1	Perennial. Occurs in northern juniper woodland, Great Basin scrub, yellow pine forest, open places, (las, mod, mon, northern NV, OR, WA) (up to 2,000 meters). Flowers May to August.	Potential habitat is present.	Potential habitat is present	Potential habitat is present. Observed on Tuscarora mainline at MP 94 (1998).	Not observed during surveys.
Margaret's rushy milkvetch <i>Astragalus convallarius</i> var. <i>margaretiae</i>	-	G5T2/S2	-	Sparsely leaved perennial. Occurs in sagebrush, pinyon-juniper woodland, (Pine Nut Mountains, Virginia Range, Iyo, dou, sto, was) (1,575 to 2,750 meters). Flowers May to June.	Potential habitat is present.	Potential habitat is present	Potential habitat is present.	Not observed during surveys.
Geyer's milkvetch <i>Astragalus geyeri</i> var. <i>geyeri</i>	C		CNPS2/ R3E3D1	Slender annual, occasionally persists into 2 nd season, stabilized sand in Great Basin chenopod scrub, alkali playas (iny, las, mon, NV, OR, WA). Flowers May to August.	No suitable habitat is present.	No suitable habitat is present.	Observed on the Tuscarora mainline at MP 150.9 (1993 to 1995, 1998).	Not observed during surveys.
Lavin's milkvetch <i>Astragalus oophorus</i> var. <i>lavinii</i>	FSC/FS S/ FW/N	G4T2/S2	CNPS1B/ R3E2D2	Perennial. Occurs in open or sandy hillsides, sagebrush, in pinyon-juniper woodland, oak brush, ponderosa pine forest, (dou, Iyo, was, mon). Flowers May to July.	Potential habitat is present.	Potential habitat is present	Potential habitat is present.	Not observed during surveys.

Species	Federal Listing Status ¹	NNHP Listing Status ¹	CNPS Listing Status ¹	Habitat Associations and Taxa Ecology ²	Occurrence Potential on the Wadsworth Lateral	Occurrence Potential on the White Horse to Tracy Line	Occurrence Potential at the Compressor Stations	Occurrence in Study Area
Sukdorf's milkvetch <i>Astragalus pulsiferae</i> var. <i>suksdorfii</i>	FC2/FS C/C	T3?G4/S1	G4T3/S3?/ CNPS1B/ R3E1D2	Perennial. Occurs in Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland, volcanic or clay soil, often gravelly or rocky, (las, mod, plu, sha, was, NV, OR, WA) (1,300 to 1,930 meters). Flowers April to August.	Marginal habitat, outside of known range. Only NV occurrence in Granite Range of north-central Washoe.	Marginal habitat, outside of known range. Only NV occurrence in Granite Range of north-central Washoe.	Potential habitat is present.	Not observed during surveys.
Falcata saltbush <i>Atriplex gardneri</i> var. <i>falcata</i>	*	*	*	Sub shrub-shrub. Occurs in shadscale, low chenopod scrub, subalkaline soils, (las, mod, NV, WA). Flowers June to August.	Marginal habitat, outside of known range. Occurs in northern was and elk.	Marginal habitat, outside of known range. Occurs in northern was and elk.	Observed on the Tuscarora mainline at MP 143.8 (1993 to 1995, 1998).	Not observed during surveys.
Long-haired star-tulip <i>Calochortus longebarbatus</i> var. <i>longebarbatus</i>	FC2		G4T4S3.2/ CNPS1B/ R1E2D1	Open areas in ponderosa pine forest, seeps (mod, sha, sis, OR, WA) (965 to 1,900 meters). Flowers June to August.	Marginal habitat, outside of known range. Occurs in northern CA, OR, and WA. Not known from NV.	No suitable habitat is present.	Observed on the Tuscarora mainline at MP 39 and MP 41.4 (1993 to 1995, 1998).	Not observed during surveys.
Sheldon's carex <i>Carex sheldonii</i>	-	-	G4S2.2/ CNPS2/ R2E1D1	Perennial with rhizomes. Occurs in lower montane coniferous forest, marshes and swamps, riparian scrub, mesic sites, along creeks in wet meadows, (known to occur on the edge of Fitzhugh Creek, plu, pla, mod, OR, ID) (1,065 to 1,755 meters). Flowers July to August.	Potential habitat in the oxbow wetland. Outside of known range. Not known from NV.	Outside of known range. Not known from NV.	No suitable habitat is present.	Not observed during surveys.

Species	Federal Listing Status ¹	NNHP Listing Status ¹	CNPS Listing Status ¹	Habitat Associations and Taxa Ecology ²	Occurrence Potential on the Wadsworth Lateral	Occurrence Potential on the White Horse to Tracy Line	Occurrence Potential at the Compressor Stations	Occurrence in Study Area
Nodding buckwheat <i>Eriogonum nutans</i> var. <i>nutans</i>	-	-	G5T3T4S 2.3/ CNPS2/ R2E2D1	Annual. Occurs in greasewood, sandy, gravelly sites in Great Basin scrub, (las, mod, OR, NV, UT) (1,220 to 3,000 meters). Flowers May to October. Has been observed June to September.	Potential habitat is present.	Potential habitat is present	Observed on the Tuscarora mainline at MP 159 (1993 to 1995).	Not observed during surveys.
Prostrate buckwheat <i>Eriogonum prociduum</i>	FSC/FC 2/N/C	G3/S1	CNPS1B/ R2E2D2	A caespitose perennial with a densely branched caudex. Occurs on barren, light volcanic slopes in Great Basin scrub and northern juniper woodland, (east of Eagleville in Surprise Valley, las, mod, NV, OR) (1,300 to 2,500 meters). Flowers May to July.	Potential habitat is present.	Potential habitat is present	No suitable habitat is present.	Not observed during surveys.
Altered andesite buckwheat <i>Eriogonum robustum</i>	FSC/N	G2G3Q/ S2S3	-	A branched, tufted perennial. Occurs on gravelly slopes in altered andesite habitat, (was, sto) (1,345 to 2,230 meters). Flowers May to July. Has been observed May to September.	Suitable habitat is present.	Suitable habitat is present	No suitable habitat is present.	Not observed during surveys.
Sierra Valley ivesia <i>Ivesia aperta</i> var. <i>aperta</i>	N/C	G2/T2/S1	CNPS1B/ R2E2D2	An herbaceous perennial. Occurs in pinyon-juniper woodland, lower coniferous forest, dry rocky meadows, Great Basin scrub, volcanic, and wetlands, (las, plu, sie, southern was, sto) (1,300 to 2,225 meters). Flowers June to August.	Potential habitat is present.	Potential habitat is present	Potential habitat is present.	Not observed during surveys.
Webber's ivesia <i>Ivesia webberi</i>	FSC/FC 2/N/C	G2/S2	CNPS1B/ R3E3D2	An herbaceous perennial. Occurs in barren areas, low sagebrush scrub, volcanic ash, and lower coniferous forests, (plu, sie, was, NV) (1,220 to 1,815 meters). Flowers June to August. Has been observed January to June.	Potential habitat is present.	Potential habitat is present	Marginal habitat is present.	Not observed during surveys.

Species	Federal Listing Status ¹	NNHP Listing Status ¹	CNPS Listing Status ¹	Habitat Associations and Taxa Ecology ²	Occurrence Potential on the Wadsworth Lateral	Occurrence Potential on the White Horse to Tracy Line	Occurrence Potential at the Compressor Stations	Occurrence in Study Area
Henderson's lomatium <i>Lomatium hendersonii</i>	-	R3E1D1	G5?S2.2/ CNPS2	Perennial. Occurs in pinyon-juniper woodland, Great Basin scrub, stony hilltops, rocky, heavy clay soils, (las, mod, central and southern OR ID, NV) (1,400 to 2,440 meters). Flowers March to June.	Potential habitat is present.	Potential habitat is present	Observed on the Tuscarora mainline at MP 90.5 (1993 to 1995).	Not observed during surveys.
Raven's lomatium <i>Lomatium ravenii</i>	-	R1E2D1	G4S3.2/ CNPS4	Perennial with grayish herbage. Occurs in Great Basin Scrub, open areas, slightly alkaline flats, and poorly drained soils. Often with <i>Artemisia tridentata</i> and <i>Grayia</i> , (las, euk, lan, nye, ID, OR, UT) (1,000 to 3,000 meters). Flowers April to June.	Potential habitat is present.	Potential habitat is present	Potential habitat is present.	Not observed during surveys.
Lilliput lupine <i>Lupinus uncialis</i>	-	-	G4S2.2/ CNPS2/ R2E2D1	Annual. Occurs in Great Basin scrub, pinyon-juniper woodland. Sometimes associated with <i>Cryptantha</i> and <i>Eriogonum</i> , open hilltops, bluffs, barrens, or talus, on limestone, rhyolite, and volcanic ash, (mod, was, chu, nye, OR) (1,300 to 2,400 meters). Flowers May to July.	Potential habitat is present.	Potential habitat is present	Observed on the Tuscarora mainline from MP 66.5 to MP 79 (1993 to 1995, 1998).	Not observed during surveys.
Sand cholla <i>Opuntia pulchella</i>	-	G4/S2S3/CY	CNPS2/ R2E2D1	Perennial. Occurs in sand dunes, dry lake borders, valleys, plains, washes, sandy flats, (chu, dou, esm, lan, lin, min, nye, per, was, east of the Sierra Nevada in CA, AZ, UT) (1,500 to 1,700 meters). Flowers May to June.	Observed on an access road in NE ½ of NW ¼ of Section 28, Township 20 North ("T20N"), Range 22 East ("R22E").	Observed on an access road in NE ½ of NW ¼ of Section 28, Township 20 North ("T20N"), Range 22 East ("R22E").	No suitable habitat is present.	Observed during surveys, as discussed in the results section below.

Species	Federal Listing Status ¹	NNHP Listing Status ¹	CNPS Listing Status ¹	Habitat Associations and Taxa Ecology ²	Occurrence Potential on the Wadsworth Lateral	Occurrence Potential on the White Horse to Tracy Line	Occurrence Potential at the Compressor Stations	Occurrence in Study Area
Slender orcutt grass <i>Orcuttia tenuis</i>	FT, CE		R2E3D3, CNPS1B	Vernal pools (lak, las, sha, the) (200 to 1,100 meters).	No suitable habitat is present.	No suitable habitat is present.	No suitable habitat is present.	Not observed during surveys.
Nevada oryctes <i>Oryctes nevadensis</i>	FSC/N/C	G2/S3	CNPS2/R3E3D2	Annual. Occurs in open sandy washes in chenopod scrub and Mojave Desert scrub, (iny, esm, min, chu, per) (1,190 to 1,800 meters). Flowers May to June.	Potential habitat is present. Known occurrences near Wadsworth in T24N, R24E.	Potential habitat is present. Known occurrences near Wadsworth in T24N, R24E.	No suitable habitat is present.	Not observed during surveys.
Dwarf lousewort <i>Pedicularis centranthera</i>	C		G4S1.2/CNPS2/R3E1D1	Pinyon-juniper and mountain mahogany, ponderosa pine forest, Great Basin scrub, alluvial fans, dry, ashy loam, (southeastern mod, eastern las, northern two-thirds of NV, AZ, OR, UT) (1,300 to 1,500 meters). Flowers April to June.	No suitable habitat is present.	No suitable habitat is present.	Potential habitat is present.	Not observed during surveys.
Playa phacelia <i>Phacelia inundata</i>	FSC	G2G3/S2?	G2S1.2/CNPS2/R2E1D1	Annual. Occurs on dried edges of alkali lakes, occasionally Great Basin scrub, lower montane coniferous forest, playas, inundated clay soils, (las, mod, northwestern NV, OR) (1,330 to 2,000 meters). Flowers June to August.	Marginal habitat is present.	Marginal habitat is present.	Observed in 1980 along Highway 395 south of Deep Creek crossing.	Not observed during surveys.
Moss phlox <i>Phlox muscoides</i>	-	-	G4S2S3/CNPS2/R2E1D1	Cushion like perennial. Occurs in subalpine coniferous forest, great basin scrub, open rocky slopes, (Mount Lassen, northwest mod, northeast sik, hum, lan, nye, OR, WA, UT) (1,270 to 2,700 meters). Flowers May to June.	Potential habitat is present.	Potential habitat is present.	Marginal habitat is present.	Not observed during surveys.

Species	Federal Listing Status ¹	NNHP Listing Status ¹	CNPS Listing Status ¹	Habitat Associations and Taxa Ecology ²	Occurrence Potential on the Wadsworth Lateral	Occurrence Potential on the White Horse to Tracy Line	Occurrence Potential at the Compressor Stations	Occurrence in Study Area
William's combleaf <i>Polycytenium williamsiae</i>	FC2/FS S/S	CE/G1/S1	CNPS1B/R3E2D2	Cespitose perennial. Occurs in vernal moist swales and ponds, (foothills of little Washoe Lake, Virginia Range, NV) (1,730 to 2,710 meters). Flowers May to June. Has been observed March to July.	Marginal habitat is present.	Marginal habitat is present.	Marginal habitat is present.	Not observed during surveys.
Spiny milkwort <i>Polygala subspinosa</i>	-	-	G4?S3.2/CNPS2/R2E2D1	Shrub. Occurs in Great Basin scrub, pinyon-juniper woodland, volcanic mesas, gravelly soils, (las, AZ, NM, western NV, UT) (1,270 to 1,705 meters). Flowers May to July.	Potential habitat is present.	Potential habitat is present.	Observed on the Tuscarora mainline at MP 135, MP 136, MP 138, MP 142, MP 146, and MP 149.5 (1993 to 1995, 1998).	Not observed during surveys.
Eel-grass pondweed <i>Potamogeton zosteriformis</i>	-	-	G5S2.2?/CNPS2/R2E2D1	Occurs in freshwater marshes, swamps, ponds, lakes, and streams, (cca, lak, las, mod, plu, sha, OR, WA). Flowers June to September.	Potential habitat is present.	Potential habitat is present.	No suitable habitat is present.	Not observed during surveys.
Newberry's cinquefoil <i>Potentilla newberryi</i>	-	-	G3G4 S2.3?/CNPS2/R2E1D1	Annual to short-lived perennial, rosette from taproot. Occurs in marshes, swamps, receding shorelines, drying mud around marsh margins, (las, mod, was, hum, OR, WA) (1,290 to 2,200 meters). Flowers June to July.	Potential habitat is present.	Potential habitat is present.	No suitable habitat is present.	Not observed during surveys.
Green flowered prince's plume <i>Stanleya viridiflora</i>	-	-	G4S1S2/CNPS2/R3E1D1	Perennial. Occurs in cliffs, shale, clay knolls, Great Basin sagebrush, white ash deposits, (las, northwestern NV, southeastern OR to southwestern MT, northeastern UT). Flowers March to August.	Potential habitat is present.	Potential habitat is present.	Observed on the Tuscarora mainline at MP 139.9, MP 142 (1993 to 1995, 1998).	Not observed during surveys.

Species	Federal Listing Status ¹	NNHP Listing Status ¹	CNPS Listing Status ¹	Habitat Associations and Taxa Ecology ²	Occurrence Potential on the Wadsworth Lateral	Occurrence Potential on the White Horse to Tracy Line	Occurrence Potential at the Compressor Stations	Occurrence in Study Area
Tiehm's stroganowia <i>Stroganowia tiehmii</i>	FSC/N	G2/S2	-	Perennial, 4-6 dm. NV endemic. Only "new world" member of Asiatic genus, Brassicaceae. Steep, rocky slopes, crevices in metamorphosed rocks, sagebrush, (3 known locations: Table Mountain between the Pine Nut Mountains and the Virginia Range, near the road from Highway 50 to Ramsey, and Tallapoosa Peak area) (1,470 to 1,880 meters). Flowers May to June.	Potential habitat is present.	Potential habitat is present.	No suitable habitat is present.	Not observed during surveys.
Thousand flowered thelypodium <i>Thelypodium milleflorum</i>	-	-	G5S2S3/ CNPS2/ R2E2D1	Biennial. Occurs in sandy sites in Great Basin sagebrush, (mod, las, northern and central WA, OR, ID, UT) (1,300 to 2,500 meters). Flowers April to June.	Potential habitat is present.	Potential habitat is present.	Observed on the Tuscarora mainline at MP 150.8 (1993 to 1995, 1998).	Not observed during surveys.

Sources: BLM CA, 1998; BLM NV, 1998; BLM, 2000; CDFG, 2001; USFWS, 2000; NNHP, 2001; FERC and State Lands Commission, 1995; FERC, 2000.

¹

Federal and U.S. Forest Service

- FT Federally threatened
- FSC Considered a federal special concern species by the U.S. Fish and Wildlife Service
- FC2 Under review, insufficient information
- FSS Considered a sensitive species by the U.S. Forest Service ("USFS")
- FW Watch list for Region 5 (Inyo National Forest) USFS

Bureau of Land Management Species Classification

- S Nevada special-status species (USFWS-listed, proposed, or candidate for listing, or protected by Nevada state law)
- N Nevada special-status species: designated sensitive by State Office
- C California special-status species: designated sensitive by State Office
- P Proposed Nevada special-status species

California Native Plant Society ("CNPS")

CNPS List

- CNPS1B Plant rare, threatened, or endangered in California and elsewhere
- CNPS2 Plant rare, threatened, or endangered in California, but more common elsewhere

Global and State Rank (Global rank indicator based upon worldwide distribution at the species level)

- G3 21-100 Eos or 3,000-10,000 individuals or 10,000-50,000 acres

- G4 Apparently secure; rank is lower than G3 but factors exist to cause concern
- G5 Population or stand demonstrably secure to ineradicable due to being commonly found in the world
- T T-rank reflects the global situation of the subspecies, G-rank reflects the situation of the species
- S1 Less than 6 Eos or less than 1,000 individuals or less than 2,000 acres
 - S1.2 Threatened
- S2 6-20 Eos or 1,000–3,000 individuals or 2,000-10,000 acres
 - S2.2 Threatened
- S3 21-100 Eos or 3,000–10,000 individuals or 10,000-50,000 acres
 - S3.2 Threatened
- S2S3 Rank is between S2 and S3
- ? “?” Represents more uncertainty than ranking such as S2S3
- * “*” Not presently listed, may meet the criteria for listing, range not fully understood

CNPS R-E-D

- R1 Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time
- R2 Distributed in a limited number of occurrences, occasionally more if each occurrence is small
- R3 Distributed in one to several occurrences, or present in such small numbers that it is seldom reported
- E1 Not endangered
- E2 Endangered in a portion of its range
- E3 Endangered throughout its range
- D1 More or less widespread outside California
- D2 Rare outside California
- D3 Endemic to California

Nevada Division of Forestry

- CE Critically endangered (Nevada Revised Statute 527.260–527.300)

Nevada Natural Heritage Program Ranks (Endangered, Threatened, and Sensitive Vascular Plants of Nevada, 2001)

- G Global rank indicator (based upon worldwide distribution at the species level)
- T Trinomial rank indicator (based upon worldwide distribution at the infraspecific level)
- S State rank indicator (based upon distribution within Nevada at the lowest taxonomic level)
 - 1 Critically imperiled due to extreme rarity, imminent threats, or biological factors
 - 2 Imperiled due to rarity or other demonstrable factors
 - 3 Rare and local throughout its range, or with very restricted range, or otherwise vulnerable to extinction
 - 4 Apparently secure, though frequently quite rare in parts of its range, especially at its periphery
 - 5 Demonstrably secure, though frequently quite rare in parts of its range, especially at its periphery
 - ? “?” Represents more uncertainty than ranking such as S2S3
- CY Protected as a cactus, yucca, or Christmas Tree (Nevada Revised Statute 527.060-.120)
- Q Taxonomic status questionable or uncertain

2

Distribution - county and state symbols

- CA cca: Contra Costa, iny: Inyo, lak: Lake, mod: Modoc, mon: Mono, plu: Plumas, sha: Shasta, sie: Sierra, sik: Siskiyou
- NV chu: Churchill, dou: Douglas, esm: Esmeralda, elk: Elko, euk: Eureka, hum: Humboldt, lan: Lander, lin: Lincoln, lyn: Lyon, min: Mineral, nye: Nye, per: Pershing, sto: Storey, was: Washoe
- AZ Arizona CO Colorado NV Nevada UT Utah
- CA California ID Idaho OR Oregon WA Washington

Table C2
Plant Species Designated as Noxious Weeds
by the Nevada Department of Agriculture

Common Name	Scientific Name
African rue	<i>Peganum harmala</i>
Austrian fieldcress	<i>Rorippa austriaca</i>
Austrian peaweed	<i>Sphaerophysa salsula</i> <i>Swainsona salsula</i>
Black henbane	<i>Hyoscyamus niger</i>
Camelthorn	<i>Alhagi camelorum</i>
Common crupina	<i>Crupina vulgaris</i>
Dyer's woad	<i>Isatis tinctoria</i>
Eurasian water-milfoil	<i>Myriophyllum spicatum</i>
Goats rue	<i>Galega officinalis</i>
Klamath weed	<i>Hypericum perforatum</i>
Poison hemlock	<i>Conium maculatum</i>
Water hemlock	<i>Cicuta maculata</i>
Carolina horse nettle	<i>Solanum carolinense</i>
White horse nettle	<i>Solanum elaeagnifolium</i>
Diffuse knapweed	<i>Centaurea diffusa</i>
Russian knapweed	<i>Centaurea repens</i>
Spotted knapweed	<i>Centaurea masculosa</i>
Squarrose knapweed	<i>Centaurea virgata</i> Lam. Var. <i>squarrose</i>
Leafy spurge	<i>Euphorbia esula</i>
Mayweed chamomile	<i>Anthemis cotula</i>
Mediterranean sage	<i>Salvia aethiopsis</i>
Medusahead	<i>Taeniatherum caput-medusae</i>
Perennial pepperweed or tall whitetop	<i>Lepidium latifolium</i>
Puncture vine	<i>Tribulus terrestris</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Rush skeletonweed	<i>Chondrilla juncea</i>

Common Name	Scientific Name
Saltcedar (tamarisk)	<i>Tamarix ramosissima</i>
Sulfur cinquefoil	<i>Potentilla recta</i>
Canada thistle	<i>Cirsium arvense</i>
Musk thistle	<i>Carduus nutans</i>
Scotch thistle	<i>Onopordum acanthium</i>
Sow thistle	<i>Sonchus arvensis</i>
Iberian star thistle	<i>Centaurea iberica</i>
Purple star thistle	<i>Centaurea calcitrapa</i>
Yellow star thistle	<i>Centaurea solstitialis</i>
Toadflax, Dalmatian	<i>Linaria dalmatica</i>
Toadflax, yellow	<i>Linaria vulgaris</i>
Whitetop or hoary cress	<i>Cardaria draba</i>
<p>Sorghum species, perennial, including but not limited to:</p> <ul style="list-style-type: none"> - Johnson grass - Sorghum Alum - Perennial sweet sudan 	

Appendix D: Special-status Wildlife Resources

Table D1 – Special-status Wildlife with the Potential to Occur in the Project Area

**Table D1
Special-status Wildlife with the Potential to Occur in the Project Area**

Species	Listing Status ¹	Survey Results		
		Wadsworth Lateral	White Horse to Tracy 345-kV Line	Compressor Stations
Nevada viceroy <i>Limenitis archippus lahontani</i>	NV-BLM	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Not applicable to the compressor station sites
Carson Valley silverspot <i>Speyeria nokomis</i> ssp.	NV-BLM	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Not applicable to the compressor station sites
Lahontan cutthroat trout <i>Oncorhynchus clarki henshawi</i>	FT	Suitable habitat is present within 150 feet of Contractor Yard 1; species assumed to be present	Suitable habitat is present within 150 feet of MP 0.1 and the Material Yard; species assumed to be present	Not applicable to the compressor station sites
Modoc Sucker <i>Catostomus microps</i>	FE	No suitable habitat is present. Not likely to affect.	Not applicable	No suitable habitat is present. Not likely to affect
Shortnose sucker <i>Chasmistes brevirostris</i>	FE	No suitable habitat is present. Not likely to affect.	Not applicable	No suitable habitat is present. Not likely to affect
Lost River sucker <i>Deltistes luxatus</i>	FE	No suitable habitat is present. Not likely to affect.	Not applicable	No suitable habitat is present. Not likely to affect

¹

State of California Designations:

- CA-E State of California Endangered Species
- CA-T State of California Threatened Species
- CDFG-S California Department of Fish and Game (“CDFG”) Special Concern Species
- CDFG-P CDFG Protected
- CDFG-FP CDFG Fully Protected

State of Nevada Designations:

- NV-E State of Nevada Endangered Species
- NV-T State of Nevada Threatened Species
- NV-P State of Nevada Protected Species
- NV BLM Nevada Bureau of Land Management (BLM) Special Status Species

Federal Designations:

- FE Federally Endangered
- FT Federally Threatened
- FPE Federally Proposed for Listing as Endangered
- FPT Federally Proposed for Listing as Threatened

Species	Listing Status ¹	Survey Results		
		Wadsworth Lateral	White Horse to Tracy 345-kV Line	Compressor Stations
Cui-ui <i>Chasmistes cujus</i>	FE	Not likely to affect	Not likely to affect	Not applicable
Bald eagle <i>Haliaeetus leucocephalus</i>	FT	Not likely to affect	Not likely to affect	Not likely to affect
Cooper's hawk <i>Accipiter cooperi</i>	CDFG-S, NV-P	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Suitable habitat present; no species observed
Sharp-shinned hawk <i>Accipiter striatus</i>	CDFG-S, NV-P	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Suitable habitat present; no species observed
Golden eagle <i>Aquila chrysaetos</i>	CDFG-FP, CDFG-S, NV-P, NV-BLM	A nest and pair of chicks observed approximately 0.2 mile south of MP 2.1	A nest and pair of chicks observed approximately 0.4 mile south of MP 2.5	Suitable habitat present; no species observed
Northern spotted owl <i>Strix occidentalis caurina</i>	FT	Not applicable	Not applicable	Not likely to affect
Short-eared owl <i>Asio flammeus</i>	CDFG-S, NV-P	No suitable habitat is present	No suitable habitat is present	Suitable habitat present; no species observed
Long-eared owl <i>Asio otus</i>	CDFG-S, NV-P	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Suitable habitat present; no species observed
Burrowing owl <i>Athene cunicularia hypugea</i>	CDFG-S, NV-P	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Suitable habitat present; no species observed
Ferruginous hawk <i>Buteo regalis</i>	CDFG-S, NV-P	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Suitable habitat present; no species observed
Swainson's hawk <i>Buteo swainsoni</i>	CA-T, NV-P	No suitable habitat is present	No suitable habitat is present	A pair observed flying near the Radar Compressor Station, no nest site observed
Greater sage grouse <i>Centrocercus urophasianus</i>	CDFG-S, NV-BLM	Suitable habitat present; no species observed	Suitable habitat present; potential lek observed approximately 0.4 mile east of MP 6.7	Suitable habitat present; no species observed

Species	Listing Status ¹	Survey Results		
		Wadsworth Lateral	White Horse to Tracy 345-kV Line	Compressor Stations
Northern harrier <i>Circus cyaneus</i>	CDFG-S, NV-P	No suitable habitat is present	No suitable habitat is present	Suitable habitat present; no species observed
Merlin <i>Falco columbarius</i>	CDFG-S, NV-P	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Suitable habitat present; no species observed
Prairie falcon <i>Falco mexicanus</i>	CDFG-S, NV-P	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Suitable habitat present; no species observed
Greater sandhill crane <i>Grus canadensis tabida</i>	CA-T, CDFG-FP	Not applicable to the Wadsworth Lateral	Not applicable to the White Horse to Tracy 345-kV Line	Suitable habitat present; no species observed
Loggerhead shrike <i>Lanius ludovicianus</i>	CDFG-S	Not applicable to the Wadsworth Lateral	Not applicable to the White Horse to Tracy 345-kV Line	Suitable habitat present; no species observed
Long-billed curlew <i>Numenius americanus</i>	CDFG-S	Not applicable to the Wadsworth Lateral	Not applicable to the White Horse to Tracy 345-kV Line	A group observed flying over the Shoe Tree Compressor Station, no nest site observed
Mountain quail <i>Oreortyx pictus</i>	NV-BLM	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Not applicable to the compressor station sites
Pygmy rabbit <i>Brachylagus idahoensis</i>	CDFG-S	Not applicable to the Wadsworth Lateral	Not applicable to the White Horse to Tracy 345-kV Line	Suitable habitat present; no species observed
Spotted bat <i>Euderma maculatum</i>	CDFG-S, NV-T	Suitable habitat present; no species observed	Suitable habitat present; no species observed	No suitable habitat is present
White-tailed hare <i>Lepus townsendii</i>	CDFG-S	Not applicable to the Wadsworth Lateral	Not applicable to the White Horse to Tracy 345-kV Line	Suitable habitat present; no species observed
Western small-footed myotis <i>Myotis ciliolabrum</i>	NV-BLM	Species observed near MP 4.0	Species observed near MP 4.5	Not applicable to the compressor station sites
Fringed myotis <i>Myotis thysanodes</i>	NV-BLM	Suitable habitat present; no species observed	Suitable habitat present; no species observed	Not applicable to the compressor station sites
Yuma myotis <i>Myotis yumanensis</i>	CDFG-S, NV-BLM	Species observed near MP 4.0	Species observed near MP 4.5	No suitable habitat is present

Species	Listing Status ¹	Survey Results		
		Wadsworth Lateral	White Horse to Tracy 345-kV Line	Compressor Stations
Pale Townsend's big-eared bat <i>Plecotus (Corynorhinus) townsendii pallescens</i>	CDFG-S, NV-BLM	No species observed	No species observed	No suitable habitat is present

Appendix E: Visual Resources Data and Simulations

Appendix F: Public Safety

Reliability and Safety

Wadsworth Lateral

The pipeline and metering facilities associated with the Tuscarora 2002 Expansion Project would be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas pipeline accidents and failures. Part 192 of the DOT regulations specifies material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion.

Part 192 also defines area classifications, based on population density in the vicinity of the pipeline, which determine more rigorous safety requirements for populated areas. The class location unit is an area that extends 220 yards on either side of the centerline of any continuous one-mile length of pipeline. The four area classifications are defined as follows:

- Class 1—Location with 10 or fewer buildings intended for human occupancy.
- Class 2—Location with more than 10 but less than 46 buildings intended for human occupancy.
- Class 3—Location with 46 or more buildings intended for human occupancy or where the pipeline lies within 100 yards of any building, or small, well-defined outside area occupied by 20 or more people during normal use.
- Class 4—Location where buildings with four or more stories aboveground are prevalent.

Pipe wall thickness, pipeline design pressures, hydrostatic test pressures, maximum allowable operating pressure, inspection and testing of welds, and frequency of pipeline patrols and leak surveys must conform to higher standards in more populated areas. The majority of the pipeline route would require Class 1 pipe, with Class 3 pipe being used at regulating/meter station locations (Title 49 CFR Part 192). No Class 2 or Class 4 locations have been identified to date.

In addition to Tuscarora's continuous operations and maintenance program, Tuscarora would also follow the DOT regulations, prescribing the minimum standards for operating and maintaining pipeline facilities, including the requirement to establish a written plan governing these activities. Under Section 192.615, each pipeline operator must establish an emergency plan that includes written procedures to minimize the hazards in a natural gas pipeline emergency. Key elements of the plan include procedures for:

- receiving, identifying, and classifying emergency events, gas leakage, fires, explosions, and natural disasters;
- establishing and maintaining communications with local fire, police, and public officials, and coordinating emergency response;
- making personnel, equipment, tools, and materials available at the scene of an emergency;
- protecting people first and then property, and making them safe from actual or potential hazards; and

- emergency shutdown of system and safe restoration of service.

Part 192 of the DOT regulations requires that each operator must establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline emergency, and to coordinate mutual assistance. The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a natural gas pipeline emergency and report it to appropriate public officials.

Pipeline Accident Data

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If inhaled in high concentration, oxygen deficiency can result in serious injury or death. Methane has an ignition temperature above 1,000 degrees Fahrenheit and is flammable at concentrations between 5 percent and 15 percent in air. Unconfined mixtures of methane in air are not explosive. However, a flammable concentration within an enclosed space in the presence of an ignition source can explode. It is buoyant at atmospheric temperatures and disperses rapidly in air.

Since February 9, 1970, 40 CFR Part 191 has required all operators of transmission and gathering systems to notify the DOT of specific types of incidents that occurred during operation of the natural gas transmission and gathering systems nationwide. The DOT changed reporting requirements after June 1984 to reduce the amount of data collected. However, because the 1970 to 1984 period provides a larger universe of data and more basic report information than subsequent years, and has been subject to detailed analysis, it is discussed below.

From February 1970 through June 1984, the dominant incident cause was outside forces, constituting 53.5 percent of all service incidents. Outside forces incidents result from the encroachment of mechanical equipment, such as bulldozers and backhoes; from earth movements, due to soil settlement, washouts or geologic hazards; from weather effects, such as winds, storms, and thermal strains; and from willful damage. An analysis of the outside forces incidents shows that human error in equipment usage was responsible for approximately 75 percent of outside forces incidents. Since April 1982, operators have been required to participate in "One Call" public utility programs in populated areas to minimize unauthorized excavation activities in the vicinity of pipelines. The "One Call" program is a service used by public utilities and some private sector companies (e.g., oil pipelines and cable television) to provide preconstruction information to contractors or other maintenance workers on the underground location of pipes, cables, and culverts. More recent 1991 through 1997 data show that incidents caused by outside forces has decreased to 41.2 percent.

The frequency of service incidents is strongly dependent on pipeline age. While pipelines installed since 1950 exhibit a fairly constant level of service incidents frequency, pipelines installed before that time have a significantly higher rate. Older pipelines have a higher frequency of corrosion incidents, since corrosion is a time-dependent process. Further, new pipe

generally uses more advanced coatings and cathodic protection to reduce corrosion potential. The use of both an external protective coating and a cathodic protection system, required on all pipelines installed after July 1971, significantly reduces the rate of failure compared to unprotected or partially protected pipe. Older pipelines also have a higher frequency of outside forces incidents partly because their location may be less well known and less well marked than newer lines. In addition, the older pipelines contain a disproportionate number of smaller diameter pipelines, which are more easily crushed or broken by mechanical equipment or earth movement.

The available data show that natural gas pipelines continue to be a safe, reliable means of energy transportation. Based on approximately 311,000 miles in service, the rate of public fatalities for the nationwide mix of transmission and gathering lines in service is 0.009 per 1,000 miles per year. Application of the industry-wide average to the 20.7 miles of proposed pipeline would result in a public fatality approximately every 5,367 years. This would represent a negligible increase in risk to the nearby public.

Compressor Stations

As with the proposed pipeline lateral, the compressor stations would be designed, constructed, operated, and maintained in accordance with 49 CFR Part 192 requirements. Gas piping at the stations would be of high strength steel with a wall thickness meeting Class 3 requirements (0.5 design factor). The compressor stations would have automatic emergency shutdown systems. These systems include: flame detection and gas detection as well as fire suppression in the compressor building.

Compressor station piping would be protected from over-pressurization by means of relief valves and high-pressure detection shutdown devices. The compressor station piping would also be protected with venting systems to facilitate safe blowdown of gas from the piping. Standard fire fighting equipment would be maintained at the compressor station sites in the form of hand-held or wheeled dry chemical fire extinguishers in accordance with the National Fire Prevention Association Code 17, Volume 1 (1998).

White Horse to Tracy 345kV Line Project

The electric facilities required to connect the Washoe Energy Facility to the transmission grid would be designed, constructed, operated and maintained to meet the requirements of the latest edition of the National Electric Safety Code ("NESC"). Part 2 of the NESC rules contain basic provisions considered necessary for the practical safeguarding of persons during the installation, operation or maintenance of electric supply and communication lines and associated equipment.

NESC provisions include requirements for vertical and horizontal clearance between conductors and the ground or to other facilities or equipment for various voltage classes; climbing and working space; conductor grades; conductor and structure load requirements; strength requirements for line components; and line insulation levels.

In addition, Sierra Pacific maintains written safety procedures for the operation and maintenance of electric facilities. In the event there is a conflict between Sierra Pacific and NESC provisions, the most stringent requirement would be applicable. Sierra Pacific and Nevada Power Company

(“NPC”) are committed to a continuous reduction in workplace accidents and have significantly “raised the bar” in setting annual safety performance metrics. Sierra Pacific and NPC jointly track Occupational Safety and Hazards Act (“OSHA”) recordables, incident rates, and severity rates. For the year 2000, the companies jointly reported 129 total OSHA reportable accidents; a 4.26 incident rate; and a 9.35 severity rate.

From a public perspective, the greatest hazard related to overhead power facilities is line contacts and the associated risk of electrocution. Most line contacts can be associated with construction activities around or under energized overhead lines when equipment booms or other tools are raised into the line. NRS 455.200 through 455.220 specifically address high voltage overhead lines. The NRS specifically prohibits any non-utility company entity from conducting any activities that could result in any tool or material being moved within a distance of 10 feet from an overhead power line energized at 50kV or less and a progressively greater minimum clearance distance at higher voltages. With prior authorization, the utility may allow work to be performed in close proximity to the energized power line and, as a condition of consent, may reasonably limit the time, place and manner of the work to preserve public safety; require the placement of temporary mechanical barriers; or temporarily disconnect power to the line. In the case of the construction of new utility facilities, the new lines and substation equipment would not be energized until all precautions and provisions for public safety are in place, such as the completion of fencing and grounding.