ANNUAL SITE ENVIRONMENTAL REPORT
FOR CALENDAR YEAR 2005

United States Department of Energy
Western Area Power Administration
Environment
12155 W. Alameda Parkway
Lakewood, Colorado 80228

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2005 ANNUAL SITE ENVIRONMENTAL REPORT
WESTERN AREA POWER ADMINISTRATION

EXECUTIVE SUMMARY

This document outlines the accomplishments and status of the environmental program of the Western Area Power Administration (Western) for calendar year 2005.

In 2005, Western submitted 190 reports to state and local emergency response personnel and had 60 California Hazardous Materials Business Plans in place as required under the Emergency Planning and Community Right-to-Know Act. These reports identify the hazardous substances contained at these sites. At sites where potential oil spills could harm surrounding ecosystems and waterways, Western prepares Spill Prevention, Control, and Countermeasure (SPCC) plans. These plans identify measures to prevent spills from harming the environment, such as identifying the need for secondary containment at facilities. Western currently has SPCC plans for 154 facilities in 13 states. In 2005, Western updated 19 SPCC plans and prepared one new plan. Western operated under 107 environmental permits in 2005.

Western evaluates the impact of its planned actions on the environment by preparing National Environmental Policy Act documentation. In 2005, Western completed or was working on 60 categorical exclusions, 18 environmental assessments and eight environmental impact statements, issued six Findings of No Significant Impact, and prepared four Mitigation Action Plans. Western held several public workshops/meetings and consulted with 70 American Indian Tribes for various projects. In 2005, Western was working on or had completed 11 Section 7 consultations under the Endangered Species Act.

In 2005, Western recycled more than 3,600 metric tons of electrical equipment, mineral oil dielectric fluid, asphalt, fluorescent and metal halide light bulbs, wood poles and crossarms, and other items as well as office waste. Western made $437,816 worth of purchases containing recovered content materials.

Western met the requirement of Executive Order 13148, Greening the Government through Leadership in Environmental Management to have its Environmental Management System in place by December 31, 2005.

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List of Acronyms and Abbreviations

CAA	Clean Air Act (42 U.S.C. § 7401 et seq. (1970))
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. § 9601 et seq. (1980))
CFC	chlorofluorocarbon
CRSP	Colorado River Storage Project
CWA	Clean Water Act (33 U.S.C. § 1251 et seq. (1977))
CX	categorical exclusion
DOE	U.S. Department of Energy
EA	environmental assessments
EIS	environmental impact statement
EMS	Environmental Management System
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act (42 U.S.C. § 11011 et seq. (1986))
EPRI	Electric Power Research Institute
ESA	Endangered Species Act (7 U.S.C. 136; 16 U.S.C. 460 et seq. (1973))
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 135 et seq. (1972))
FONSI	Finding of No Significant Impact
GIS	Geographical Information System
GSA	Government Service Administration
HazMat	hazardous and toxic material
HMTA	Hazardous Material Transportation Act (49 U.S.C. § 5101 et seq. (1994))
HSWA	Hazardous and Solid Waste Amendments of 1984 [see RCRA]
IVM	integrated vegetation management
kV	kilovolt
MAP	mitigation action plan
MBTA	Migratory Bird Treaty Act (16 U.S.C. § 703 et seq. (1917))
MTBE	methyl tertiary-butyl ether
MOSES	Mineral Oil Spill Evaluation System
MWh	megawatthour

NAGPRA	Native American Graves Protection and Repatriation Act (25 USC § 3001 et sec (1990))
NEPA	National Environmental Policy Act (42 U.S.C. § 4321 et sec (1969))
NHPA	National Historic Preservation Act (16 U.S.C. § 470a, et seq. (1966))
PCB	polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act (42 U.S.C. § 321 et seq. (1976))
REC	renewable energy certificate
Reclamation	U.S. Bureau of Reclamation
ROD	Record of Decision
ROW	right-of-way
SARA	Superfund Amendments and Reauthorization Act (42 U.S.C. § 9601 et seq. (1986))
SHPO	State Historic Preservation Officer
SF_6	sulfur hexafluoride gas
SPCC	spill prevention, control, and countermeasures
TSCA	Toxic Substances Control Act (15 U.S.C. § 2601 et seq. (1976))
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
Western	Western Area Power Administration

1.0 Introduction

Western Area Power Administration (Western) was established December 21, 1977, under the Department of Energy (DOE) Organization Act (Section 302 of Public Law 95-91). Western markets Federal electric power in 15 western states, encompassing a 1.3 million-square-mile geographic area (Figure 1).

Western operates and maintains about 17,000 miles of transmission, 272 substations and various other power facilities in its service territory. Western markets about 10,000 megawatts of power generated at 56 hydroelectric power-generating plants in the western United States that are operated by the U.S. Bureau of Reclamation (Reclamation), the U.S. Army Corps of Engineers (USACE), and the U.S. Section of the International Boundary and Water Commission. Western also markets the United States' entitlement from the Navajo coal-fired power plant near Page, Arizona.

In Fiscal Year 2005, Western sold about 35.5 billion kilowatt hours of electricity and generated $834.9 million in power and transmission revenues. Western sells power to 751 wholesale power customers, who, in turn, provide service to millions of retail consumers. Western's customers include rural cooperatives, municipalities, public utility districts, Federal and state agencies, irrigation districts, Native American tribes, and project use customers. Customers are located in Arizona, California, Colorado, Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Texas, Utah, and Wyoming.

Western's organization is managed from its Corporate Services Office in Lakewood, Colorado; four regional Customer Service Offices located in Billings, Montana (Upper Great Plains Region); Phoenix, Arizona (Desert Southwest Region); Loveland, Colorado (Rocky Mountain Region); and Folsom, California (Sierra Nevada Region); and the Colorado River Storage Project (CRSP) Management Center, in Salt Lake City, Utah, as shown in Figure 1. Through its power marketing and transmission program, Western secures revenues to recover operating, maintenance, and purchase power expenses to repay the Federal investment in generation and transmission facilities.

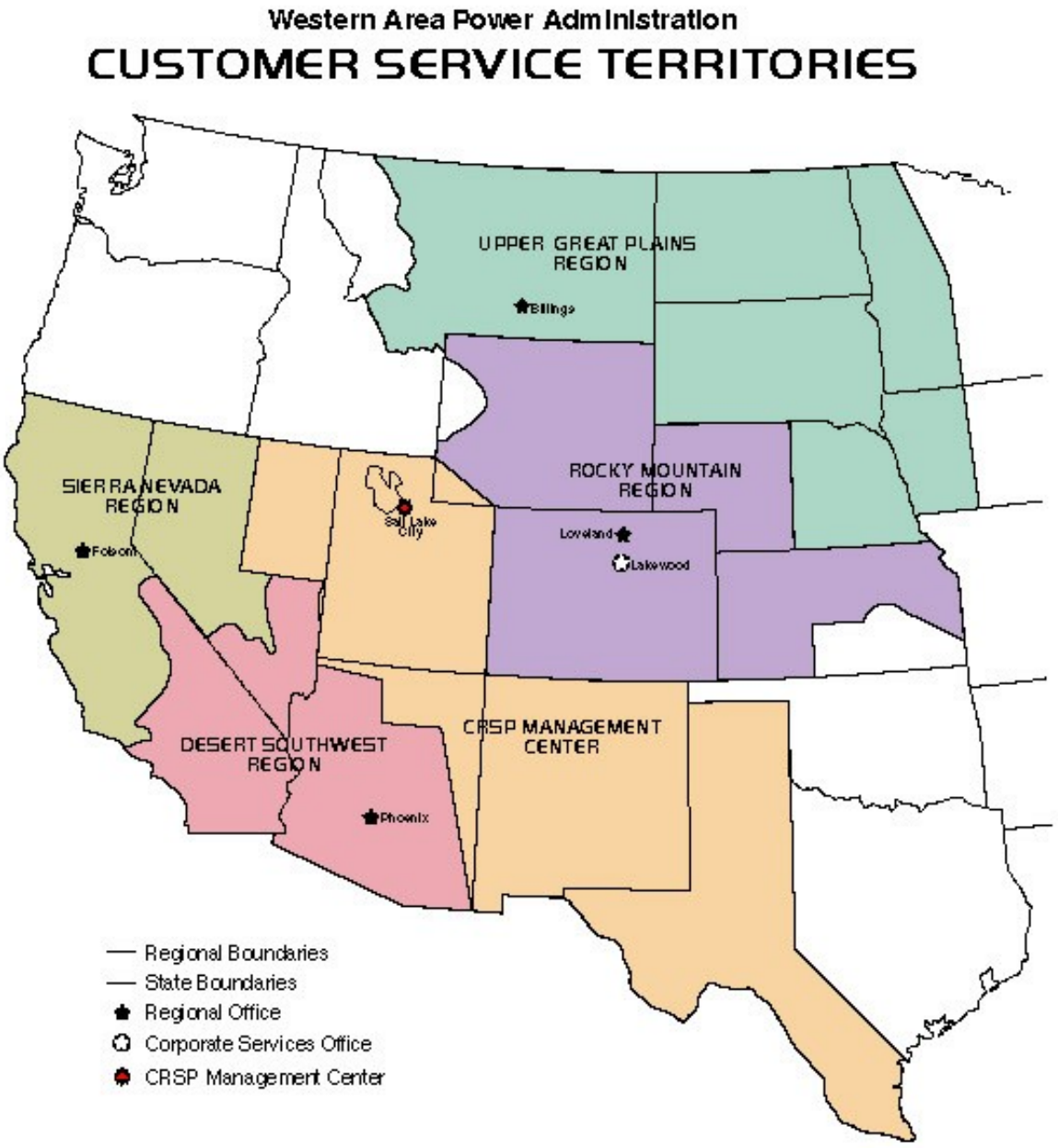

Figure 1: Western's Territory and Regional Office Location

Western's environmental program spans a broad range of environmental concerns due to the varied geographical locations and types of activities routinely performed. Western falls within the jurisdiction of six Environmental Protection Agency (EPA) regions, as well as the 15 state and numerous local jurisdictions where Western's facilities are located.

Western's facilities generate hazardous and non-hazardous waste as a byproduct of maintaining electrical equipment, warehouses, and maintenance and office facilities. Western's substations and maintenance facilities house equipment containing dielectric oil, hazardous gasses, petroleum, and other pollutants that may affect water, soil, and air resources. Western's transmission lines cross a variety of ecosystems such as forests, wetlands, grasslands, and deserts. Maintaining these transmission lines could affect sensitive biological and cultural resources. Western's Environmental Policy Statement directs employees to prevent, control, and abate environmental pollution at their facilities and when possible, enhance the environment.

Western also provides environmental review for interconnections under its Open Access Transmission Tariff (63 Federal Register 521).

This Annual Site Environmental Report meets the requirements of DOE Order 231.1A, Environment, Safety and Health Reporting.

2.0 Compliance Summary

2.1 Introduction

Many Federal and state environmental protection laws and regulations apply to Western's activities. Western's Environmental Policy directs employees on environmental matters to assure that we conform to all regulatory requirements, and to achieve our pollution prevention goals and objectives. To better achieve our environmental goals, Western formalized its environmental program by developing an Environmental Management System (EMS).

2.2 Environmental Policy Statement

In 2002, Western revised its Environmental Policy. The Policy states that:

> Western will conduct its business of marketing and delivering reliable, cost-based hydroelectric power and related services in an environmentally sound manner, efficiently and effectively complying with the letter, spirit, and intent of applicable environmental statutes, regulations, and standards. We believe protecting the environment is a sound business practice. Western is committed to pollution prevention and waste minimization.
>
> Western will use effective planning to mitigate the environmental impacts of its actions. Western is committed to continual improvement of its environmental performance by monitoring and reviewing its policies, programs, and services.
>
> Environmental protection is everyone's responsibility.

The Policy became effective on December 12, 2002. No changes were implemented in 2005; however, the Policy was updated in April 2006 to include using EMS principles as a means for achieving the goals of the Policy.

2.3 Major Environmental Regulations

Environmental regulations that require the greatest expenditure of resources are summarized here:

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides guidelines and procedures to respond to releases and threatened releases of hazardous substances, pollutants or contaminants, as well as to clean up closed and abandoned hazardous waste sites. CERCLA was reauthorized in 1986 with the Superfund Amendments and Reauthorization Act (SARA). Title III of SARA includes the Emergency Planning and Community Right-to-Know Act (EPCRA), which was designated to help local communities protect public health, safety, and the environment from chemical hazards. As part of its compliance with EPCRA requirements, Western facilities submit information under EPCRA Sections 311 and 312 (Tier I and Tier II reports) annually to state and local response entities. These reports notify state and local agencies of the inventory of hazardous chemicals at each reported facility, as well as provide emergency response information.

Resource Conservation and Recovery Act

Western produces hazardous and non-hazardous waste as a byproduct of our operations. These wastes are managed following applicable waste management laws and regulations, such as those outlined in the Resource Conservation and Recovery Act (RCRA), Hazardous and Solid Waste Amendments of 1984 (HSWA), Hazardous Material Transportation Act (HMTA), and state hazardous waste and transportation programs.

Under RCRA, Western prepares an annual Waste Minimization/Pollution Prevention report and Affirmative Procurement report. This report includes Western's effort to reduce land fill mass by recycling materials as much as possible and purchasing recycled-content materials.

EPA amended RCRA in 1995 with the Universal Waste Rule, which is designed to reduce the amount of hazardous waste items in the municipal solid waste stream, encourage recycling and proper disposal of certain common hazardous wastes, and reduce the

regulatory burden on businesses that generate these wastes. In 1999, EPA added used fluorescent, high intensity discharge, neon, mercury vapor, and high pressure sodium and metal halide lamps that contain mercury and lead to the rule. In 2005, Western applied this new rule to used batteries, lamp disposals, aerosol cans, light bulbs, electronic devices, and other waste products. See Section 5 for information on quantities of recycled materials.

Clean Air Act

The Clean Air Act (CAA) provides the principal framework for national, state, and local efforts to protect air quality. Western's primary concern is reducing air pollutants from construction activities, including the use of dust suppression and asbestos removal. Because of the age of many of our facilities, asbestos surveys are conducted prior to any construction or removal. Emergency generators and above ground petroleum/diesel tanks may require county or state air permits.

Clean Water Act

The primary responsibility of the Clean Water Act (CWA) is protecting the nation's water supply from pollutants, including planned discharges, runoff, and prevention of accidental contamination. Within the CWA requirements, Western evaluates the potential for discharges to water sources from construction and routine maintenance activities. When required, Western prepares Spill Prevention, Control, and Countermeasures (SPCC) plans for new facilities and evaluates and updates SPCC plans every three years for existing facilities.

Section 404 of the CWA governs disposal of dredged or fill material in waters of the United States. Western applies to the USACE for a permit for activities that would impact waters of the United States. Western is required to prepare storm water pollution prevention plans as part of a National Pollutant Discharge Elimination System permit for construction and maintenance activities that disturb one to five acres of land subject to the Federal Phase II Storm Water Regulations. Western monitors compliance with storm water pollution prevention plans during construction to ensure that Federal, state, and local regulations are followed.

Toxic Substances Control Act

A significant law affecting Western operations continues to be the Toxic Substances Control Act (TSCA), which regulates polychlorinated biphenyls (PCBs). PCBs have historically been a component of dielectric oil used in electrical equipment. Western's policy since 1979 has been to eliminate PCBs from its system wherever economically and operationally possible. This lessens the impact of PCB regulations on operations and the potential impact of PCBs on the environment. EPA issued a final rule which reclassified PCB and PCB-contaminated electrical equipment, and requiring Western to reevaluate, test and re-label our electrical equipment containing PCBs.

National Environmental Policy Act

Western follows the Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA, 40 CFR parts 1500-1508) and DOE Procedures for Implementing NEPA (10 CFR part 1021). DOE has delegated Western the authority to approve its own environmental assessments (EAs) and many environmental impact statements (EISs). In September 1998, Western was delegated cooperating agency determination authority, which allows Western to adopt other agency EISs where Western is a cooperating agency. Three regional managers and the CRSP manager have been delegated the authority to approve their own EAs. These delegations have shortened the environmental process and provided for project decisions to be made closer to the project level. Most of Western's routine activities are covered by categorical exclusions (CX).

Western prepares NEPA documents for contracts, rate changes, construction activities, routine maintenance, interconnections, and other activities. Western's environmental planning process includes early public, agency, and tribal involvement in proposed projects. This, along with early internal scoping of environmental issues, helps to identify potentially significant impacts. The National Historic Preservation Act (NHPA), Endangered Species Act (ESA), and Migratory Bird Treaty Act (MBTA) are addressed when a NEPA document is prepared for a project, where appropriate.

2.4 Executive Orders

As a Federal agency, Western is required to comply with Executive Orders (EO) issued by the President of the United States. A summary of some of the significant orders impacting Western is presented here:

EO 11988, Floodplain Management and 11990, Protection of Wetlands, require Federal agencies to conserve wetlands and manage floodplains where they are encountered in proposed actions. DOE requires of publishing Floodplain/Wetland involvement notices on all appropriate projects, usually as part of the NEPA process.

EO 12088, Federal Compliance with Pollution Control Standards, requires Federal agencies to comply with EPA and state and local environmental regulations. Examples of the regulations enforced at state and local levels include RCRA, community right-to-know, pesticide application and storage tank regulations. Section 1-4, "Pollution Control Plan" was replaced by pollution prevention requirements of EO 13148.

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, is designed to focus Federal attention on the environmental and human health conditions in minority and low-income communities with the goal of achieving environmental justice. Western addresses this EO in NEPA actions where appropriate.

EO 13101, Greening the Government through Waste Prevention, Recycling and Federal Acquisition, mandates that Federal agencies establish systems, schedules, plans, and goals for waste prevention, recycling, and acquisition. Western's pollution prevention plans, reports, and affirmative procurement actions are mainly in response to this order.

EO 13123, Greening the Government through Efficient Energy Management, requires Federal agencies to efficiently manage energy to minimize impacts to the environment. Western has established goals and procedures to minimize internal use of energy, maximize the use of green energy and evaluate various sources of energy to determine relative environmental impacts.

EO 13148, Greening the Government through Leadership in Environmental Management, requires Federal agencies to improve environmental performance through the use of

management systems and aggressive pollution prevention initiatives. Western self-declared its EMS in December 2005, and has a formal pollution prevention plan. The order also requires the 50-percent reduction of certain chemicals at Federal agencies by December 31, 2006. DOE is working with a multi-federal agency task force to finalize the list of chemicals.

EO 13149, Greening the Government through Federal Fleet and Transportation Efficiency, requires Federal agencies to exercise leadership to reduce petroleum consumption through fuel efficiencies, alternative fueled vehicles, and transportation strategies. Western leases alternative fueled vehicles and stocks renewable-based fuels at some locations.

EO 13175, Consultation and Coordination with Indian Tribal Governments, requires Federal agencies to establish regular and meaningful consultation and collaboration with tribal officials in developing Federal policies that have tribal implications. Western has many facilities on tribal lands and coordinates with numerous Native American tribes on projects on tribal lands, or where tribal cultures may be impacted.

EO 13212, Actions to Expedite Energy Projects, and its Amendment, EO 13302, requires Federal agencies to expedite their review of permits or take other actions to speed up such projects, while maintaining safety, public health, and environmental protections. This EO applies to Western's interconnection projects, where private proponents request to connect to the energy grid through Western's transmission system. Western has worked with the California Energy Commission and other Federal agencies to coordinate and streamline the environmental process for interconnections in California.

2.5 Department of Energy Requirements

Western complies with DOE Orders and Guidelines. Applicable environmental Orders include:

DOE Order 231.1A, Environment, Safety, and Health Reporting, sets forth the requirements and responsibilities for DOE elements to prepare annual summary reports to the Secretary of Energy on the results of environment, safety, and health assessments conducted in the previous year. These activities include NEPA planning summaries and progress on

mitigation measures, as well as an Annual Site Environmental Report. Western also developed environmental incident reporting procedures as required by the order.

DOE Order 450.1, Environmental Protection Program, requires Western to implement sound environmental stewardship practices that protect air, water, land, and other natural and cultural resources, while cost effectively meeting or exceeding compliance with applicable environmental, public health, and resource protection laws, regulations, and DOE requirements. This is accomplished by implementing an EMS. DOE Order 450.1 has placed an increased emphasis on pollution prevention, which Western has formally adopted.

DOE Order 451.1B, National Environmental Policy Act Compliance Program, establishes DOE internal requirements and responsibilities for implementing NEPA, the CEQ Regulations Implementing the Procedural Provisions of NEPA, and the DOE NEPA Implementing Procedures.

DOE Order 5480.4, Environmental Protection, Safety, and Health Protection Standards, specifies the requirements for environmental protection, safety, and health.

2.6 Western Requirements

WAPA Order 450.1A, Environmental Considerations in the Planning, Design, Construction, and Maintenance of Power Facilities and Activities establishes policy, assigns responsibilities and delegates authority to ensure that marketing and rate-setting activities and activities associated with planning, design, construction, operation, and maintenance of power facilities by Western comply with Federal, state, and local environmental laws and regulations.

Environmental Management System Handbook outlines how the environmental policy is carried out throughout the organization. The EMS Handbook describes roles and responsibilities for environmental performance for all employees. The EMS Handbook was approved in April 2004.

2.7 Compliance Cleanup Agreements

Western did not operate under any Compliance Cleanup Agreements in 2005.

2.8 Environmental Violations

Western received a Notice of Violation on March 25, 2005, from the City of Roseville Fire Department for the Roseville Substation for discolored oil under the transformer. The condition was fixed on April 4, 2005.

2.9 Reportable Occurrences

In 2005, Western experienced three reportable occurrences of releases of regulated materials; one each in Arizona, North Dakota, and Wyoming. Additional information on these spills is located in Section 4.2.

2.10 Self-Assessments or Audits

In 2005, corrective actions identified in self-assessments of Western's environmental programs were completed by incorporating the corrective actions into EMS documentation. A self-assessment of the EMS was conducted in 2005 to assure all requirements of DOE Order 450.1 were incorporated into the EMS as part of Western's self-declaration process. An EMS Auditor Training Desk Audit was also conducted in 2005. As part of ongoing operation activities, Western conducts facility inspections to ensure compliance with Federal and state environmental laws and regulations. Western inspected 167 facilities in 2005. Additional information is provided in Section 6.1.

2.11 Existing Permits

Information on existing permits is provided in Section 4.0. One hundred and seven permits were obtained in 2005.

2.12 Voluntary Actions to Control Greenhouse Gases

The Intergovernmental Panel on Climate Change has identified sulfur hexaflouride (SF_6) as an extremely potent greenhouse gas. EPA believes that reducing emissions of this gas will help to address global climate change and has developed a voluntary program in which Western is participating. Western is taking voluntary action to reduce the amount of SF_6 lost to the atmosphere from system operation and maintenance. Western detects SF_6 leaks by using a special laser camera that makes leaks visible. An annual SF_6 emissions reduction report is prepared and distributed internally and externally, including to EPA.

2.13 State and Local Environmental Requirements

Western has facilities in 15 western states. EO 13148, Greening the Government through Leadership in Environmental Management, requires Federal agencies to comply with EPA and state and local environmental regulations. Examples of the regulations enforced at state and local levels include RCRA, community right-to-know, pesticide application, and storage tank regulations. Most of the states in Western's service area regulate generation, transportation, treatment, storage, and disposal of hazardous and toxic materials. Community right-to-know legislation and hazardous waste clean-up laws, enacted by numerous states, are increasing the control of tracking hazardous and toxic materials.

Western cooperates with state and local environmental regulators to help ensure compliance with applicable laws, statutes, regulations, and ordinances. Environmental audits of Western facilities address applicable state and local requirements in addition to those imposed by the Federal government. Additionally, Western's regional environmental staff has developed annual chemical inventory programs and provides CERCLA Section 311 and 312 reports to local emergency response entities.

3.0 Compliance Status

This section provides an overview of Western's compliance status for calendar year 2005.

3.1 Comprehensive Environmental Response, Compensation, and Liability Act

Superfund Amendments and Re-authorization Act

The Federal Agency Hazardous Waste Compliance Docket is a list of facilities under Federal control that have the potential for environmental releases that could adversely affect human health or the environment. In 2005, four sites remained listed, including the Montrose Operations Center, Watertown Substation, Casper Field Branch [Office], and the Liberty Substation. Assessments conducted at these sites show that they pose no risk to human health or the environment. Western continues to work with EPA to have these facilities removed from the Docket.

In 2005, Western conducted three facility evaluations under Section 120(h) of CERCLA. The Thermopolis, Wyoming, and Kremmling, Colorado, maintenance facilities were characterized for transfer to Tri-State Generation and Transmission Association. Both were sampled for wood treatment chemicals in wood pole storage yards and for hazardous wastes in maintenance garage sumps. Other contaminants were evaluated in Phase I reports performed by contractors. No substances were found above regulated limits. Both facilities were transferred as planned. The Pine Ridge Communications Site in Colorado was considered for acquisition and was characterized for contaminants including lead based paint and asbestos. No contaminants were found, but the acquisition was dropped for business reasons.

Emergency Planning, Community Right-to-Know Act

Western conducts annual inventories of chemicals at facilities throughout its service area. The information gathered is used to prepare Sections 311 and/or 312 (Tier I and II) reports to state and local emergency response entities. In 2005, Western submitted Tier II reports for 190 facilities, as listed in Appendix A. In California, Western had 60 Hazardous Material Business Plans in place, which are used to meet Tier II reporting requirements. These

inventories are also used to verify that Western does not manufacture, process, or otherwise use threshold quantities of any of the chemicals identified in Section 313 of EPCRA (Tier III), and thus does not report under that section.

3.2 Resource Conservation and Recovery Act

Under RCRA, Western is required to manage hazardous and non-hazardous materials and waste to protect human health and the environment.

Hazardous and Solid Waste Amendments of 1984

HSWA-based regulations impact most Western facilities, which are classified as conditionally exempt small quantity generators of hazardous waste. HSWA also impacts Western operations by prohibiting the land disposal of hazardous wastes and by setting standards for used oil management, underground storage tanks, and recycling hazardous wastes. Western has increased recycling of these types of wastes, and continues to look for opportunities to recycle. A full report of Western's recycling activities is included in Section 5 of this report.

Universal Waste

In 2005, Western continued recycling materials from its facilities under the Universal Waste Rule. Items such as fluorescent lamps and tubes, metal halide lamps, vapor mercury lamps, small rechargeable batteries, lead acid, Ni-Cad and lithium batteries, aerosol cans, mercury containing devices, electronic devices, and pesticide residuals are recycled.

Underground Storage Tanks

Western has two Underground Storage Tanks (USTs) in Arizona and one in Colorado that require annual permits to comply with state regulations. Western complies with the EPA's UST upgrade and monitoring requirements.

Hazardous Material Spills

Western responded to seven spills of hazardous materials in 2005 as listed in Table 3-1. Western takes immediate action to clean up spills and notifies the appropriate state and Federal agencies for spills above reportable limits. Western also routinely cleans up small leaks and drips around oil-filled equipment on an as-needed basis. Waste from spills is recycled, placed in a landfill or at a RCRA permitted facility.

Table 3-1: 2005 Hazardous Material Spills

Month	Contaminant/ Amount	Location	Status	Notifications
March	Approximately 5 gallons mineral oil	Jamestown, North Dakota	Cleaned up	None required
April	Less than 1 gallon of Pathway herbicide spilled in storage cabinet	Gering Field Office, Nebraska	Cleaned up; waste incinerated as hazardous waste at Kimball, Nebraska	None required; waste did not escape cabinet
April	Less than 25 gallons of hydraulic oil	East Lake Havasu City, Arizona	Cleaned up	North American Electric Reliability Council, Arizona Department of Environmental Quality
May	105 gallons transformer oil (no PCB)	Glendale Substation, Wyoming	Cleaned up	State of Wyoming Department of Environmental Quality
May	2 gallons hydraulic oil (no PCB)	Pilot Butte Substation, Wyoming	Cleaned up	No external notifications required
August	Approximately 150 gallons mineral oil	Fargo, North Dakota	Cleaned up	State of North Dakota
October	Approximately 15 gallons mineral oil	Martin, South Dakota	Cleaned up	None required

3.3 Clean Air Act

Emissions

Several potential sources of air emissions exist at Western facilities that are regulated under the CAA. These emissions include dust during construction activities, friable asbestos during building renovation or demolition, and volatile organic compounds from gasoline dispensing facilities. Western's construction specifications require practical methods and devices to

control, prevent, and minimize emissions or discharges of air contaminants during construction activities. Particulate emissions from construction activities along access and haul roads are controlled by periodic watering of disturbed soils, where required.

Asbestos

Regulatory requirements applicable to the disposal of asbestos and asbestos-containing material affect Western when activities are planned to modify or demolish existing buildings or equipment. Western personnel notify all appropriate regulatory agencies when planning any renovation and demolition project that might include asbestos and obtain appropriate permits for asbestos removal. In addition to Federal regulations, state and local laws and regulations are followed to assure proper disposal of asbestos containing material. In 2005, Western sampled for asbestos at 11 sites. Seven sites tested negative for asbestos. Asbestos was detected in heat shields on the electrical reactors at the Curecanti Switchyard in Colorado. The heat shields were removed and disposed of as non-friable asbestos waste. Asbestos found in the mastic at the Fargo Lineshop and the roof of the Edgley Substation were removed and disposed of. Additionally, asbestos was identified in the floor tiles at the Watertown Substation, but were left in place and an action plan was developed. In addition, during construction activities at the Jamestown Substation in North Dakota, a buried transite pipe was identified. The pipe was removed and disposed of at an approved landfill.

Ozone-Depleting Substances

EO 13148, Greening the Government through Leadership in Environmental Management, DOE Order 450.1, Environmental Protection Program, and DOE guidance (Guidance on the DOE Facility Phaseout of Ozone-Depleting Substances) requires Western to phase out the use, where practical, of ozone-depleting substances. This is to be accomplished through cost-effective procurement practices and substituting safe alternative substances.

The phaseout of ozone-depleting substances affects Western's operations associated with refrigeration and air conditioning, solvent usage, and fire protection. As equipment is replaced, ozone-depleting substances are recovered in air conditioning, refrigeration systems, and fire suppression systems before final disposal or dismantling. Older appliances

containing icemakers using R-12 gas are replaced with chlorofluorocarbon (CFC) free units where practicable. In 2005, four such units were replaced. Technician certification is required for all individuals who maintain, service, repair or dispose of appliances, equipment, and motor vehicle air conditioners containing Class I or Class II refrigerants. The use of ozone–depleting solvents has been drastically reduced. Almost all past inventories have been eliminated or disposed of appropriately.

The Corporate Services Office and most of the regional offices have phased out halon-containing hand held fire extinguishing equipment for all but a few uses. Several of the regions have also phased out halon-based large fire suppression systems. These fire suppression systems and equipment were replaced with carbon dioxide, dry chemical extinguishers, and other approved chemical replacements.

Greenhouse Gases

Western has approximately 750 SF_6 gas-filled circuit breakers in use. In 2000, EPA invited Western, along with other electric utilities, to take part in a voluntary program to reduce SF_6 gas emissions. Western determined the best way to participate was to develop an alternative plan that is proactive in finding and stopping SF_6 leaks rather than just reporting SF_6 emissions as is outlined in the EPA program. In 2005, Western continued evaluating equipment, locating several leaks, and either immediately repairing them, or scheduling repairs or replacement. Tracking systems have been developed at three regional offices to track the amount of SF_6 gas leaking to the atmosphere from Western's equipment and a database is being finalized to improve the ease of tracking. An annual SF_6 emissions reduction report is prepared and distributed internally and externally, including a report to the EPA. A copy of this report is included in Appendix B.

3.4 Clean Water Act

Spill Prevention, Control, and Countermeasures Plans

Western continues to evaluate facilities to meet SPCC requirements under the CWA. In 2005, Western had 154 SPCC plans in 13 states. SPCC plans are periodically reviewed for

necessary revisions based on new site-specific information, construction or other modifications to the sites, or revised inventories of oil-filled equipment. In 2005, Western updated 19 SPCC plans and prepared one new SPCC plan for the Sacramento Power Operations Substation in California. The Sierra Nevada and Desert Southwest regions have combined SPCC plans with their Hazardous Waste Business Plans for California. A list of facilities with SPCC plans is provided in Appendix A.

The Upper Great Plains Region is in the process of evaluating and making changes to facility SPCC plans resulting from the removal of retired oil-filled equipment. Sixteen SPCC plans were updated in this region.

SPCC regulations require visual inspection of shop built above ground storage tanks, such as gasoline dispensing tanks. Western conducts ultrasound inspections of the storage tanks to ensure integrity. In 2005, the Watertown, South Dakota tank was inspected and no leaks were detected.

Mineral Oil Spill Evaluation System

The Mineral Oil Spill Evaluation System (MOSES) software developed by the Electric Power Research Institute (EPRI) assists in determining the need for secondary containment and SPCC plans at Western's facilities.

In 2005, Western evaluated two facilities for potential water impacts using the MOSES model. Results of the model identified that one facility requires secondary containment. Design, installation, and periodic inspection of secondary containment are incorporated into regional facility maintenance programs. Containment structures are repaired as needed. The other site did not require secondary containment or a SPCC Plan.

Erosion Control

Western evaluates sites for erosion control and erects berms, water flow diversions, matting, and other control devices to control or direct water flow at substations, rights-of-way (ROW), and access roads. These measures are taken during construction projects and are also part of the routine maintenance program. Occasionally these activities require a CWA Section 404 permit from the USACE for fill of waters of the United States. In 2005, construction was

completed on Path 15 (Los Banos-Gates Transmission Project), and the Section 404 permit for the project was closed. Additionally, Standard Condition 4 of the project's 401 Water Quality Certification permit was closed by the California State Water Resources Control Board. No new Section 404 permits were issued in 2005.

3.5 Safe Drinking Water Act

Underground Injection Control

Western continues to cooperate with EPA regions and states to obtain permission to permanently close and abandon all Class V underground injection control wells as they are discovered. In 2005, no Class V underground injection control wells were permanently closed or abandoned.

Groundwater Monitoring

In 2005, the Sierra Nevada Region continued monitoring groundwater at the Elverta Maintenance Facility for methyl tertiary-butyl ether, commonly known as MTBE. The groundwater was contaminated from a spill of gasoline during removal of a UST in 1997. Sampling results indicate that the MTBE level in one well continued to be elevated. Four additional monitoring wells were installed in 2004, down-gradient from the original wells, to test for the spread of the MTBE contamination. Western submitted four quarterly monitoring reports to the County of Sacramento in 2005. Based on the results identified by the monitoring, a No Further Action Request was submitted, but was not granted by the county. Western continues to work closely with Sacramento County to arrive at an acceptable level of remediation for the site.

3.6 Toxic Substances Control Act

Western continued the removal and proper disposal of mineral oil, dielectric fluid, soil, and equipment containing PCBs from facilities during 2005.

Western disposed of 39.19 metric tons of TSCA wastes (equipment, debris, and soil) in 2005. Low-level PCB contaminated oils were burned for energy recovery at EPA-permitted

facilities or were chemically treated and recycled. Higher concentration PCBs were disposed of at EPA-certified incinerators. Contaminated equipment carcasses were decontaminated and sold as scrap when possible. Items too heavily contaminated for recycling as scrap were disposed of at permitted PCB waste landfills or incinerators.

3.7 Federal Insecticide, Fungicide, and Rodenticide Act

Western is required to comply with the pesticide use, storage, and disposal regulations contained in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), state regulations, and some tribal pesticide management regulations. Pesticides are used by Western to control plant and animal pests and for wood preservation. Western has two manuals for implementation of FIFRA, the "Integrated Vegetation Management (IVM) Environmental Guidance Manual" and the "Pest Control Manual." Western's IVM program promotes the use of combined methods to control unwanted vegetation. IVM combines biological, cultural, physical, and chemical tools to minimize economic, health, and environmental risks. IVM de-emphasizes the exclusive use of chemical control.

The state of North Dakota conducted a FIFRA inspection at the North Dakota Maintenance Office. No violations were noted.

An herbicide related crop damage incident occurred at the Fergus Falls fiber optic regeneration site in Minnesota. After investigating the incident, it was determined that Western had not provided the proper contractual controls or oversight of the contractor. Corrective actions to include requirements for herbicide management in contracts are being evaluated.

Herbicide runoff was reported to Western from a substation in North Dakota. An evaluation of current product use and application rates was evaluated in conjunction with the North Dakota State University agronomy staff.

3.8 Hazardous Materials Transportation Act

Almost all of the hazardous and toxic material (HazMat) transported for Western is shipped by audited and permitted commercial hazardous materials haulers. However, trained and

qualified Western employees occasionally transport hazardous materials. Western's environmental staff provides training on Federal and state hazardous material transportation to maintenance crews, which includes marking, labeling, placarding, manifesting, and emergency response. HazMat workers also receive appropriate training as required by Occupational Safety and Health Standards (29 CFR 1910). In 2005, Western's Rocky Mountain Region developed new training materials for HazMat employees and for new hires and new HazMat shipping paper (bill of lading) for internal transportation.

Hazardous materials transportation requirements for the California Department of Toxic Substances Control, North Dakota Department of Health and Minnesota Pollution Control Agency are more extensive than those of the U.S. Department of Transportation. Sierra Nevada and Desert Southwest regions must have waste haulers' permits to transport PCBs in California. The Upper Great Plains Region maintains permits for hauling all solid waste.

3.9 National Environmental Policy Act

Western continued to review activities for environmental impacts under NEPA. Environmental planning activities fall under three categories: (1) Western projects, including maintenance and upgrades of Western's transmission lines and facilities, power marketing actions, and rate changes; (2) cooperating agency projects, where Western acts as a cooperating agency to review other Federal agency actions; and (3) work requested by public or private parties, such as transmission system interconnections and use of Western's transmission towers for telecommunication systems.

Western's NEPA activities are reported in our 2006 Annual NEPA Planning Summary (Appendix C). A list of CXs completed in 2005 are found in Appendix D. Table 3-2 summarizes Western's 2005 activities.

Western was a cooperating agency on the EIS for the Operation of Flaming Gorge Dam. Reclamation was the lead agency for this EIS, which addressed the Upper Colorado River Endangered Fish Recovery Program. Western did not issue a Record of Decision (ROD) for this project.

Table 3-2: 2005 Summary of NEPA Actions

NEPA Action	Western Projects	Cooperating Agency Projects	Private Proponent Projects	Total
CX completed	60	0	0	60
EAs completed	3	0	3	6
EAs in progress	7	0	5	12
EISs completed	0	1	0	1
EISs in progress	1	2	4	7
ROD issued	0	0	0	0
FONSI issued	3	0	3	6
EIS/EAs suspended or on hold	0	0	1	1
EA's cancelled	0	0	0	0

Western completed EAs and Findings of No Significant Impact for the Parker-Gila Transmission Line Relocation (Quartzsite Reroute) in Arizona; Spring Canyon Wind Project (formerly known as the Peetz Table Wind Project), Logan County, Colorado; Right-of-Way Maintenance in the Sacramento Valley, California; East Side Peaking Project, Groton, South Dakota, as a cooperating agency with the Rural Utilities Service; Beaver Creek-Hoyt-Erie Transmission Line Rebuild Project in Colorado; and the Burleigh County Wind Energy Project in North Dakota.

3.10 Cultural Resources

Western complies with the NHPA by performing cultural and historical resource inventories for construction, maintenance, and interconnection activities. These inventories include record searches for previously identified resources and, where necessary, on-site surveys. In 2005, Western initiated or continued previous cultural resource compliance efforts for a number of projects in 13 states (AZ, CA, CO, IA, MN, MT, ND, NE, NM, NV, SD, UT, and WY). In accordance with Section 106 of the NHPA, as amended, Western consults on findings from these inventories with the appropriate land-managing agencies, State Historic Preservation Officers (SHPO), Native American Tribal Historic Preservation Officers (THPO), and tribes. Western engaged in consultations and coordination with 70 Tribes during the conduct of preservation and cultural compliance and Government-to-Government

consultations in 2005. In areas where significant cultural resources are identified, monitors assure that cultural and/or historical resources are not disturbed. Native American monitors worked with Western staff on several projects.

In Arizona, California, Colorado, Nebraska, Utah, and Wyoming, Western and the SHPOs have agreed on Section 106 measures for routine maintenance activities through Programmatic Agreements. These agreements streamline the consultation process for projects with a no effect determination. On large projects, Western and other affected parties, along with the SHPOs and Native American tribes enter into Programmatic Agreements. These agreements outline actions to be taken during construction activities to comply with cultural and historical resource preservation laws. In 2005, three Programmatic Agreements were drafted and sent out for review; one for a new transmission line and two for wind farms.

In 2001, Western received a claim for damages to cultural resources from the Quechan Indian Tribe. This issue had yet to be resolved in 2005.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) requires consultation with Indian tribes on repatriation issues. In 2005, Western had no projects on Western fee-owned lands that required NAGPRA consultations.

3.11 Government-to-Government Relations with Indian Tribes

Western seeks to fully comply with the spirit and letter of DOE's American Indian and Alaska Native Tribal Government Policy. This policy sets forth the principles to be followed by departmental officials, staff, and contractors regarding fulfillment of trust obligations and other responsibilities that are based on the U.S. Constitution, treaties, Supreme Court decisions, EOs, statutes, existing Federal policies, tribal laws, and the dynamic political relationship between Indian nations and the Federal government. Western is actively working to establish and maintain positive and mutually beneficial working relationships with federally-recognized tribes within its service territory.

3.12 Endangered Species Act

Western consults on Federal, Tribal, and state species of concern with the appropriate agencies for all listed, proposed or candidate wildlife and plants as required by the Endangered Species Act (ESA). This consultation includes actions ranging from routine maintenance activities to major construction projects. Most of these projects are done in conjunction with a NEPA document and under informal consultation with the U.S. Fish and Wildlife Service (USFWS). In 2005, Western was working on or had completed 11 Section 7 consultations under the ESA, including formal consultations for the following projects: Byron Bethany Irrigation District Project, California; Blythe Energy Project 2, California; Blythe Energy Project 1 Phase 2, California; Headgate Rock-Blythe Pole Replacement Project, California; Beaver Creek-Hoyt-Erie Rebuild Project, Colorado; Peetz Wind Farm, Colorado; three separate Fiber Optic Replacements projects in Minnesota, North Dakota, and South Dakota; Burleigh County Wind Farm, North Dakota; and Audubon Causeway Bird Collision Studies in North Dakota.

Consultations for smaller projects include: Sacramento Valley ROW Maintenance Project, California; Groton Power Generation Project, South Dakota; and Hazard Tree Removal Project on the Coconino National Forest, Arizona.

Mitigation Action Plans (MAPs) were developed for the Sacramento Valley ROW maintenance project and the Delta Mendota Canal-California Aqueduct Intertie Project. The latter is a Reclamation 69-kilovolt transmission line project that Western has agreed to design, construct, and maintain.

Western's Upper Great Plains Region continued to fund research on the recovery efforts of the pallid sturgeon in the Missouri River basin. The research included several basin-wide workshops to discuss the needs and direction of research, restocking efforts, and natural history of the sturgeon. Western also funded studies on the soft-shelled turtle in the Yellowstone River. This turtle's population in the Yellowstone River has diminished in recent years and there have been moves to list the species.

In addition, monitoring Mesa-verde cacti populations for access road maintenance for the transmission lines in the Four Corners area of Arizona, Colorado, Utah, and New Mexico, was completed in 2005.

Programmatic Biological Opinion for Routine Maintenance Activities

The Sierra Nevada Region conducts its routine maintenance activities system under a programmatic agreement with the USFWS. The agreement streamlines the consultation process for activities that have no effect on endangered or threatened species. Maintenance activities covered include vegetation maintenance, access road maintenance, and transmission line and associated facilities maintenance. Endangered species surveys were conducted prior to ROW maintenance to ensure human safety and line reliability.

3.13 Migratory Bird Treaty Act

Western participated in sage-grouse workgroup meetings in Colorado and Montana to represent the electric utility industry in developing a plan to help sage-grouse recovery before the bird needs Federal listing. Issues that are thought to contribute to population decline include farming, ranching, oil development, mining, and power lines.

Bird Studies

Western, in conjunction with Bonneville Power Administration, the Avian Power Line Interaction Committee, EPRI, USFWS, U.S. Department of Agriculture Rural Utility Service, U.S. Department of Agriculture Wildlife Services, several state agencies, and numerous other electric utilities continued a multi-year study of bird collisions along the Snake Creek Embankment in central North Dakota in April 2001. A Technical Advisory Group was established that includes environmental organizations, all the above entities, and electric utilities on five continents. The study has identified the spans where collisions are most common. Using this information, those spans will be fixed with a bird strike indicator to identify collisions on the line.

In 2003, Western joined the National Wind Coordinating Committee's Wildlife Working Group to help resolve bird collisions on wind turbines. This group meets at least twice a

year. In 2005, Western attended one meeting and participated in six conference calls to discuss the effects of wind farms on grassland birds, birds in general, and bats.

Western has been a member of the Avian Power Line Interaction Committee since 1999. This group works in partnership with utilities, resource agencies, and the public to: develop and provide educational resources; identify and fund research; develop and provide cost-effective management options; and serve as the focal point for avian interaction utility issues. Western attended both meetings held in 2005.

Line Marking Devices

Western is working with various vendors to test transmission line marking devices designed to minimize bird collisions. These tests are to determine the efficacy of installing the devices, weathering characteristics, and longevity. In 2005, line marking devices were installed on lines in California and North Dakota.

Removal and Relocation of Bird Nests

In 2005, Western received three permits from the USFWS to remove and/or relocate bird nests from electrical equipment and transmission line structures. The permits were to remove nuisance birds from transmission line structures, substations and/or storage areas at maintenance facilities in Arizona, California, and South Dakota. These permits were for one year only. Western line crews constructed and installed two nesting platforms for osprey in eastern Colorado in 2005.

3.14 Floodplain and Wetland Assessments

Under DOE's Floodplain and Wetland Regulations (10 CFR Part 1022), EO 11988, Floodplain Management and EO 11990, Protection of Wetlands, Western evaluates the impact of its actions on floodplains and wetlands. These evaluations are usually performed as part of the NEPA impact analysis for projects. In 2005, Western completed two Floodplain/Wetland evaluations for the Beaver Creek-Hoyt-Erie Transmission Line Rebuild Project and the Sacramento Valley Right-of-Way Maintenance Project as part of the environmental assessments for these projects.

3.15 Mitigation

Western has compiled a list of standard mitigation measures (Appendix E) and construction standards (Appendix F) to assure compliance with environmental laws and regulations. These measures are based on Western's experience with impacts associated with transmission line construction, operation, and maintenance. Along with site specific cultural resource information, programmatic agreements, and biological opinions, they are used to develop Mitigation Action Plans (MAPs), mitigation requirements for CXs, and contractor requirements for construction activities.

MAPs for the Path 15 Transmission Line Upgrade Project in California, the Transmission Line Modifications for the Hoover Dam ByPass Project in Nevada, the Exira Station Project in Iowa, and the Wolf Point-Williston Transmission Line Rebuild Project in Montana and North Dakota were completed and closed in 2005.

MAPs developed in 2005 include the Spring Canyon (Peetz) Wind and Beaver Creek-Hoyt-Erie Transmission Line Upgrade projects in Colorado (Appendices G and H), Parker-Gila 161-Kilovolt Transmission Line Quartzsite Reroute in Quartzsite, Arizona (Appendix I), and Right-Of-Way Maintenance in the Sacramento Valley in California (Appendix J).

4.0 Summary of Permits

Western is required to obtain a variety of permits, including those for above-ground and underground storage tanks, PCB transportation and storage, hazardous waste storage, gasoline dispensing, and pollution discharge elimination system permits for point source and storm water discharge. A full list of permits obtained is listed in Appendix K. Table 4-1 summarizes the list by type and number.

Table 4-1: Summary of 2005 Permits by Type

Type of Permit	Number
404 Permit (Clean Water Act)	0
Migratory Bird Treaty Act/Eagle Protection Act	3
Hazardous Waste Transportation	3
Underground Storage Tanks	3
Hazardous Materials	86
Water Quality	3
Air Quality	3
Fuel Dispensing	6
Total	**107**

5.0 Environmental Program Information

5.1 Environmental Management System

Self-declaration of Western's EMS was forwarded to DOE on December 21, 2005. This met the requirement of EO 13148, Greening the Government through Leadership in Environmental Management and DOE Order 450.1 for DOE offices to have an EMS in place by December 31, 2005. To prepare for self-declaration, a self-assessment was conducted using EMS auditing protocols of DOE Guide 450.1-2, Implementation Guide for Integrating Environmental Management Systems into Integrated Safety Management Systems. The protocols were used to identify gaps between Western's developed program and DOE Order 450.1. Corrective actions were undertaken to fill any gaps and Western completed its EMS self-declaration in November 2005.

The EMS Handbook, which outlines a systematic process that ensures implementation of environmental requirements and continuous improvement, was approved by Western's senior management team in April 2004, and was updated in 2005.

Western met its five EMS environmental performance goals for 2005. The performance date of first goal, complete formal documentation of Environmental Program Plans, was extended to 2006 due to staffing constraints and a realignment of priorities. A draft of the Planning and Protection Program Plan was completed in 2005. Western's Pollution Prevention Program Plan was revised in 2005, and the Assessment and Corrective Action Program Plan was approved in February 2005. A draft of the Environmental Planning and Protection Program Plan was completed in 2005.

The second and third performance goals were to complete environmental awareness training and self declare that Western's EMS meets the requirements of DOE Order 450.1. Western developed a Web-based all-employee EMS Awareness training in November 2005. More than 95 percent of Western staff and contractors had completed the training by the end of December 2005.

The fourth performance goal was to complete documentation of appendices, manuals, guidance, regional implementation plans, and other documents referenced in EMS Environmental Program Plans. In 2005, drafts of auditing procedures were developed and used in formulating the first audit conducted under the Environmental Assessment and Corrective Action Program Plan. Implementation of this Plan was Western's fifth performance goal for 2005. The audit and its results are discussed in Section 5.2.

5.2 Environmental Auditing Program

Western established an environmental auditing/inspection program in 1980. The major purposes of the auditing program are:

- Discover noncompliance with applicable local, state, and Federal regulations.
- Reduce environmental risks.
- Improve communication with facility staff.
- Improve overall environmental performance.
- Provide assistance and discuss compliance alternatives for problem areas.
- Accelerate development of good environmental management practices.
- Ensure worker safety when working with hazardous materials.
- Provide management with a tool for evaluating the priority of compliance issues.

In 2005, environmental staff conducted 221 facility inspections. Western's environment staff also conducted audits of four disposal contractors to verify compliance with Federal, state, and local environmental laws and regulations.

Western's EMS requires that periodic audits be conducted of the EMS. The audits evaluate the level of implementation and operational effectiveness of processes, procedures, programs, controls, and to evaluate progress made on EMS objectives and goals. In 2005, an EMS Auditor Training Desk Audit was conducted. The audit surveyed all environmental staff to obtain a baseline of information as to the level of staff auditing experience and capability. The results of the audit indicated that formal EMS audit training of all environmental staff should be done so that sufficient staff would be available to participate in future EMS audits. Formal training has been scheduled for 2006.

5.3 Environmental Protection Training

In 2005, Western continued to provide craft workers (electricians, linemen, meter and relay, communications, heavy equipment operators, vehicle mechanics), engineers, construction managers, property managers, new employees, and management with guidance and training on environmental protection and compliance in accordance with their levels of responsibility. Information and summaries of specific regulations, statutes, and compliance issues are covered in non-legal terms to enhance understanding. Training subjects included environmental responsibilities and management systems, environmental standard operating procedures, hazardous waste, universal waste, used oil, hazardous materials transportation, storm water pollution prevention, local air quality regulations, PCB management, spill prevention and cleanup and SPCC requirements, pollution prevention and waste minimization, affirmative procurement, first responder refresher, inspection protocols, NEPA planning, cultural resources awareness, vegetation management and threatened and endangered species, and migratory bird and wildlife resources awareness. In addition, training was provided to all employees on Western's EMS.

5.4 Geographical Information Systems

Western continues to develop and implement a Geographical Information System (GIS) to aid in ROW management and construction activities. The GIS is being used to provide data for environmental staff and maintenance crews to manage cultural, biological, water, and other issues within the ROW and access roads. It is also being used to prepare NEPA and cultural resource documents for new construction projects. Data is shared with Federal, state, and local government agencies as the need arises.

In 2005, environmental data continued to be added to the GIS database for all regions, including fire management data during the fire season. Efforts in the Upper Great Plains Region were expanded. A cross-regional GIS standards committee was formed to standardize GIS data sets and input parameters and metadata. Several interagency data sharing agreements were developed with Federal, state, and local agencies.

5.5 Waste Minimization, Pollution Prevention, and Affirmative Procurement

In complying with DOE Order 450.1, and WAPA Order 450.1A, Western developed a Pollution Prevention Program Plan. This plan provides guidance to develop and implement a facility-wide, multimedia pollution prevention program within Western.

Specific activities required to meet the plan goals include:

- Conducting pollution prevention opportunity assessments on facilities and operations.
- Incorporating pollution prevention considerations into the acquisition process (e.g. affirmative procurement of recovered content products).
- Developing a workplace ethic to support pollution prevention and increasing awareness of pollution prevention.
- Adopting the revised DOE Order 450.1 to incorporate its five performance-based pollution prevention and sustainable environmental stewardship goals.
- Annual reporting to DOE on the status of Western's Pollution Prevention Program and evaluation of progress toward the Plan goals.

Pollution prevention is incorporated into existing training so that goals, projects, and ideas are part of training curriculum or meeting agendas. As a major supplier of electric power, the agency's work results in the production of some potentially toxic byproducts and generation of several types of wastes. Western's construction, demolition, and replacement activities generate waste electrical equipment and scrap metal. Western reduces the generation of contaminants, wastes, and other regulated materials through source reduction and recycling programs.

Since 1977, Western has reduced the use of PCBs and minimized waste generation through retro-filling equipment and processing to remove PCBs and reusing the oil. Although PCBs have not been completely eliminated, Western continues PCB removal as opportunities are found and budget considerations permit. In 2005, 39.2 metric tons of PCB-contaminated

waste was disposed. Changes in EPCRA Section 313 regulations, regarding persistent bio-accumulative toxics, have added impetus to this removal.

SF_6 breakers have replaced oil-filled circuit breakers at several sites. The oil and metal from these replacements have been recycled as regulations allow. Quantities of hazardous waste and recycled and reused waste was collected and reported in Western's 2005 Annual Report on Waste Generation and Pollution Prevention Progress (Appendix L).

EO 13101, Greening the Government through Waste Prevention, Recycling and Federal Acquisition, requires Federal agencies to purchase products listed by the EPA that contain post consumer recycled content materials. These affirmative procurement categories include paper products, construction materials, and non-paper office supplies.

An annual report is submitted to DOE for all listed non-GSA purchased products. Government Service Administration (GSA) reports Western's GSA purchases directly. A summary report is included in Appendix L. In 2005, Western reported $437,816 in purchases of products containing recovered material content.

5.6 Environmental Risk Assessment and Management

Western completed evaluation of all environmental program elements during the EMS self-assessment process. Part of each self-assessment included an analysis of risk and liability for each recommendation identified. Western used this to evaluate and prioritize recommendations, which has been incorporated into EMS documentation. Western used this information to make corrections and updates as necessary to improve compliance. The self assessments have also been used in the development of EMS aspects and impacts.

5.7 Renewable Energy Purchasing - Western's Green Tag Program

Western and the DOE's Federal Energy Management Program launched the Renewable Resources for Federal Agencies Program in 2002 to help Federal agencies meet renewable energy goals. Agencies can purchase renewable energy and its benefits through this Program, which can help them comply with the requirements of Section 203 of the Energy Policy Act of 2005, reduce emissions and foster markets for emerging technologies.

Agencies find that obtaining renewable resources through Western is easy and cost effective. Western can procure renewable resources from suppliers through a request for proposals and pass the energy and/or benefits on to the agency. All costs associated with renewable resource purchases are passed on to the agencies requesting service.

Two renewable products are available through this Program include renewable energy certificates (RECs) and renewable energy delivered to the agency's site. RECs, also known as green tags, are the intangible benefits associated with generating one megawatthour (MWh) of electric energy by a renewable resource. They don't require the energy to be physically delivered to the buyer, but instead offset the difference between the cost of the renewable power and power from fossil energy sources.

In 2005, Western purchased a total of 279,094 MWh of RECs on behalf of:

- Department of Defense (Air Force) – 143,894 MWh
- Department of Defense (Army) – 40,000 MWh
- Department of Energy (multiple agencies) – 77,825 MWh
- Environmental Protection Agency – 17,375 MWh

While not specifically part of the Program for Federal agencies, Western can also purchase RECs for Western's firm power customers that request the service. The growth of state and locally-adopted standards along with Western's goal of promoting renewable resource development are among the reasons this service is made available to requesting firm power customers.

APPENDIX A

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLANS AND CERCLA TIER II REPORTS

Calendar Year 2005

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SPILL PREVENTION CONTROL AND COUNTERMEASURE PLANS AND EPCRA TIER II REPORTING OF THE WESTERN AREA POWER ADMINISTRATION CALENDAR YEAR 2005

Facility Name	County	Tier II	SPCC	Revised 2005	New SPCC
Arizona					
Davis Dam Substation	Mohave		Yes		
Glenn Canyon Substation	Coconino		Yes		
Liberty Substation	Maricopa	Yes			
Parker Dam Substation	La Paz		Yes		
Pinnacle Peak Substation	Maricopa	Yes			
Phoenix Operations and Maintenance Facility	Maricopa	Yes			
Spook Hill Substation	Maricopa		Yes		
California[1]					
Airport Substation	Shasta		Yes		
Contra Costa # 1 Substation	Contra Costa		Yes		
Contra Costa # 4 Substation	Contra Costa		Yes		
Corning Substation	Tehama		Yes		
Elverta Maintenance Facility	Sacramento		Yes		
Elverta Substation	Sacramento		Yes		
Folsom Substation	Sacramento		Yes		
Keswick Substation	Shasta		Yes		
Pleasant Valley Substation	Fresno		Yes		
Redding Maintenance Facility	Shasta		Yes		
Roseville Substation	Placer		Yes		
Sacramento Power Operations Substation	Sacramento		Yes		Yes
San Luis Gianelli Pumping Plant	Merced		Yes		
Shasta Substation	Shasta		Yes		
Tracy Substation & Maintenance Facility	Alameda		Yes		
Wintu Substation	Shasta		Yes		
Colorado					
Ault Substation	Weld	Yes			
Bears Ears Substation	Moffat	Yes			
Blue Mesa Substation	Gunnison	Yes	Yes		
Brighton Substation	Weld	Yes			
Brush Maintenance Office and Beaver Creek Substation	Morgan	Yes			
Brush Substation	Morgan	Yes			
Curecanti Substation	Montrose	Yes	Yes		
Derby Hill Substation	Larimer	Yes			
Dove Creek Pumping Plant Substation	Dolores	Yes			

[1] SPCC Plans are included in Hazardous Material Business Plans required by the State of California. Business Plans developed for California meet the EPCRA reporting requirements and separate Tier II reports are not required. Western has 60 facilities in California that submit Business Plans.

Facility Name	County	Tier II	SPCC	Revised 2005	New SPCC
Estes Park Substation	Larimer	Yes	Yes		
Flatiron Substation	Larimer	Yes	Yes		
Fleming Substation	Logan	Yes	Yes		
Fort Morgan West Substation	Morgan	Yes			
Frenchman Creek Substation	Phillips	Yes	Yes		
Granby (Farr) Pumping Plant Switchyard	Grand	Yes	Yes		
Granby Substation	Grand	Yes			
Great Cut Pumping Plant Substation	Montezuma	Yes	Yes		
Haxtun Substation	Phillips	Yes			
Hayden Substation	Routt	Yes			
Holyoke Substation	Phillips	Yes			
Hoyt Substation	Morgan	Yes			
Hygiene Substation	Boulder	Yes			
Island Lake Microwave Site	Mesa	Yes			
Julesburg Substation	Sedgwick	Yes			
Kiowa Creek Substation	Morgan	Yes			
Kremmling Substation	Grand	Yes			
Limon Substation	Lincoln	Yes			
Midway Substation	El Paso	Yes			
Montrose Craft Training Center	Montrose	Yes	Yes	Yes	
Montrose Maintenance Office	Montrose	Yes	Yes		
Nunn Substation	Weld	Yes			
Pole Hill Substation	Larimer	Yes	Yes		
Poncha Springs Substation	Chaffee	Yes	Yes		
Poudre Substation	Larimer	Yes	Yes		
Prospect Valley Substation	Weld	Yes			
Rifle Substation	Garfield	Yes	Yes		
Rocky Mountain Region Power Marketing and Control Center	Larimer	Yes	Yes		
Salida Substation	Chaffee	Yes			
Sheeps Knob Microwave Site	Montrose	Yes			
Sterling Substation	Logan	Yes	Yes		
Wauneta Substation	Yuma	Yes			
Weld Substation	Weld	Yes	Yes		
Wiggins Substation	Morgan	Yes			
Willow Creek Pumping Plant Switchyard	Grand	Yes	Yes		
Woodrow Substation	Washington	Yes			
Wray Substation	Yuma	Yes			
Yuma Substation	Yuma	Yes			
Iowa					
Dennison Substation	Crawford	Yes	Yes		
Sioux City (230 kV yard) Substation	Plymouth	Yes	Yes		
Sioux City (345 kV yard) Substation	Plymouth	Yes	Yes		
Spencer Substation	Clay	Yes	Yes		
Minnesota					
Granite Falls Substation	Chippewa	Yes	Yes		

Facility Name	County	Tier II	SPCC	Revised 2005	New SPCC
Morris Substation	Stevens	Yes	Yes		
Montana					
Bole Substation	Teton	Yes	Yes		
Circle Substation	McCone	Yes	Yes		
Conrad Substation	Ponder	Yes	Yes		
Crossover Substation	Big Horn	Yes	Yes		
Custer Substation	Yellowstone	Yes	Yes		
Dawson County Substation	Dawson	Yes	Yes		
Fallon Pump	Prairie		Yes		
Fallon Relift	Prairie		Yes		
Frazer Substation	Valley		Yes		
Glendive Substation	Dawson	Yes	Yes		
Glendive Pump 1	Prairie	Yes	Yes		
Glendive Pump 2	Prairie		Yes		
Havre Substation	Hill	Yes	Yes		
Miles City 1 Substation	Custer	Yes	Yes		
Miles City 2 Substation	Custer	Yes	Yes		
Miles City 4 Substation (Miles City Converter)	Custer	Yes	Yes		
O'Fallon Creek Substation	Prairie	Yes	Yes		
Rainbow Substation	Cascade	Yes	Yes		
Richland Substation	Richland	Yes	Yes		
Rudyard Substation	Hill	Yes	Yes		
Savage Substation	Richland		Yes		
Savage Pump	Richland		Yes		
Shelby Substation	Toole	Yes	Yes		
Shelby Substation #2	Toole	Yes	Yes		
Shirley Substation	Custer	Yes	Yes		
Terry Pump	Prairie		Yes		
Terry Tap	Prairie		Yes		
Tiber Dam Substation	Liberty	Yes	Yes		
Valley Pump Substation	Valley		Yes		
Whately Substation	Valley	Yes	Yes		
Wolf Point Substation	Roosevelt	Yes	Yes		
Yellowtail Substation	Big Horn	Yes	Yes	Yes	
Nebraska					
Alliance Substation	Box Butte	Yes			
Bridgeport Substation	Morrill	Yes	Yes		
Chadron Substation	Dawes	Yes			
Chappell Substation	Deuel	Yes			
Dunlap Substation	Dawes	Yes			
Gering Substation and Maintenance Facility	Scotts Bluff	Yes	Yes		
Kimball Substation	Kimball	Yes			
Ogallala Substation	Keith	Yes			
Sidney Substation	Cheyenne	Yes			
Stegall Substation	Scotts Bluff	Yes			

Facility Name	County	Tier II	SPCC	Revised 2005	New SPCC
Virginia Smith Converter Station	Cheyenne	Yes			
New Mexico					
Shiprock Substation	San Juan	Yes			
Waterflow Substation	San Juan	Yes	Yes		
Nevada					
Amargosa Substation	Clark		Yes		
Mead Substation	Clark	Yes			
North Dakota					
Belfield Substation	Stark	Yes	Yes		
Bisbee Substation	Towner	Yes	Yes	Yes	
Bismarck Substation	Burleigh	Yes	Yes	Yes	
Buford-Trenton Substation	Williams	Yes	Yes		
Carrington Substation	Foster	Yes	Yes	Yes	
Custer Trail Substation	Morton	Yes	Yes	Yes	
DeVaul Substation	Grant	Yes	Yes	Yes	
Devil's Lake Substation	Ramsey	Yes	Yes		
Edgeley Substation	LaMoure	Yes	Yes	Yes	
Fargo Substation	Cass	Yes	Yes		
Foreman Substation	Sargent	Yes	Yes	Yes	
Killdeer Substation	Dunn	Yes	Yes	Yes	
Jamestown Substation	Stutsman	Yes	Yes	Yes	
Lakota Substation	Nelson	Yes	Yes	Yes	
Leeds Substation	Benson	Yes	Yes	Yes	
Rolla Substation	Rolette	Yes	Yes	Yes	
Rugby Substation	Pierce	Yes	Yes	Yes	
Snake Creek Substation	McLean	Yes	Yes		
Valley City Substation	Barnes	Yes	Yes	Yes	
Ward Substation	Ward	Yes			
Washburn Substation	McLean	Yes	Yes	Yes	
Watford Substation	McKenzie	Yes	Yes	Yes	
Williston Substation	Williams	Yes	Yes		
South Dakota					
Armour Substation	Charles-Mix	Yes	Yes		
Beresford Substation	Union	Yes	Yes		
Bonesteel Substation	Gregory	Yes	Yes		
Brookings Substation	Brookings	Yes	Yes		
Creston Substation	Union	Yes	Yes		
Eagle Butte Substation	Ziebach	Yes	Yes		
Ellsworth Air Force Base Substation	Rapid City	Yes	Yes		
Faith Substation	Meade	Yes	Yes		
Flandreau Substation	Moody	Yes	Yes		
Fort Thompson Substation	Buffalo	Yes	Yes		
Gregory Substation	Gregory	Yes	Yes		
Groton Substation	Brown	Yes	Yes		
Huron Substation	Beadle	Yes	Yes		

Facility Name	County	Tier II	SPCC	Revised 2005	New SPCC
Irv Simmons Substation	Stanley		Yes		
Martin Substation	Bennett	Yes	Yes		
Maurine Substation	Meade	Yes	Yes		
Midland Substation	Haakon	Yes	Yes		
Mission Substation	Todd	Yes	Yes		
Mount Vernon Substation	Davison	Yes	Yes		
Newell Substation	Meade	Yes	Yes		
New Underwood Substation	Pennington	Yes	Yes		
Philip Substation	Haakon	Yes	Yes		
Pierre Substation	Hughes	Yes	Yes		
Rapid City Substation	Pennington	Yes	Yes		
Sioux Falls Substation	Minnehaha	Yes	Yes		
Summit Substation	Roberts	Yes	Yes		
Tyndall Substation	Bon Homme	Yes	Yes		
Wall Substation	Pennington	Yes	Yes		
Watertown Maintenance Facility	Codington	Yes	Yes		
Watertown PCB Storage	Codington		Yes		
Watertown Substation	Codington	Yes	Yes		
Watertown Substation (Static Variance)	Codington		Yes		
White Substation	Brookings	Yes	Yes		
Wicksville Substation	Pennington	Yes	Yes		
Winner Substation	Tripp	Yes	Yes		
Witten Substation	Tripp	Yes	Yes		
Woonsocket Substation	Jerauld	Yes	Yes		
Yankton Substation	Yankton	Yes	Yes		
Utah					
Flaming Gorge Switchyard	Daggett	Yes	Yes		
Tyzack Substation	Uintah	Yes	Yes		
Vernal Substation	Uintah	Yes	Yes		
Wyoming					
Alcova Switchyard	Natrona	Yes	Yes		
Archer Substation	Laramie	Yes			
Badwater Substation	Fremont	Yes	Yes		
Basin Substation	Big Horn	Yes			
Big George Substation	Park	Yes			
Boysen Substation	Fremont	Yes			
Casper Field Office	Natrona	Yes			
Casper Mountain Microwave Site	Natrona	Yes			
Casper Substation	Natrona	Yes	Yes		
Cheyenne Substation	Laramie	Yes			
Copper Mountain Substation	Fremont	Yes	Yes		
Garland Substation	Park	Yes			
Glendale Substation	Park	Yes	Yes		
Glendo Substation	Platte	Yes	Yes		
Heart Mountain Substation	Park	Yes	Yes	Yes	

Facility Name	County	Tier II	SPCC	Revised 2005	New SPCC
Lingle Substation	Goshen	Yes	Yes		
Limestone Substation	Platte	Yes	Yes		
Lovell Substation	Big Horn	Yes			
Lusk Rural Substation	Niobrara	Yes			
Lusk Substation	Niobrara	Yes	Yes		
Lyman Substation	Goshen	Yes			
McCullough peak Microwave Site	Park	Yes			
Medicine Bow Substation	Carbon	Yes			
Meeteetse Substation	Park	Yes			
Miracle Mile Substation	Carbon	Yes			
Muddy Ridge Substation	Fremont	Yes			
North Cody Substation	Park	Yes			
Pilot Butte Substation	Fremont	Yes	Yes		
Pinebluffs Substation	Laramie	Yes			
Raderville Substation	Natrona	Yes			
Ralston Substation	Park	Yes			
Spence Substation	Natrona	Yes			
Thermopolis Substation	Hot Springs	Yes			
Torrington Substation	Goshen	Yes			
Warren Air Force Substation	Laramie	Yes			
Whiterock Substation	Platte	Yes			
TOTAL		**190**	**154**	**19**	**1**

APPENDIX B

SF6 Emissions Report to the Environmental Protection Agency for 2005

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THE WESTERN AREA POWER ADMINISTRATION'S SF_6 EMISSIONS REPORT TO THE ENVIRONMENTAL PROTECTION AGENCY FOR 2005

INTRODUCTION:

In 2005, the Western Area Power Administration (Western) made progress in their program to reduce sulfur hexafluoride (SF_6) related emissions into the environment. Three of Western's four regions are currently tracking emissions. Western is committed to reducing emissions to protect the environment and to provide top service to our customers through the minimization of electrical outages.

SUMMARY OF SF_6 EMISSIONS FOR 2005

Desert Southwest Region: The reported losses were 164 pounds (lbs). The total nameplate capacity is 50,210 lbs. The leakage rate is 164/50,210 or 0.32%. Nothing was reported last year because the tracking system wasn't in place.

Rocky Mountain Region (RMR): The reported losses were 2,588 lbs. The total nameplate capacity is 35,600 lbs. The leakage rate is 2588/35600 or 7.3%. Of the 2,588 lbs lost, 2,195 lbs were lost at one site from equipment replacement. If not for the loss at the one site, the emissions for RMR would have been lower this year.

Sierra Nevada Region: Not reporting. Tracking system is currently being developed.

Upper Great Plains Region:

Montana Maintenance Division: The reported losses were 20 lbs. The total nameplate capacity is 6,045 lbs. The leakage rate is 20/6,045 or 0.3%.

North Dakota Maintenance Division: The reported losses were 35 lbs. The total nameplate capacity is 8,782 lbs. The leakage rate is 35/8,782 or 0.4%. This year showed less emissions than last year when 46 lbs were emitted at 0.6% leakage

South Dakota Maintenance Division: The reported losses were 740 lbs. The total nameplate capacity is 26,200 lbs. The leakage rate is 740/26,200 or 2.8%. This year showed less emissions than last year when 1,416 lbs were emitted at a 5 leakage rate.

Western Overall: For the reporting regions, the total losses were 3,547 lbs. The total nameplate capacity is 126,837 lbs. The total leakage rate is 3,547/126,837 or 2.8%.

DESERT SOUTHWEST REGION

2005		SF_6 Losses	Total amount	Leakage
Substation/Tap	Abbrevation	in Lbs	in lbs of SF_6	Percentage
Amargosa			482	0
Apache	APE		55	0
Boulder City Tap	BTP		15	0
Buck Boulevard	BKB		2434	0
Blythe	BLY		924	0
Black Mesa	BMA		396	0
Casa Grande	CAG	8	496	0.01612903
Coolidge	COL		1823	0
Davis Dam	DAD		30	0
Del Back Switching Station	DLB		198	0
Eastside Switchyard	EAS		528	0
ED4	ED4		110	0
ED5	ED5	2	2	1
Flagstaff	FLG	17	101	0.16831683
Glen Canyon	GC	16	3520	0.00454545
Gila	GLA	6	596	0.01006711
Gavilan Peak	GPK		396	0
Griffith	GTH		132	0
Headgate	HDR		917	0
Harcuvar	HCR		242	0
Hilltop	HLT		396	0
Kayenta	KAY	18	152	0.11842105
Knob	KNB		528	0
Kofa	KOF	9	660	0.01363636
Liberty	LIB		2268	0
Lone Butte	LOB		792	0
McConnico	MCI		717	0
Mead 500 kV Yard	MDE		3506	0
Mead	MED	32	11875	0.00269474
Nogales	NGL		174	0
North Havasu	NHV		396	0
Newport Switchyard	NPT		660	0
Oracle	ORA		264	0
Parker Dam	PAD		818	0
Peacock	PCK		1428	0
Phoenix	PHX	43	624	0.06891026
Pinnacle Peak	PPK		4545	0
Prescott	PRS		264	0
Rogers	RGS		2100	0
Rattlesnake Tap	RSK		55	0
Raceway	RWY		405	0
Saguaro	SGR		345	0
Sonora	SON	13	50	0.26
Spook Hill	SPH		220	0
Sundance	SUD		792	0
Topock	TOP		1587	0
Test Track	TTT		396	0
Valley Farms	VAF		441	0

2005		SF_6 Losses	Total amount	Leakage
Substation/Tap	Abbrevation	in Lbs	in lbs of SF_6	Percentage
Wellton-Mohawk	WMS		125	0
Wellton-Mohawk Ligurta	WML		180	0
Wellton-Mohawk 1	WM1		25	0
Wellton-Mohawk 3	WM3		25	0
Total		164	50210	0.32%

Sulfur Hexafluoride (SF_6) Gas Loss Record for CY 2005
Rocky Mountain Region

The RMR has 264 SF_6 filled electrical devices in 55 facilities. The following table indicates where losses of SF_6 gas were found. The losses shown were classified as loss due to leakage, maintenance activities, or other causes.

Facility	Total lbs of Gas Lost Due to Leakage	Total lbs of Gas Lost Due to Maintenance Activities	Total lbs of Gas Lost Due to Other Causes	Total lbs of Gas Lost
Alcova	19.5	1	0	20.5
Ault	*1048	*1147	0	*2195
Basin	8	0	0	8
Beaver Creek	82	11.5	0	93.5
Casper Service Center	0	15	0	15
Curecanti	19	0	0	19
Fort Morgan West	18	0	0	18
Gering Service Center	2.3	0	0	2.3
Glendo	0.5	0	0	0.5
Hayden	21	0	0	21
Shiprock	15	0	0	15
Spence	23	0	0	23
Thermopolis	4	0	0	4
Virginia Smith Converter	10	81	0	91
Yellowtail	7	55		62
Totals:	1277.3	1310.5	0	**2587.8**

% of leakage is 2,587.8/35,600 or 7.3 %

In the past, we have reported separate SF_6 usage for the Loveland Power Marketing Operations Complex (PMOC) warehouse. Now, however, the Loveland based electrician crew is the only crew using the PMOC warehouse to supply SF_6 and all Warehouse receipts and issues are combined with crew usage as reported.

There were no leak detection and repair activities undertaken by RMR in 2005.

* Breakers being rebuilt contained a lot of nitrogen gas along with badly decomposed SF_6. Since the amounts couldn't be quantified, the numbers shown represent a higher amount than the actual amount released.

UPPER GREAT PLAINS REGION

SF_6 Emissions Reduction Partnership for Electric Power Systems

Annual Reporting Form

Name:	Matt Marsh	Company Name:	Western Area Power Administration
Title:	MMO Environmental Protection Specialist	Report Year:	2005
Phone:	406-526-8515	Date Completed:	12/21/2005

Change in Inventory (SF_6 contained in cylinders, not electrical equipment)

Invent. (in original cylinders beginning 2005 yr, **not** equip)	AMOUNT (lbs.)	Comments
1. Beginning of Year	1,427.50	
2. End of Year	1,407.50	
A. Change in Inventory (1 - 2)	20.00	

Purchases/Acquisitions of SF_6

	AMOUNT (lbs.)	Comments
3. SF_6 purchased from producers or distributors in cylinders or leftover in cylinders once new equipment filled	39	Added 2 cylinders (MC3 & WN)
4. SF_6 provided by equipment manufacturers with/inside equipment	187.00	MC3 and WN
5. SF_6 returned to the site after off-site recycling		
B. Total Purchases/Acquisitions (3+4+5)	226.00	

Sales/Disbursements of SF_6

	AMOUNT (lbs.)	Comments
6. Sales of SF_6 to other entities, including gas left in equipment that is sold		
7. Returns of SF_6 to supplier		
8. SF_6 sent to destruction facilities		
9. SF_6 sent off-site for recycling		
C. Total Sales/Disbursements (6+7+8+9)		

Change in Nameplate Capacity and new cylinders that came with new equipment

	AMOUNT (lbs.)	Comments
10. Amount of SF6 gas left in new cylinders	39	Added 2 cylinders (MC3 & WN)
11. Total nameplate capacity (proper full charge) of new equipment	187.00	MC3 and WN
12. Total nameplate capacity (proper full charge) of retired or sold equipment		
D. Change in Capacity (10 + 11) - 12	226.00	

Total Annual Emissions

	lbs. SF_6	Tonnes CO_2 equiv. (lbs.SF_6x23,900/2205)
E. Total Emissions (A+B-C-D)	20.00	216.78

Emission Rate (optional)

	AMOUNT (lbs.)	Comments
Total Nameplate Capacity at End of Year	6,045.00	
	PERCENT (%)	
F. Emission Rate (Emissions/Capacity)	0.3%	

SF_6 Emissions Reduction Partnership for Electric Power Systems

Annual Reporting Form

Name:	Cheryl J. Arndt/Reviewed by Chad Bourgoin	Company Name:	DOE, WAPA, UGP, North Dakota Maintenance
Title:	Property Management Specialist	Report Year:	Calender Year 2005
Phone:	701-221-4513	Date Completed:	1/20/2006

Change in Inventory (SF_6 contained in cylinders, not electrical equipment)

Inventory (in cylinders, **not** equipment)	AMOUNT (lbs.)	Comments
1. Beginning of Year	945.80	
2. End of Year	910.00	
A. Change in Inventory (1 - 2)	35.80	

Purchases/Acquisitions of SF_6

	AMOUNT (lbs.)	Comments
3. SF_6 purchased from producers or distributors in cylinders	-	
4. SF_6 provided by equipment manufacturers with/inside equipment	748.00	
5. SF_6 returned to the site after off-site recycling	-	
B. Total Purchases/Acquisitions (3+4+5)	748.00	

Sales/Disbursements of SF_6

	AMOUNT (lbs.)	Comments
6. Sales of SF_6 to other entities, including gas left in equipment that is sold	-	(Not included per Bus Rule - "Do not place into STOR's until after New Installed Equip. Filled": Transferred 116.5 to UGP-MMO. Borrowed 116.9 to Paradyme (Contractor) 12/1/2005 - they will replace in kind
7. Returns of SF_6 to supplier	7.80	
8. SF_6 sent to destruction facilities	-	
9. SF_6 sent off-site for recycling	-	
C. Total Sales/Disbursements (6+7+8+9)	7.80	

Change in Nameplate Capacity

	AMOUNT (lbs.)	Comments
10. Total nameplate capacity (proper full charge) of new equipment	654.50	
11. Total nameplate capacity (proper full charge) of retired or sold equipment	1.40	
D. Change in Capacity (10 - 11)	653.10	

Total Annual Emissions

	lbs. SF_6	Tonnes CO_2 equiv. (lbs.SF_6x23,900/2205)
E. Total Emissions (A+B-C-D)	35.40	383.70

Emission Rate (optional)

	AMOUNT (lbs.)	Comments
Total Nameplate Capacity at End of Year	8,781.50	
	PERCENT (%)	
F. Emission Rate (Emissions/Capacity)	0.40%	

Note: Actual issued to existing equipment:	**34**	368.53
F. Emission Rate (Emissions/Capacity)	**0.39%**	

SF_6 Emissions Reduction Partnership for Electric Power Systems

Annual Reporting Form

Name:	Tom Borkowski	Company Name:	DOE, WAPA, UGP, South Dakota Maintenance
Title:	Property Management Specialist	Report Year:	Calender Year 2005
Phone:	605-353-9277	Date Completed:	28-Mar-06

Change in Inventory (SF_6 contained in cylinders, not electrical equipment)

Inventory (in cylinders, **not** equipment)	AMOUNT (lbs.)	Comments
1. Beginning of Year	5,551.40	SF6 purchased during the year
2. End of Year	5,715.40	SF6 in inventory at the present time
A. Change in Inventory (2 - 1)	164.00	SF6 issued during the year

Purchases/Acquisitions of SF_6

	AMOUNT (lbs.)	Comments
3. SF_6 purchased from producers or distributors in cylinders	898.00	
4. SF_6 provided by equipment manufacturers with/inside equipment	701.00	
5. SF_6 returned to the site after off-site recycling		
B. Total Purchases/Acquisitions (3+4+5)	1,599.00	

Sales/Disbursements of SF_6

	AMOUNT (lbs.)	Comments
6. Sales of SF_6 to other entities, including gas left in equipment that is sold		
7. Returns of SF_6 to supplier		
8. SF_6 sent to destruction facilities		
9. SF_6 sent off-site for recycling		
C. Total Sales/Disbursements (6+7+8+9)	-	

Change in Nameplate Capacity

	AMOUNT (lbs.)	Comments
10. Total nameplate capacity (proper full charge) of new equipment	701.00	
11. Total nameplate capacity (proper full charge) of retired or sold equipment	198.00	
D. Change in Capacity (10 - 11)	503.00	

Total Annual Emissions

	lbs. SF_6	Tonnes CO_2 equiv. (lbs.SF_6x23,900/2205)
E. Total Issues	740.00	8,020.86

Emission Rate (optional)

	AMOUNT (lbs.)	Comments
Total Nameplate Capacity at End of Year	26,200.00	
	PERCENT (%)	
F. Emission Rate (Emissions/Capacity)	2.8%	

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APPENDIX C

2006 ANNUAL NEPA PLANNING SUMMARY

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Annual NEPA Planning Summary Status of Ongoing NEPA Compliance Activities: Environmental Assessments

Western Area Power Administration
January 27, 2005

*Title, Location	Estimated Cost	Estimated Schedule (**NEPA Milestones)		Description
Headgate Rock-Blythe No. 1, 161-kV Transmission Line Pole Replacement, Blythe, CA **DOE/EA-1427**	$43,000	Determination Date: Transmittal to State: EA Approval: FONSI:	3/7/2002 April-05 August-05 August-05	The purpose of the pole replacement project is to extend the life of the Headgate Rock-Blythe 161-kV transmission line by replacing the transmission line support structures in order to allow continued electrical transmission to customers in California and Arizona.
Harry Allen-Mead 500-kV Transmission Line, NV **DOE/EA-1470**	Applicant Funded	Determination Date: Transmittal to State: EA Approval: FONSI:	1/22/2003 3/4/2004 10/28/2004 10/28/2004	Western is a cooperating agency on this EA. Nevada Power Company (Nevada Power) has applied to Western to interconnect the proposed Harry Allen-Mead 500-kilovolt (kV) Transmission Line Project at Mead Substation and to build a portion of the transmission line across Western-managed lands west of Mead Substation.
Parker-Gila 161-kV Transmission Line Relocation, Arizona **DOE/EA-1487**	$63,000	Determination Date: Transmittal to State: EA Approval: FONSI:	11/20/2003 12/23/2004 March-05 March-05	Western owns, operates, and maintains the Parker-Gila 161-kV Transmission Line. Western proposes to reroute this portion of the transmission line to enhance public health and safety, improve electrical service reliability, and prevent future ROW encroachements in this area.
Beaver Creek-Hoyt-Wiggins Transmission Line Rebuild, Morgan and Weld Counties, CO **DOE/EA-1508**	$725,000	Determination Date: Transmittal to State: EA Approval: FONSI:	8/17/2004 April-05 July-05 July-05	Western proposes to rebuild and upgrade the Beaver Creek to Hoyt 115-kV transmission line to a double-circuit 230-kV line; the Hoyt to Erie 115-kV line to a 230-kV double circuit line and the Hoyt-Wiggins 115-kV line. Approximately 91 miles of line are involved. The lines are in Weld and Morgan Counties, Colorado.
Granby Pumping Plant-Windy Gap Transmission Line Rebuild Project, Grand County, Colorado **DOE/EA-1520**	$200,000 (env. contract not awarded yet)	Determination Date: Transmittal to State: EA Approval: FONSI:	12/10/2004 October-05 January-06 January-05	Western proposes to rebuild and upgrade the Granby Pumping Plant-Windy Gap 60-kV transmission line, between the Windy Gap Substation and the Granby Pumping Plant, a distance of 11.7 miles. The project is located in Grand County, Colorado.

Annual NEPA Planning Summary Status of Ongoing NEPA Compliance Activities: Environmental Assessments Continued

Cheyenne-Miracle Mile and Ault-Cheyenne Transmission Line Rebuild Project, WY **DOE/EA-1456**	$1,000,000	Determination Date: Transmittal to State: EA Approval: FONSI:	9/30/2002 3/31/2005 4/31/2005 4/31/2005	Western proposes to rebuild the Cheyenne-Miracle Mile and Ault-Cheyenne 115-kV transmission lines, and construct a new substation at Laramie, Wyoming. The project is located in Carbon, Albany and Laramie counties, Wyoming and Weld County, Colorado.
Peetz Table Wind Project, Peetz, Colorado	Applicant Funded	Determination Date: Transmittal to State: EA Approval: FONSI:	12/16/2004 2/1/2005 3/31/2005 3/31/2005	Invenergy Wind Power, LLC has applied to Western to interconnect a proposed 129 MW wind power facility to Western's 230-kV North Yuma-Sidney transmission line. The estimated average annual output would be 49 MW. The project is located in Peetz, Colorado.
Sacramento Valley Right-of-Way Maintenance, Sacramento Valley, CA **DOE/EA-1395**	$1,200,000	Determination Date: Transmittal to State: EA Approval: FONSI:	1/18/2001 5/24/2002 June-05 June-05	Western is preparing an Environmental Assessment in response to proposed changes in operation and maintenance procedures along Western's Sacramento Valley transmission line right of way.
East Altamont Energy Center, CA **DOE/EA-1411**	Applicant Funded	Determination Date: Transmittal to State: EA Approval: FONSI:	9/20/2001 12/6/2001 9/19/2002 6/2/2004	East Altamont Energy Center, LLC applied to Western to interconnect a proposed 1100 MW combined-cycle combustion generation facility with Western's Tracy Substation near Tracy, California.
Charlie Creek-Williston Fiber Optic Overhead Ground Wire Installation, ND **DOE/EA-1389**	$120,000	Determination Date: Transmittal to State: EA Approval: FONSI:	3/20/2001 4/7/2004 August-05 August-05	Western is preparing an EA to address its proposal to replace transmission structures and install optical overhead ground wire between Charlie Creek and Williston substations in North Dakota. The structures need to be replaced due to deterioration and the need for additional clearance for the ground wires.
Havre-Rainbow Transmission Line Rebuild, Montana **DOE/EA-1424**	$350,000	Determination Date: Transmittal to State: EA Approval: FONSI:	12/12/2001 July-05 September-05 September-05	Western is preparing an EA to address its proposal to replace transmission structures and install optical overhead ground wire between Havre and Rainbow substations in Montana. Portions of the transmission line would be rerouted to reduce land use conflicts.

Annual NEPA Planning Summary Environmental Assessments Expected to be Prepared in the Next 12 Months

Western Area Power Administration
January 27, 2005

*Title, Location	Estimated Cost	Estimated Schedule (**NEPA Milestones)		Description
North Valley Right-of-Way Maintenance, Sacramento Valley, CA	$1,200,000	Determination Date:	January-05	Western is preparing an Environmental Assessment in response to proposed changes in operation and maintenance procedures along Western's North Area transmission right-of-way (ROW) in California. Western proposes to change the current vegetation maintenance procedures to include the expanded use of herbicides in combination with manual and mechanical removal methods in an effort to promote low-growing plant communities. The Environmental Assessment (EA) will support further Endangered Species Act Section 7 consultation required when Western conducts maintenance activities that are beyond those covered in the Biological Opinion.
		Transmittal to State:	January-06	
		EA Approval:	June-06	
		FONSI:	June-06	
Trinity PUD Direct Interconnect, CA	$200,000	Determination Date:	Pending	Western is preparing an Environmental Assessment to analyze a proposed transmission line in Trinity County, California, to improve electric reliability in the area.
		Transmittal to State:	May-05	
		EA Approval:	June-05	
		FONSI:	June-05	
East Side Peaking Project, SD	Applicant Funded	Determination Date:	February-05	Western is a cooperating agency with Rural Utilities Service for a less than 50 MW peaking plant in Groton, South Dakota.
		Transmittal to State:	March-05	
		EA Approval:	May-05	
		FONSI:	May-05	

Annual NEPA Planning Summary Environmental Assessments Expected to be Prepared in the Next 12 Months Continued				
Buffalo Ridge-White 115-kV Transmission Line Interconnection, MN and SD	Applicant Funded	Determination Date:	January-05	XCEL Energy proposes to construct a new 115-kV transmission line and associated structures and electrical equipment to connect the Buffalo Ridge Substation in Lincoln County, Minnesota, with Western's White Substation in Brookings County, South Dakota.
		Transmittal to State:	May-05	
		EA Approval:	November-05	
		FONSI:	November-05	
Valley County Wind Energy Project, MT	Applicant Funded	Determination Date:	February-05	Wind Hunter, LLC proposes to construct a 400 MW wind farm in northern Montana and interconnect with Western's transmission system. Bureau of Land Management would be the lead agency. Western would be a cooperating agency and adopt BLM's Programmatic Wind EIS to support a tiered EA process.
		Transmittal to State:	July-05	
		EA Approval:	October-05	
		FONSI:	October-05	
Blythe Energy Project Phase II, CA	Applicant Funded	Determination Date:	February-05	Caithness Energy proposes to construct a 520 MW combined-cycle natural gas fueled power plant adjacent to the existing Blythe Energy Project in Blythe, California and interconnect with Western's transmission system. Western and the California Energy Commission will conduct a joint environmental review process.
		Transmittal to State:	March-05	
		EA Approval:	December-05	
		FONSI:	December-05	

Annual NEPA Planning Status of Ongoing NEPA Compliance Activities: Environmental Impact Statements

Western Area Power Administration
January 27, 2005

*Title, Location	Estimated Cost	Estimated Schedule (**NEPA Milestones)		Description
Operation of Flaming Gorge Dam, Colorado River Storage Project, Colorado River, UT **DOE/EIS-0351**	N/A	Determination Date:	6/6/2000	Western is a cooperating agency with the Bureau of Reclamation for the Upper Colorado River Endangered Fish Recovery Program
		NOI:	6/6/2000	
		Scoping:	7/11-19/2000	
		Draft	8/29/2004	
		Hearings	10/12,13,19-21/2004	
		Final		
		ROD		
Caithness Big Sandy Project, Wikieup, AZ **DOE/EIS-0315**	Applicant Funded	Determination Date:	3/3/2000	Project is on hold at the request of the applicant.
		NOI:	4/18/2000	
		Scoping:	5/3/2000	
		Draft	6/22/2001	
		Hearings	7/24/2001	
		Final		
		ROD		
SEIS on Caithness Big Sandy Project **DOE/EIS-1315-S1**	Applicant Funded	Supplemental Analysis:	5/29/2002	
		Determination Date:	12/28/2001	
		Approval:		
Welton-Mohawk 520 MW Generating Facility, AZ **DOE/EIS-0358**	Applicant Funded	Determination Date:	4/2/2003	Welton-Mohawk 520 MW Generating Facility located in Wellton, Arizona. Western is the lead Agency under NEPA and BLM and Bureau of Reclamation will be cooperating Agencies.
		NOI:	5/19/2003	
		Scoping:	6/3-4/2003	
		Draft	3/25/2005	
		Hearings	April-05	
		Final	September-05	
		ROD	November-05	

Annual NEPA Planning Status of Ongoing NEPA Compliance Activities: Environmental Impact Statements Continued

Platte River Cooperative Agreement PEIS, NE, WY, CO **DOE-EIS-0295**	N/A	Determination Date:	2/5/1998	Western is a cooperating agency with the Fish and Wildlife Service for the Platte River Cooperative Agreement Programmatic EIS.
		NOI:	2/10/1998	
		Scoping:	2/25/1998-4/7/1998	
		Draft	1/26/2004	
		Hearings	7/26/2004-8/10/2004	
		Final		
		ROD	December-05	
Windy Gap Firming Project, CO **DOE/EIS-0370**	N/A	Determination Date:	7/1/2003	Western is a cooperating agency with the Bureau of Reclamation for the Windy Gap Firming Project, Colorado. The EIS will address options for rerouting a transmission line that would be affected by the project.
		NOI:	9/8/2003	
		Scoping:	9/30/2003-10/2/2003	
		Draft	June-05	
		Hearings		
		Final		
		ROD		
Sacramento Voltage Support, CA **DOE/EIS-0323**	$1,200,000 (estimated final costs)	Determination Date:	8/8/2000	Western proposes transmission system additions and improvements to resolve voltage support problems occuring on the transmission system in Sacramento area of California.
		NOI:	8/8/2000	
		Scoping:	9/12-21/2001; 3/22/2001; 9/19/2001	
		Draft	11/15/2002	
		Hearings	12/9-12/2002	
		Final	9/19/2003	
		ROD	1/12/2004	

Annual NEPA Planning Summary Environmental Impact Statements Expected to be Prepared in the Next 24 Months

Western Area Power Administration
January 27, 2005

*Title, Location	Estimated Cost	Estimated Schedule (**NEPA Milestones)		Description
Big Stone II Power Plant Addition, MN and SD	Applicant Funded	Determination Date:	February-05	Addition of a 600 MW, coal-based generating unit at Big Stone Generating Plant near Milbank, South Dakota. Western would be the lead Federal agency.
		NOI:	May-05	
		Scoping:	May-05	
		Draft	February-06	
		Hearings	March-06	
		Final	August-06	
		ROD	November-06	
Navitas Wind Farm, SD	Applicant Funded	Determination Date:	January-05	Development of a 400 MW wind farm near White, South Dakota. Western would be the lead Federal agency.
		NOI:	February-05	
		Scoping:	February-05	
		Draft	August-05	
		Hearings	September-05	
		Final	January-06	
		ROD	February-06	
Dolan Springs Wind Farm, AZ	Applicant Funded	Determination Date:	June-05	Development of a 400 MW wind farm near Dolan Springs, Arizona. Western would be a cooperating agency and the Bureau of Land Management would be the lead Federal agency. Western plans to adopt the BLM Programmatic Wind EIS to support its review.
		NOI:	July-05	
		Scoping:	August-05	
		Draft	January-06	
		Hearings	February-06	
		Final	July-06	
		ROD	September-06	

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APPENDIX D

2005 CATEGORICAL EXCLUSIONS UNDER NEPA

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CATEGORICAL EXCLUSIONS COMPLETED IN CALENDAR YEAR 2005

CATEGORICAL EXCUSIONS[1]	DATE
Desert Southwest Region	
Coolidge Substation Placement of Five Concrete Bollards Around a Compressed Gas Tank.	1/2005
Liberty Substation Breaker Replacement	1/2005
Wellton Mohawk Substation Transformer Replacement	3/2005
Davis/Topock 230 Reconductor	3/2005
Hoover-Mead #8 230-kV Transmission Line, Emergency Damaged Conductor Work.	6/2005
Boulder Canyon Rate Adjustment	7/2005
Pinnacle Peak/Rogers Structure 17.3 Replacement	9/2005
Rate Adjustment for the Central Arizona Project 115/230-kV Transmission Line Project.	10/2005
Western's Portion of the Arizona Department of Transportation's Red Mountain Freeway (Loop 202) State Route 87 to US Route 60 Project – Relocation with Shoofly for the BOR's Spook Hill-Salt Gila 69-kV Transmission Line and modifications to Western's Rogers-Coolidge 230-kV Transmission Line.	10/2005
Gavilan Peak Reconductor	10/2005
Installation of a Bushing Storage Rack at Peacock Substation.	12/2005
Rocky Mountain Region	
Laporte Tap to Dixon Creek Substation 115/230-kV Transmission Line	1/11/2005
Lingle-Torrington and East Morrill Tap-Lyman Tree Removal at the Platte River Crossings	2/7/2005
Rocky Mountain Region, Power Marketing Operations Complex, Relocation of Facility Entrance	4/21/2005
Curecanti-Rifle 24-2 to 27-1 Road Maintenance and Culvert Installation	4/25/2005
Loveland Area Projects Western Area Colorado Missouri Balancing Authority Rate Adjustment for Regulation and Frequency Response Service	4/27/2005
Loveland Area Projects Rate Adjustments for Firm Electric Service	5/19/2005
Dead Fall Chipping/Mulching along Hesperus-Montrose 345-kV transmission line (Structure 366 to 409), Summer 2005.	6/13/2005
Installation of Optical Ground Wire on the Buffalo Bill Switchyard to North Cody Substation Transmission Line; Heart Mountain to North Cody Substation Transmission Line; and Big George Substation to Heart Mountain Substation Transmission Line,	6/5/2005
Weld Substation Pest Control	9/1/2005
Rocky Mountain Region, Power Marketing Complex, Installation of Fiber Optic Cable	9/8/2005
Flaming Gorge Substation Stage 04 Transformer Replacement	12/21/2005
Curecanti-Rifle 115-kV Transmission Line Access Road Repair and Vegetation Management	12/20/2005

[1] The Colorado River Storage Project Management Center did not prepare any CX's in 2005.

CATEGORICAL EXCUSIONS	DATE
Sierra Nevada Region	
Cottonwood-Roseville Tower 156/5-157/3 and Roseville-Fiddyment 3/2-2/4	1/4/2005
Captain Jack-Olinda access road upgrade and erosion control Tower 426-427	1/10/2005
Columbia Mowery 12-kV T-line vegetation management	1/12/2005
Shasta-Cottonwood No.1 & No.2 Flannagan-Keswick 3/5-4/2 vegetation management	3/16/2005
Revised-Clear trees & brush under ROW and along access roads Elverta-Hurley, Hurley-Tracy 7/3-11/4	5/9/2005
FY06 Washoe proposed rates w/CVP Power Marketing Plan	6/7/2005
Airport-Cottonwood Tower 11/1-14/5	8/30/2005
Captain Jack-Olinda (Towers 31-40, 110-111, 134-135, 156-157, 163-164) 1800-cx-6-2 (Group 1)	8/30/2005
Captain Jack-Olinda (Towers 195-209, 210, 213-214, 225-250) 1800-cx-6-3 (Group 2)	8/30/2005
Captain Jack-Olinda (Towers 295-298, 300-319, 322-336) 1800-cx-6-4 (Group 3)	8/30/2005
Captain Jack-Olinda (Towers 358-364, 371, 388, 405-418, 429-431) 1800-cx-6-5 (Group 4)	8/30/2005
Captain Jack-Olinda (Towers 447, 457-490) 1800-cx-6-6 (Group 5)	8/30/2005
Captain Jack-Olinda (Towers 505-514, 524-527) 1800-cx-6-7 (Group 6)	8/30/2005
Captain Jack-Olinda (Towers 528-534, 556-559, 576-577) 1800-cx-6-8 (Group 7)	8/30/2005
Captain Jack-Olinda (Towers 581, 608-609, 619, 648) 1800-cx-6-9 (Group 8)	8/30/2005
Captain Jack-Olinda Towers 446, 448-446	8/30/2005
Spring Creek-Keswick 0/1-1/6 and Carr-Keswick No.2 11/4	8/30/2005
Keswick-Airport 1/1-2/1 & 6/5-8/4	8/30/2005
Cottonwood-Roseville 97/1-100/1	8/30/2005
Flannagan-Keswick 6/3-7/3	8/30/2005
Keswick-Olinda, Keswick O'Banion 8/2-11/4 and Shasta-Cottonwood No.1 & No.2 15/2-18/4	8/30/2005
Access road grading on COTP Berryessa Peak Communication Tower Facility	9/15/2005
Update Shasta-Cottonwood No.1 & No.2 Flannagan-Keswick 3/5-4/1	9/27/2005
CVP Rate Order WAPA-128	10/26/2005
I-580 Over crossing-Replace aircraft warning lights	10/26/2005
Trinity Substation New Construction	10/26/2005
Operation and Maintenance on Captain Jack-Olinda 446-449	10/28/2005
Upper Great Plains Region	
Ward Delivery Substation Project	4/28/2005
Revised Rates for Pick-Sloan Missouri Basin Program--Eastern Division Firm Electric And Firm Peaking Powers Services	6/2005
New Oil Containment at Grand Island, NE	3/2005
New Oil Containment at Granite Falls, MN	3/2005
New Oil Containment at Rapid City, SD	3/2005
New Oil Containment at Summit, SD	3/2005
Foundation Replacement and Regeneration Site and Chain Link Fence at the following sites: Leeds, Linton, Tappen, and Grand Forks, ND and Glenham, SD	4/2005
New Oil Containment at Eagle Butte, Gregory, Phillip, and Flandreau, SD	4/2005
Stage 12 Foundations at Groton, SD	9/2005
Devils Lake, ND concrete foundation on the DL-Carrington 115-kV Line	10/2005

APPENDIX E

STANDARD MITIGATIVE MEASURES FOR CONSTRUCTION, OPERATION, AND MAINTENANCE OF WESTERN FACILITIES

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WESTERN AREA POWER ADMINISTRATION
STANDARD MITIGATIVE PRACTICES

Mitigation Measures:

1. The contractor shall limit the movement of its crews and equipment to the right-of-way (ROW), including access routes. The contractor shall limit movement on the ROW so as to minimize damage to grazing land, crops, or property, and shall avoid marring the land.

2. When weather and ground conditions permit, the contractor shall obliterate all contractor-caused deep ruts that are hazardous to farming operations and to movement of equipment. Such ruts shall be leveled, filled, and graded, or otherwise eliminated in an approved manner. In hay meadows, alfalfa fields, pastures, and cultivated productive lands, ruts, scars, and compacted soils shall have the soil loosened and leveled by scarifying, harrowing, discing, or other approved methods. Damage to ditches, tile drains, terraces, roads, and other features of the land shall be corrected. Before final acceptance of the work in these agricultural areas, all ruts shall be obliterated, and all trails and areas that are hard-packed as a result of contractor operations shall be loosened, leveled, and reseeded. The land and facilities shall be restored as nearly as practicable to their original conditions.

3. Water bars or small terraces shall be constructed across all ROW and access roads on hillsides to prevent water erosion and to facilitate natural revegetation.

4. The contractor shall comply with all Federal, State, and local environmental laws, orders, and regulations. Prior to construction, all supervisory construction personnel and heavy equipment operators will be instructed on the protection of cultural and ecological resources.

5. The contractor shall exercise care to preserve the natural landscape and shall conduct its construction operations so as to prevent any unnecessary destruction, scarring, or

defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, approved construction roads, or excavation operations, all trees, native shrubbery, and vegetation shall be preserved and shall be protected from damage by the contractor's construction operations and equipment. The edges of clearings and cuts through tree, shrubbery, or other vegetation shall be irregularly shaped to soften the undesirable visual impact of straight lines. Where such clearing occurs in the Lake Mead National Recreation Area, the contractor shall consult with the on-site Park Representative.

6. On completion of the work, all work areas except access roads shall be scarified or left in a condition which will facilitate natural revegetation, provide for proper drainage, and prevent erosion. All destruction, scarring, damage, or defacing of the landscape resulting from the contractor's operations shall be repaired by the contractor.

7. Construction staging areas shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent. On abandonment, all storage and construction buildings, including concrete footings and slabs, and all construction materials and debris shall be removed from the site. The area shall be regraded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion.

8. Borrow pits shall be excavated so that water will not collect and stand therein. Before being abandoned, the sides of borrow pits shall be brought to stable slopes, with slope intersections shaped to carry the natural contour of adjacent undisturbed terrain into the pit or borrow area giving a natural appearance. Waste piles shall be shaped to provide a natural appearance.

9. Construction activities shall be performed by methods that will prevent entrance, or accidental spillage, of solid matter contaminants, debris, any other objectionable pollutants and wastes into streams, flowing or dry watercourses, lakes, and underground water sources. Such pollutants and waste include, but are not restricted to refuse,

garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailing, mineral salts, and thermal pollution.

10. Dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, streams or watercourses, shall be conducted in a manner to prevent muddy water and eroded materials from entering the streams or watercourses by construction of intercepting ditches, bypass channels, barriers, settling ponds, or by other approved means.

11. Excavated material or other construction materials shall not be stockpiled or deposited near or on stream banks, lake shorelines, or other watercourse perimeters where they can be wasted away by high water or storm runoff or can in any way encroach upon the actual watercourse itself.

12. Waste waters from concrete batching, or other construction operations shall not enter streams, watercourses, or other surface waters without the use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, approved flocculating processes that are not harmful to fish, recirculation systems for washing of aggregates, or other approved methods. Any such waste waters discharged into surface waters shall be essentially free of settleable material. For the purpose of these specifications, settleable material as defined as that material which will settle from the water by gravity during a 1-hour quiescent detention period.

13. The contractor shall utilize such practicable methods and devices as are reasonably available to control, present, and otherwise minimize atmospheric emissions or discharges of air contaminants.

14. The emission of dust into the atmosphere will not be permitted during the manufacture, handling, and storage of concrete aggregate, and the contractor shall use such methods and equipment as necessary for the collection and disposal, or prevention, of dust during

these operations. The contractor's methods of storing and handling cement and pozzolans shall also include means of eliminating atmospheric discharges of dust.

15. Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, shall not be operated until repairs or adjustments are made.

16. The contractor shall prevent any nuisance to persons or damage to crops, cultivated fields, and dwellings from dust originating from his operations. Oil and other petroleum derivatives shall not be used for dust control. Speed limits shall be enforced, based on road conditions, to reduce dust problems.

17. To avoid nuisance conditions due to construction noise, all internal combustion engines used in connection with construction activity shall be fitted with an approved muffler and spark arrester.

18. Burning or burying waste materials on the ROW or at the construction site will be permitted if allowed by local regulations. The contractor shall remove all other waste materials from the construction area. All materials resulting from the contractor's clearing operations shall be removed from the ROW.

19. The contractor shall make all necessary provisions in conformance with safety requirements for maintaining the flow of public traffic and shall conduct its construction operations to offer the least possible obstruction and inconvenience to public traffic.

20. Western will apply necessary mitigation to eliminate problems of induced currents and voltages onto conductive objects sharing a ROW, to the mutual satisfaction to the parties involved.

21. Structures will be carefully located to avoid sensitive vegetative conditions, including wetlands, where practical.

22. ROW will be located to avoid sensitive vegetation conditions including wetlands where practical, or, if they are linear to cross them at the least sensitive feasible point.

23. Removal of vegetation will be minimized to avoid creating a swath along the ROW.

24. Topsoil will be removed, stockpiled, and respread at all heavily disturbed areas not needed for maintenance access.

25. All disturbed areas not needed for maintenance access will be reseeded using mixes approved by the landowner or land management agency.

26. Erosion control measures will be implemented on disturbed areas, including areas that must be used for maintenance operations (access ways and areas around structures).

27. The minimum area will be used for access ways (12 feet to 15 feet wide, except where roadless construction is used).

28. Structures will be located and designed to conform with the terrain. Leveling and benching of the structure sites will be the minimum necessary to allow structure assembly and erection.

29. ROW will be located to utilize the least steep terrain and, therefore, to disturb the smallest area feasible.

30. Careful structure location will ensure spanning of narrow flood prone areas.

31. Structures will not be sited on any potentially active faults.

32. Structure sites and other disturbed areas will be located at least 300 feet, where practical, from rivers, streams (including ephemeral streams), ponds, lakes, and reservoirs.

33. New access ways will be located at least 300 feet, where practical, from rivers, ponds, lakes, and reservoirs.

34. At crossings of perennial streams by new access ways, culverts of adequate size to accommodate the estimated peak flow of the stream will be installed. Construction areas will minimize disturbance of the stream banks and beds during construction. The mitigation measures listed for soil/vegetation resources will be performed on areas disturbed during culvert construction.

35. If the banks of ephemeral stream crossings are sufficiently high and steep that breaking them down for a crossing would cause excessive disturbance, culverts will be installed using the same measures as for culverts on perennial streams.

36. Blasting will not be allowed.

37. Power line structures will be located, where practical, to span small occurrences of sensitive land uses, such as cultivated areas. Where practicable, construction access ways will be located to avoid sensitive conditions.

38. ROW will be purchased at fair market value and payment will be made of full value for crop damages or other property damage during construction or maintenance.

39. The Power line will be designed to minimize noise and other effects from energized conductors.

40. The precise location of all structure sites, ROW, and other disturbed areas will be determined in cooperation with landowners or land management agencies.

41. Crossing of operating railroads by construction vehicles or equipment in a manner that would cause delays to railroad operations will be avoided. Construction will be coordinated with railroad operators. Conductors and overhead wire string operations would use guard structures to eliminate delays.

42. Before construction, Western will perform a Class III (100 percent of surface) cultural survey on all areas to be disturbed, including structure sites and new access ways. These surveys will be coordinated with the appropriate land owner or land management

agency. A product of the survey will be a Cultural Resources Report recording findings and suggesting mitigation measures. These findings will be reviewed with the State Historic Preservation Offices and other appropriate agencies, and specific mitigation measures necessary for each site or resource will be determined. Mitigation may include careful relocation of access ways, structure sites, and other disturbed areas to avoid cultural sites that should not be disturbed, or data recovery.

43. The contractor will be informed of the need to cease work in the location if cultural resource items are discovered.

44. Construction activities will be monitored or sites flagged to prevent inadvertent destruction of any cultural resource for which the agreed mitigation was avoidance.

45. Construction crews will be monitored to the extent possible to prevent vandalism or unauthorized removal or disturbance of cultural artifacts or materials from sites where the agreed mitigation was avoidance.

46. Should any cultural resources that were not discovered during the Class III Survey be encountered during construction, ground disturbance activities at that location will be suspended until the provisions of the National Historic Preservation Act and enabling legislation have been carried out.

47. Construction activities will be monitored or significant locations flagged to prevent inadvertent destruction of any paleontological resource for which the agreed mitigation was avoidance.

48. Clearing for the access road will be limited to only those trees necessary to permit the passage of equipment.

49. The access road will follow the lay of the land rather than a straight line along the ROW where steep features would result in a higher disturbance.

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APPENDIX F

ENVIRONMENTAL CONSTRUCTION STANDARDS

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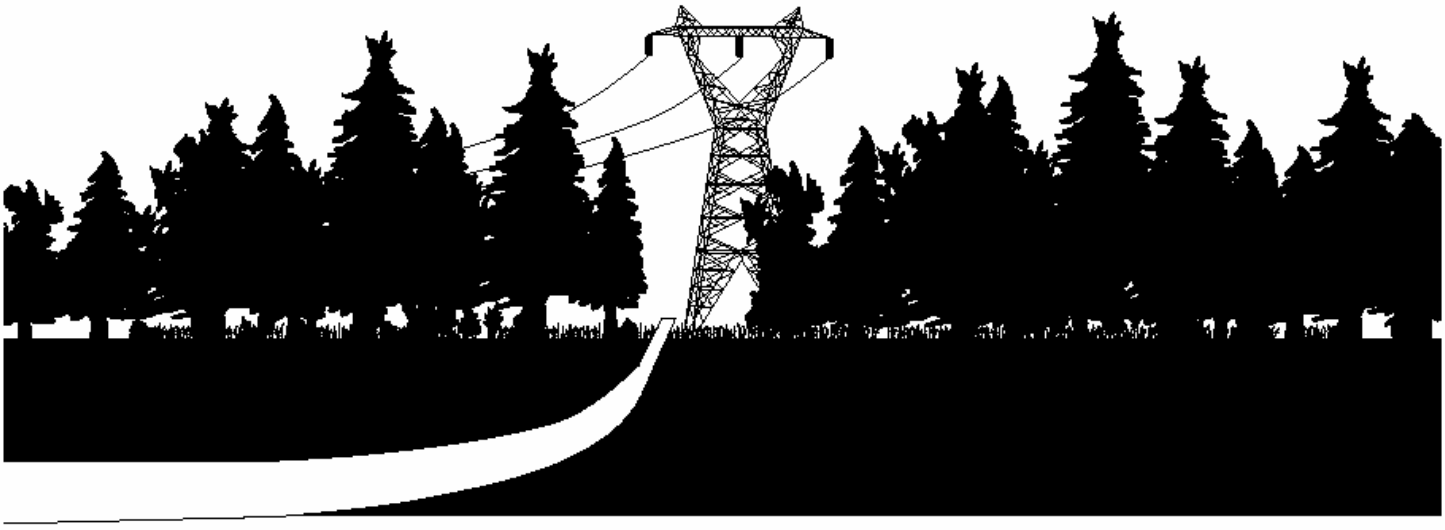
Western
AREA POWER
ADMINISTRATION

CONSTRUCTION STANDARDS

STANDARD 13

ENVIRONMENTAL QUALITY PROTECTION



July 2005

SAFETY
A HABIT TO LIVE BY

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

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STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.1--CONTRACTOR FURNISHED DATA

1. RECYCLED MATERIAL QUANTITY REPORT: Submit quantities for recycled material listed in Section 13.6, "Recycled Material Quantities", to the COR after completion and prior to submittal of final invoice.

2. PRODUCTS CONTAINING RECOVERED MATERIAL REPORT: Provide the COR the following information for purchases of items listed in Section 13.7, "Use of Products Containing Recovered Material":

   (1) Quantity and cost of listed items with recovered material content and quantity and cost of listed items without recovered material content after completion and prior to submittal of final invoice.

   (2) Written justification 7 days prior to purchase of listed items if recovered material content products are not available: 1) competitively within a reasonable time frame; 2) that meet performance criteria defined in the Standards or Project Specifications; or 3) at a reasonable price.

3. RECLAIMED REFRIGERANT RECEIPT: A receipt from the reclaimer stating that the refrigerant was reclaimed, the amount and type of refrigerant, and the date shall be submitted to the COR after completion and prior to submittal of final invoice in accordance with Section 13.8.5, “Refrigerants And Receipts”.

4. WASTE MATERIAL QUANTITY REPORT: Submit quantities of total project waste material disposal as listed below to the COR after completion and prior to submittal of final invoice in accordance with Section 13.8.8, “Waste Material Quantity Report”.

   (1) Sanitary Wastes: Volume in cubic yards or weight in pounds.

   (2) Hazardous or Universal Wastes: Weight in pounds.

   (3) PCB Wastes: Weight in pounds.

   (4) Other regulated wastes (e.g., lead-based paint or asbestos): Weight in pounds (specify type of waste in report).

5. SPILL PREVENTION NOTIFICATION AND CLEANUP PLAN (Plan): Submit the Plan as described in Section 13.10.2, "Spill Prevention Notification and Cleanup Plan”, to the COR for approval 14 days prior to start of work. Approval of the Plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

6. TANKER OIL SPILL PREVENTION AND RESPONSE PLAN: Submit the Plan as described in Section 13.10.3, "Tanker Oil Spill Prevention and Response Plan”, to the COR for approval 14 days prior to start of work. Approval of the Plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

7. PESTICIDE USE PLAN: Submit two copies of a pesticide use plan as described in Section 13.11.3, “Pesticide Use Plan”, to the COR for approval 14 days prior to use. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Within seven days

after application, submit a written report in accordance with Standard 2 – Sitework, Section 2.1.1.5, "Soil-Applied Herbicide".

8. TREATED WOOD POLE AND MEMBERS RECYCLING CONSUMER INFORMATION RECEIPT: Submit treated wood pole and members consumer receipt forms to the COR after completion and prior to submittal of final invoice (see 13.12, "Treated Wood Poles and Members Recycling or Disposal").

9. PREVENTION OF AIR POLLUTION: Submit a copy of permits, if required, from Federal, State, or local agencies to the COR 14 days prior to the start of work.

10. ASBESTOS LICENSES OR CERTIFICATIONS: Submit a copy of licenses and/or certifications for asbestos work as described in 13.14, "Handling and Management of Asbestos Containing Material" paragraph a., to the COR prior to work. Submit copies of certificates of disposal and/or receipts for waste to the COR after completion and prior to submittal of final invoice.

11. LEAD PAINT NOTICES: Submit a copy of lead paint notices as described in 13.15, "Material with Lead-based Paint" paragraph b., to the COR upon completion and prior to submittal of final invoice. Submit copies of certificates of disposal and/or receipts for waste to the COR after completion and prior to submittal of final invoice.

12. WATER POLLUTION PERMITS: Submit copies of any water pollution permits as described in 13.16, "Prevention of Water Pollution" paragraph b., to the COR prior to work.

13. PCB TEST REPORT: Submit a PCB test report as described in 13.17, "Testing, Draining, Removal, and Disposal of Oil-filled Electrical Equipment" paragraph b., prior to draining, removal, or disposal of oil or oil-filled equipment that is designated for disposal.

14. OIL AND OIL-FILLED ELECTRICAL EQUIPMENT RECEIPT: Obtain and submit a receipt for oil and oil-filled equipment transported and disposed, recycled, or reprocessed as described in 13.17, "Testing, Draining, Removal, and Disposal of Oil-filled Electrical Equipment", to the COR upon completion and prior to submittal of final invoice.

15. OSHA PCB TRAINING RECORDS: Submit employee training documentation records to the COR 14 days prior to the start of work as described in 13.18.1.

16. CLEANUP WORK MANAGEMENT PLAN: Submit a Cleanup Work Management Plan as described in 13.18, "Removal of Oil-contaminated Material" paragraph b., to the COR for approval 14 days prior to the start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

17. POST CLEANUP REPORT: Submit a Post-Cleanup Report as described in 13.18, "Removal of Oil-contaminated Material" paragraph g., to the COR upon completion and prior to submittal of final invoice.

SECTION 13.2--ENVIRONMENTAL REQUIREMENTS

Comply with Federal, State, and local environmental laws and regulations. The sections in this Standard further specify the requirements.

SECTION 13.3--LANDSCAPE PRESERVATION

1. GENERAL: Preserve landscape features in accordance with the contract clause titled “Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements.”

2. CONSTRUCTION ROADS: Location, alignment, and grade of construction roads shall be subject to the COR's approval. When no longer required, construction roads shall be restored to their original condition. Surfaces of construction roads shall be scarified to facilitate natural revegetation, provide for proper drainage, and prevent erosion. If revegetation is required, then use regionally native plants.

3. CONSTRUCTION FACILITIES: Shop, office, and yard areas shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent and prevent impact on sensitive riparian areas and flood plains. Storage and construction buildings, including concrete footings and slabs, shall be removed from the site prior to contract completion. The area shall be regraded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion. If revegetation is required, then use regionally native plants.

SECTION 13.4--PRESERVATION OF CULTURAL AND PALEONTOLOGICAL RESOURCES

1. GENERAL: Do not remove or alter cultural artifacts or paleontological resources (fossils). Cultural artifacts are of potential scientific or cultural importance and include bones, tools, historic buildings, and features. Paleontological resources can be of scientific importance and include mineralized animals and plants or trace fossils such as footprints. Both cultural and paleontological resources are protected by Federal Regulations during Federal construction projects.

2. KNOWN CULTURAL OR PALEONTOLOGICAL SITES: Following issuance of notice to proceed, Western will provide two sets of plan and profile drawings showing sensitive areas located on or immediately adjacent to the transmission line right-of-way and/or facility. These areas shall be considered avoidance areas. Prior to any construction activity, the avoidance areas shall be marked on the ground in a manner approved by the COR. Instruct employees, subcontractors, and others that vehicular or equipment access to these areas is prohibited. If access is absolutely necessary, first obtain approval from the COR. Ground markings shall be maintained throughout the duration of the contract. Western will remove the markings during or following final cleanup. For some project work, Western will require an archaeological, paleontological or tribal monitor at or near cultural or paleontological site locations. The contractor shall work with the monitor to identify avoidance areas.

3. UNKNOWN CULTURAL OR PALEONTOLOGICAL SITES: On rare occasions cultural or paleontological sites may be discovered during excavation or other earth-moving activities.

   (1) Reporting: If evidence of a cultural or paleontological site is discovered, immediately notify the COR and give the location and nature of the findings. Stop all activities within a 50-foot radius of the discovery and do not proceed with work within that radius until directed to do so by the COR.

   (2) Care of Evidence: Do not damage artifacts or fossils uncovered during construction.

4. CONTRACT ADJUSTMENTS: Where appropriate by reason of delays caused by a discovery, the Contracting Officer may make adjustments to contract requirements.

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.5--NOXIOUS WEED CONTROL

1. GENERAL: Comply with Federal, state, and local noxious weed control regulations. Provide a "clean vehicle policy" while entering and leaving construction areas to prevent transport of noxious weed plants and/or seed. Transport only construction vehicles that are free of mud and vegetation debris to staging areas and the project right-of-way.

SECTION 13.6--RECYCLED MATERIAL QUANTITIES

1. GENERAL: Record quantities of the following material by category that is salvaged, recycled, reused, or reprocessed:

   (1) Transformers, Breakers: Weight without oil.

   (2) Electrical Conductors: Length in feet and Type (for example, ACSR, Copper, and gauge).

   (3) Structural Steel: Weight in pounds or tons.

   (4) Aluminum Buswork: Weight in pounds or tons.

   (5) Other Metals: Weight in pounds or tons.

   (6) Oil: Gallons (separate by type - less than 2 ppm PCB, 2 to 50 ppm PCB, and 50 or greater ppm PCB).

   (7) Gravel, Asphalt, Or Concrete: Weight in pounds or tons.

   (8) Batteries: Weight in pounds.

   (9) Wood Poles and Crossarms: Weight in pounds.

   (10) Cardboard. Weight in pounds.

   (11) Porcelain insulators. Weight in pounds.

2. RECYCLED MATERIAL QUANTITY REPORT: Submit quantities for recycled material listed above to the COR after completion and prior to submittal of final invoice.

SECTION 13.7--USE OF PRODUCTS CONTAINING RECOVERED MATERIAL AND BIOBASED PRODUCTS

1. PRODUCTS CONTAINING RECOVERED MATERIAL: If the products listed below are obtained as part of this project, purchase the items with the highest recovered material content possible unless recovered material content products are not available: 1) competitively within a reasonable time frame; 2) that meet performance criteria defined in the Standards or Project Specifications; or 3) at a reasonable price.

   (1) Construction Products:

   - Building Insulation Products
   - Carpet
   - Carpet cushion
   - Cement and concrete containing coal fly ash, ground granulated blast furnace slag, cenosperes, or silica fume

- Consolidated and reprocessed latex paint
- Floor Tiles
- Flowable fill
- Laminated Paperboard
- Modular threshold ramps
- Nonpressure pipe
- Patio Blocks
- Railroad grade crossing surfaces
- Roofing materials
- Shower and restroom dividers/partitions
- Structural Fiberboard

(2) Landscaping Products:

- Compost made from yard trimmings or food waste
- Garden and soaker hoses
- Hydraulic Mulch
- Lawn and garden edging
- Plastic lumber landscaping timbers and posts

(3) Non-paper Office Products:

- Binders, clipboards, file folders, clip portfolios, and presentation folders
- Office furniture
- Office recycling containers
- Office waste receptacles
- Plastic desktop accessories
- Plastic envelopes
- Plastic trash bags
- Printer ribbons
- Toner cartridges

(4) Paper and Paper Products:

- Commercial/industrial sanitary tissue products
- Miscellaneous papers
- Newsprint
- Paperboard and packaging products
- Printing and writing papers

(5) Park and Recreation Products:

- Park benches and picnic tables
- Plastic fencing
- Playground equipment
- Playground surfaces
- Running tracks

(6) Transportation Products:

- Channelizers
- Delineators
- Flexible delineators
- Parking stops

- Traffic barricades
- Traffic cones

(7) Vehicular Products:

- Engine coolants
- Rebuilt Vehicular Parts
- Re-refined lubricating oils
- Retread tires

(8) Miscellaneous Products:

- Awards and plaques
- Bike racks
- Blasting grit
- Industrial drums
- Manual-grade strapping
- Mats
- Pallets
- Signage
- Sorbents

(9) For a complete listing of products and recommendations for recovered content, see http://www.epa.gov/cpg/products.htm

2. PRODUCTS CONTAINING RECOVERED MATERIAL REPORT: Provide the COR the following information for purchases of those items listed above:

(1) Quantity and cost of listed items with recovered material content and quantity and cost of listed items without recovered material content after completion and prior to submittal of final invoice.

(2) Written justification 7 days prior to purchase of listed items if recovered material content products are not available: 1) competitively within a reasonable time frame; 2) that meet performance criteria defined in the Standards or Project Specifications; or 3) at a reasonable price.

3. BIOBASED PRODUCTS: If the products listed below are obtained as part of this project, purchase the items with the highest biobased content possible and no less than the percent indicated for each product unless biobased products: 1) are not available within a reasonable period of time, 2) fail to meet performance criteria defined in the Standards or Project Specifications, or 3) are available only at an unreasonable price.

(1) Mobile Equipment Hydraulic Fluids (minimum 24% biobased content)
(2) Urethane Roof Coatings (minimum 62% biobased content)
(3) Water Tank Coatings (minimum 62% biobased content)
(4) Diesel Fuel Additives (minimum 93% biobased content)
(5) Penetrating Lubricants (minimum 71% biobased content)
(6) Bedding, Bed Linens, and Towels (minimum 18% biobased content)

(7) For additional information regarding biobased products, see **http://www.biobased.oce.usda.gov**

4. BIOBASED PRODUCTS REPORT: Provide the COR the following information for purchases of those biobased items listed above:

(1) Quantity and cost of listed items with biobased content and quantity and cost of listed items without biobased content after completion and prior to submittal of final invoice.

(2) Written justification 7 days prior to purchase of listed items if biobased products: 1) are not available within a reasonable period of time, 2) fail to meet performance criteria defined in the Standards or Project Specifications, or 3) are available only at an unreasonable price.

SECTION 13.8--DISPOSAL OF WASTE MATERIAL

1. GENERAL: Dispose or recycle waste material in accordance with applicable Federal, State and Local regulations and ordinances. In addition to the requirements of the Contract Clause "Cleaning Up", remove all waste material from the construction site. No waste shall be left on Western property, right-of-way, or easement. Burning or burying of waste material is not permitted.

2. HAZARDOUS, UNIVERSAL, AND NON-HAZARDOUS WASTES: Manage hazardous, universal, and non-hazardous wastes in accordance with State and Federal regulations.

3. USED OIL: Used oil generated from the Contractor activities shall be managed in accordance with used oil regulations.

4. RECYCLABLE MATERIAL: Reduce wastes, including excess Western material, by recycling, reusing, or reprocessing. Examples of recycling, reusing, or reprocessing include reprocessing of solvents; recycling cardboard; and salvaging scrap metals.

5. REFRIGERANTS AND RECEIPTS: Refrigerants from air conditioners, water coolers, refrigerators, ice machines and vehicles shall be reclaimed with certified equipment operated by certified technicians if the item is to be disposed. Refrigerants shall be reclaimed and not vented to the atmosphere. A receipt from the reclaimer stating that the refrigerant was reclaimed, the amount and type of refrigerant, and the date shall be submitted to the COR after completion and prior to submittal of final invoice.

6. HALONS: Equipment containing halons that must be tested, maintained, serviced, repaired, or disposed must be handled according to EPA requirements and by technicians trained according to those requirements.

7. SULFUR HEXAFLOURIDE (SF6): SF6 shall be reclaimed and not vented to the atmosphere.

8. WASTE MATERIAL QUANTITY REPORT: Submit quantities of total project waste material disposal as listed below to the COR after completion and prior to submittal of final invoice.

   (1) Sanitary Wastes: Volume in cubic yards or weight in pounds.

   (2) Hazardous or Universal Wastes: Weight in pounds.

   (3) PCB Wastes: Weight in pounds.

   (4) Other regulated wastes (e.g., lead-based paint or asbestos): Weight in pounds (specify type of waste in report).

SECTION 13.9--CONTRACTOR'S LIABILITY FOR REGULATED MATERIAL INCIDENTS

1. GENERAL: The Contractor is solely liable for all expenses related to spills, mishandling, or incidents of regulated material attributable to his actions or the actions of his subcontractors. This includes all

response, investigation, cleanup, disposal, permitting, reporting, and requirements from applicable environmental regulation agencies.

2. SUPERVISION: The actions of the Contractor employees, agents, and subcontractors shall be properly managed at all times on Western property or while transporting Western's (or previously owned by Western) regulated material and equipment.

SECTION 13.10--POLLUTANT SPILL PREVENTION, NOTIFICATION, AND CLEANUP

1. GENERAL: Provide measures to prevent spills of pollutants and respond appropriately if a spill occurs. A pollutant includes any hazardous or non-hazardous substance that when spilled, will contaminate soil, surface water, or ground water. This includes any solvent, fuel, oil, paint, pesticide, engine coolants, and similar substances.

2. SPILL PREVENTION NOTIFICATION AND CLEANUP PLAN (Plan): Provide the Plan to the COR for approval 14 days prior to start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Include the following in the Plan:

   (1) Spill Prevention measures. Describe the work practices or precautions that will be used at the job site to prevent spills. These may include engineered or manufactured techniques such as installation of berms around fuel and oil tanks; Storage of fuels, paints, and other substances in spill proof containers; and management techniques such as requiring workers to handle material in certain ways.

   (2) Notification. Most States and the Environmental Protection Agency require by regulation, that anyone who spills certain types of pollutants in certain quantities notify them of the spill within a specific time period. Some of these agencies require written follow up reports and cleanup reports. Include in the Plan, the types of spills for which notification would be made, the agencies notified, the information the agency requires during the notification, and the telephone numbers for notification.

   (3) Employee Awareness Training. Describe employee awareness training procedures that will be implemented to ensure personnel are knowledgeable about the contents of the Plan and the need for notification.

   (4) Commitment of Manpower, Equipment and Material. Identify the arrangements made to respond to spills, including the commitment of manpower, equipment and material.

   (5) If applicable, address all requirements of 40CFR112 pertaining to Spill Prevention, Control and Countermeasures Plans.

3. TANKER OIL SPILL PREVENTION AND RESPONSE PLAN: Provide a Tanker Oil Spill Prevention and Response Plan as required by the Department of Transportation if oil tankers with volume of 3,500 gallons or more are used as part of the project. Submit the Tanker Oil Spill Prevention and Response Plan to the COR for approval 14 days prior to start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

SECTION 13.11--PESTICIDES

1. GENERAL: The term "pesticide" includes herbicides, insecticides, rodenticides and fungicides. Pesticides shall only be used in accordance with their labeling.

2. ENVIRONMENTAL PROTECTION AGENCY REGISTRATION: Use EPA registered pesticides.

3. PESTICIDE USE PLAN: The plan shall contain: 1) a description of the pesticide to be used, 2) where it is to be applied, 3) the application rate, 4) a copy of the label, and 5) a copy of required applicator certifications. Submit two copies of the pesticide use plan to the COR for approval 14 days prior to the date of intended application. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Within seven days after application, submit a written report in accordance with Standard 2 – Sitework, Section 2.1.1.5, "Soil-Applied Herbicide".

SECTION 13.12--TREATED WOOD POLES AND MEMBERS RECYCLING OR DISPOSAL

Whenever practicable, treated wood poles and members removed during the project shall be recycled or transferred to the public for some uses. Treated wood poles and members transferred to a recycler, landfill, or the public shall be accompanied by a written consumer information sheet on treated wood as provided by Western. Obtain a receipt form, part of the consumer information sheet, from the recipient indicating that they have received, read, and understand the consumer information sheet. Treated wood products transferred to right-of-way landowners shall be moved off the right-of-way. Treated wood product scrap or poles and members that cannot be donated or reused shall be properly disposed in a landfill that accepts treated wood and has signed Western's consumer information sheet receipt. Submit treated wood pole and members consumer receipt forms to the COR after completion and prior to submittal of final invoice.

SECTION 13.13--PREVENTION OF AIR POLLUTION

1. GENERAL: Ensure that construction activities and the operation of equipment are undertaken to reduce the emission of air pollutants. Submit a copy of permits, if required, from Federal, State, or local agencies to the COR 14 days prior to the start of work.

2. MACHINERY AIR EMISSIONS: The Contractor and subcontractor machinery shall have, and shall use the air emissions control devices required by Federal, State or Local Regulation or ordinance.

3. DUST ABATEMENT: Dust shall be controlled. Oil shall not be used as a dust suppressant. Dust suppressants shall be approved by the COR prior to use.

SECTION 13.14--HANDLING AND MANAGEMENT OF ASBESTOS CONTAINING MATERIAL

1. GENERAL: Obtain the appropriate Federal, State or local licenses or certifications prior to disturbing any regulated asbestos-containing material. Submit a copy of licenses and/or certifications for asbestos work to the COR prior to work. Ensure: 1) worker and public safety requirements are fully implemented and 2) proper handling, transportation, and disposal of asbestos containing material.

2. TRANSPORTATION OF ASBESTOS WASTE: Comply with Department of Transportation, Environmental Protection Agency, and State and Local requirements when transporting asbestos wastes.

3. CERTIFICATES OF DISPOSAL AND RECEIPTS: Obtain certificate of disposals for waste if the waste is a hazardous waste or receipts if the waste is a non-hazardous waste. Submit copies to the COR after completion and prior to submittal of final invoice.

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.15--MATERIAL WITH LEAD-BASED PAINT

1. GENERAL: Comply with all applicable Federal, State and local regulations concerning work with lead-based paint, disposal of material painted with lead-based paint, and management of these material. OSHA and General Industry Standards apply to worker safety and right-to-know issues. Federal EPA and State agencies regulate waste disposal and air quality issues.

2. TRANSFER OF PROPERTY: If lead-based paint containing equipment or material is to be given away or sold for reuse, scrap, or reclaiming, a written notice shall be provided to the recipient of the material stating that the material contains lead-based paint and the Hazardous Waste regulations may apply to the waste or the paint in some circumstances. The new owner must also be notified that they may be responsible for compliance with OSHA requirements if the material is to be cut, sanded, abraded, or stripped of paint. Submit a copy of lead paint notices to the COR upon completion and prior to submittal of final invoice.

3. CERTIFICATES OF DISPOSAL AND RECEIPTS: Obtain certificate of disposals for waste if the waste is a hazardous waste or receipts if the waste is a non-hazardous waste. Submit copies to the COR after completion and prior to submittal of final invoice.

SECTION 13.16--PREVENTION OF WATER POLLUTION

1. GENERAL: Ensure that surface and ground water is protected from pollution caused by construction activities and comply with applicable regulations and requirements.

2. PERMITS: Ensure that:

   (1) Streams, and other waterways or courses are not obstructed or impaired, unless the appropriate Federal, State or local permits have been obtained;

   (2) A National Pollutant Discharge Elimination System (NPDES) Permit is obtained if required by State or Federal regulation; and

   (3) A dewatering permit is obtained from the appropriate agency if required for construction dewatering activities.

   (4) Copies of any water pollution permits are submitted to the COR prior to work.

3. EXCAVATED MATERIAL AND OTHER CONTAMINANT SOURCES: Control runoff from excavated areas and piles of excavated material, construction material or wastes (to include truck washing and concrete wastes), and chemical products such as oil, grease, solvents, fuels, pesticides, and pole treatment compounds. Excavated material or other construction material shall not be stockpiled or deposited near or on streambanks, lake shorelines, ditches, irrigation canals, or other areas where run-off could impact the environment.

4. MANAGEMENT OF WASTE CONCRETE OR WASHING OF CONCRETE TRUCKS: Do not permit the washing of concrete trucks or disposal of excess concrete in any ditch, canal, stream, or other surface water. Concrete wastes shall be disposed in accordance with all Federal, State, and local regulations. Concrete wastes shall not be disposed on any Western property, right-of-way, or easement; nor on any streets, roads, or property without the owner's consent.

5. STREAM CROSSINGS: Crossing of any stream or other waterway shall be done in compliance with Federal, State, and local regulations. Crossing of some waterways may be prohibited by landowners, State or Federal agencies or require permits.

SECTION 13.17--TESTING, DRAINING, REMOVAL, AND DISPOSAL OF OIL-FILLED ELECTRICAL EQUIPMENT

1. SAMPLING AND TESTING OF INSULATING OIL FOR PCB CONTENT: Sample and analyze the oil of electrical equipment for PCB's. Use analytical methods approved by EPA and applicable State regulations. Decontaminate sampling equipment according to documented good laboratory practices (these can be contractor developed or EPA standards). Use only laboratories approved by Western. The COR will furnish a list of approved laboratories.

2. PCB TEST REPORT: Provide PCB test reports that contain the information below for disposing of oil-filled electrical equipment. Submit the PCB test report prior to draining, removal, or disposal of oil or oil-filled equipment that is designated for disposal.

   - Name and address of the laboratory
   - Description of the electrical equipment (e.g. transformer, breaker)
   - Serial number for the electrical equipment.
   - Date sampled
   - Date tested
   - PCB contents in parts per million (ppm)
   - Unique identification number of container into which the oil was drained (i.e., number of drum, tank, tanker, etc.)

3. OIL CONTAINING PCB: Comply with the Federal regulations pertaining to PCBs found at Title 40, Part 761 of the U.S. Code of Federal Regulations (40 CFR 761).

4. REMOVAL AND DISPOSAL OF INSULATING OIL AND OIL-FILLED ELECTRICAL EQUIPMENT: Once the PCB content of the oil has been identified from laboratory results, the oil shall be transported and disposed, recycled, or reprocessed according to 40 CFR 761 (if applicable), Resource Conservation and Recovery Act (RCRA) "used oil", and other applicable regulations. Used oil may be transported only by EPA-registered used oil transporters. The oil must be stored in containers that are labeled "Used Oil." Use only U.S. transporters and disposal sites approved by Western.

5. OIL AND OIL-FILLED ELECTRICAL EQUIPMENT RECEIPT: Obtain and submit a receipt for oil and oil-filled equipment transported and disposed, recycled, or reprocessed to the COR upon completion and prior to submittal of final invoice.

SECTION 13.18--REMOVAL OF OIL-CONTAMINATED MATERIAL

1. GENERAL: Removing oil-contaminated material includes excavating, stockpiling, testing, transporting, cleaning, and disposing of these material. Personnel working with PCBs shall be trained in accordance with OSHA requirements. Submit employee training documentation records to the COR 14 days prior to the start of work.

2. CLEANUP WORK MANAGEMENT PLAN: Provide a Cleanup Work Management Plan that has been approved by applicable Federal, State, or Local environmental regulation agencies. Submit the plan to the COR for approval 14 days prior to the start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. The plan shall address on-site excavation of contaminated soil and debris and include the following:

   - Identification of contaminants and areas to be excavated
   - Method of excavation
   - Level of personnel/subcontractor training

- Safety and health provisions
- Sampling requirements including quality control, laboratory to be used
- Management of excavated soils and debris
- Disposal methods, including transportation to disposal

3. EXCAVATION AND CLEANUP: Comply with the requirements of Title 40, Part 761 of the U.S. Code of Federal Regulations (40 CFR 761).

4. TEMPORARY STOCKPILING: Excavated material, temporarily stockpiled on site, shall be stored on heavy plastic and covered to prevent wind and rain erosion at a location designated by the COR.

5. SAMPLING AND TESTING: Sample contaminated debris and areas of excavation to ensure that contamination is removed. Use personnel with experience in sampling and, in particular, with experience in PCB cleanup if PCBs are involved. Use analytical methods approved by EPA and applicable State regulations.

6. TRANSPORTION AND DISPOSAL OF CONTAMINATED MATERIAL: The Contractor shall be responsible and liable for the proper loading, transportation, and disposal of contaminated material according to Federal, State, and local requirements. Use only U.S. transporters and disposal sites approved by Western.

7. POST CLEANUP REPORT: Provide a Post-Cleanup Report that describes the cleanup of contaminated soils and debris. Submit the report to the COR upon completion and prior to submittal of final invoice. The report shall contain the following information:

   - Site map showing the areas cleaned
   - Description of the operations involved in excavating, storing, sampling, and testing, and disposal
   - Sampling and analysis results including 1) Name and address of the laboratory, 2) sample locations, 3) sample dates, 4) analysis dates, 5) contents of contaminant (e.g. PCB or total petroleum hydrocarbons) in parts per million (ppm)
   - Certification by the Contractor that the cleanup requirements were met
   - Copies of any manifests, bills of lading, and disposal certificates
   - Copies of correspondence with regulatory agencies that support completion of the cleanup

SECTION 13.19—CONSERVATION OF NATURAL RESOURCES

1. GENERAL: Federal law prohibits the taking of endangered, threatened, proposed or candidate wildlife and plants, and destruction or adverse modification of designated Critical Habitat. Federal law also prohibits the taking of birds protected by the Migratory Bird Treaty Act. “Take” means to pursue, hunt, shoot, wound, kill, trap, capture or collect a protected animal or any part thereof, or attempt to do any of those things.

2. KNOWN OCCURRENCE OF PROTECTED SPECIES OR HABITAT: Following issuance of the notice to proceed, and prior to the start of construction, Western will provide training to all contractor and subcontractor personnel involved in the construction activity. Untrained personnel shall not be allowed in the construction area. Western will provide two sets of plan and profile drawings showing sensitive areas located on or immediately adjacent to the transmission line right-of-way and/or facility. These areas shall be considered avoidance areas. Prior to any construction activity, the avoidance areas shall be marked on the ground in a manner approved by the COR. If access is absolutely necessary, the contractor shall first obtain permission from the COR, noting that a Western and/or other government or tribal agency biologist may be required to accompany personnel and equipment. Ground markings shall be maintained through the duration of the contract. Western will remove the markings during or following final inspection of the project.

3. UNKNOWN OCCURRENCE OF PROTECTED SPECIES OR HABITAT: If evidence of a protected species is found in the project area, the contractor shall immediately notify the COR and provide the location and nature of the findings. The contractor shall stop all activity in the vicinity of the protected species or habitat and not proceed until directed to do so by the COR.

4. CONTRACT ADJUSTMENTS: Where appropriate by reason of delays caused by a discovery, the Contracting Officer may make adjustments to contract requirements.

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APPENDIX G

MITITAGION ACTION PLAN
SPRING CANYON WIND PROJECT

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Western Area Power Administration
June 8, 2005
Mitigation Action Plan
for the
Spring Canyon Wind Project

Project Overview. The Spring Canyon Wind Project (formerly known as the Peetz Table Wind Project) would be constructed on private land located east of Peetz, in Logan County, Colorado. Spring Canyon Energy LLC (SCE), a wholly owned affiliate of Invenergy, applied to Western Area Power Administration (Western) to interconnect a 130-megawatt (MW) wind power facility to Western's existing 230-kilovolt (kV) Sidney to North Yuma transmission line. Western is the lead Federal agency for compliance with *the National Environmental Policy Act of 1969* (NEPA) as amended. There are no cooperating agencies. In accordance with NEPA and DOE's NEPA Implementing Procedures (Part 1021), in June, 2005, Western approved the environmental assessment, *Spring Canyon Wind Project Logan County, Colorado formerly known as The Peetz Table Wind Project" (DOE/EA-1521),* in which potential impacts of the project on the quality of the human environment were analyzed.

Executing an interconnection agreement would be consistent with Western's mission, described above. The primary purpose of the Spring Canyon Wind Project is to provide wind-generated electricity from a site in Colorado to further the objectives of the President's National Energy Policy to diversify energy sources by making greater use of non-hydroelectric renewable sources such as wind power (National Energy Policy Development Group 2001) and to meet customer demand for inexpensive energy from renewable energy resources. The project also would meet the demand for renewable energy resources created by the recent successful ballot initiative in Colorado requiring utilities to generate 10% of the state's energy from renewable resources by 2015.

Under the Proposed Action, Western would execute an interconnection agreement to connect the wind project to Western's existing Sidney to North Yuma 230-kV transmission line (see Western [1991] for information regarding this transmission line). SCE would construct and operate a 130-MW wind energy facility on privately owned land on Peetz Table, east of Peetz, in Logan

County, Colorado. Phase I would consist of about 60 MW to be constructed in 2005, pending successful completion of the environmental review process. The size and timing for the construction of subsequent phases is not known at this time, but the entire 130-MW project is evaluated in the EA. Although the project would have an installed capacity of 130-MW, it is expected to operate at about 38% capacity, so actual output would average about 49 MW. SCE has obtained or will obtain leases from private landowners to construct and operate the wind project. The project footprint (i.e., the area to be disturbed during construction and throughout 40-year life-of-project) would be limited to the areas immediately adjacent to turbines and access roads.

The wind project would consist of approximately 87 1.5-MW or 72 1.8-MW wind turbines and associated facilities. Phase I would consist of about 40 turbines. The wind turbine generators would be supported by 80-meter tubular towers. Towers and generators would be white. Support facilities would include step-up transformers, a substation, underground and overhead power collection and communication lines, roads, and an operation and maintenance (O&M) building.

Mitigation Action Plan. The DOE requirements for preparing a Mitigation Action Plan (MAP) are specified in 10 CFR 1021 (Section 331(b), National Environmental Policy Act Implementing Procedures). These regulations state that "In certain circumstances, as specified in &1021.322(b) (2), DOE shall also prepare a Mitigation Action Plan for commitments to mitigations that are essential to render the impacts of the proposed action not significant. The Mitigation Action Plan shall address all commitments to such necessary mitigations and explain how mitigation will be planned an implemented. The Mitigation Action Plan shall be prepared before the FONSI and shall be referenced therein." This MAP addresses the construction, operation, and maintenance of a 130-MW wind energy facility on approximately 22,054 acres of privately owned land on Peetz Table, east of Peetz, in Logan County, Colorado.

Two distinct sets of mitigation measures were identified in the EA: 1) Western's Standard Construction, Operation, and Maintenance Practices, 2) SCE's Applicant-committed Mitigation Measures. The EA contains over 50 individual mitigation measures; however, only six are

necessary to reduce potential impacts to less than significant. These are discussed below in the order they are presented in the EA and summarized in Table 1 (located at the end of this Plan).

Avoiding the disturbance of important paleontological resources without appropriate scientific data recovery. This potentially significant impact has been partially mitigated via pre-construction surveys that yielded no scientifically important fossils. To reduce the level of impact to less than significant, Western will also implement the following:

Any paleontological resource discovered by SCE or any person working on its behalf would be immediately reported to Western. SCE would suspend all operations within 100 ft of such discovery until written authorization to proceed is issued by Western. An evaluation of discovery would be made by Western to determine appropriate actions to prevent the loss of significant scientific values. SCE would be responsible for the cost of evaluation, and any decision as to proper mitigation measures would be made by Western after consulting with SCE.

Construction personnel would be instructed about the types of fossils that may be encountered and the steps to take if fossils are discovered during construction. Instruction would stress the nonrenewable nature of paleontologic resources and that fossils are part of Colorado's prehistoric heritage and should be preserved for study.

This mitigation will be implemented by SCE and its construction contractors throughout the construction period. Western will be provided with a report of findings within 6 months after the evaluation of the discovery.

Ensuring that construction or operation does not result in the invasion of non-native weedy species. Noxious weeds would be mechanically controlled in all surface-disturbed areas. If herbicides are needed to control weeds, they would be applied by a licensed contractor. Equipment would be washed at a commercial facility prior to construction and on-site during construction if weeds are encountered in the project area.

This mitigation will be implemented by SCE, its construction contractors, and its operations and

maintenance personnel throughout the construction period and then for the life-of-project. All weed control activities will be documented by SCE, and an annual weed control report will be provided to Western.

Avoiding disturbance of an active raptor nest. SCE has conducted raptor nest surveys of the entire project area and has identified 26 active raptor nests within the project area. If possible, SCE will time construction to avoid activities within specified buffers, to be determined in consultation with Western until after the young have fledged. If construction must occur within the specified protection zone for a given nest, Western will prescribe additional mitigation (e.g., screening the nest from construction activity, monitoring the nest during construction) to protect the nest from disturbance, to be determined on a case-by-case basis.

This mitigation will be implemented by SCE and its environmental contractor. A raptor nest report, including a description of case-by-case mitigation for active nests, will be provided to Western by December 31 in each year that construction occurs.

Avoiding disturbance of any cultural resource site eligible for the NRHP. If a previously undiscovered site or Traditional Cultural Property is exposed and discovered during construction, all activity would be halted. The site would be inspected and evaluated by Western to determine if the site is eligible for the NRHP and the treatments necessary--in consultation with SCE and the SHPO--to avoid further impacting the site. This standard approach to handling unanticipated cultural resource discoveries within the project area would ensure that impacts to cultural resources due to the proposed project would not be significant.

This mitigation will be implemented by SCE and its construction and environmental contractors during construction. Western will be provided with a report of findings for any unanticipated discovery within six months after treatment.

Preventing loss of life, limb or property due to fires. All fires would be extinguished immediately by SCE personnel, if there is no danger to life or limb, and the appropriate landowner and the county sheriff's department would be notified immediately. Some fire-

fighting equipment would be located in vehicles and in the O&M facility. If the fire cannot be extinguished by SCE personnel, the landowner and sheriff would be so advised. Fire deterrents within the wind farm would include access roads, which may serve as fire breaks and regular clearing of vegetation from areas around transformers, riser poles, and buildings.

This mitigation will be implemented by SCE, its construction contractors, and its operations and maintenance personnel. Annual reports describing any fires and fire suppression activities will be provided to Western.

Ensuring that the project's operation does not result in regular annoyance to the area's residents. Use of new turbine technologies and incorporating a setback from residences will avoid regular annoyance to the area's residents. SCE will use state-of-the are turbines that have been designed to minimize noise levels (e.g., upwind rotors, thinner blade tips, streamlined towers and nacelles). Turbines will be place approximately 1000 ft from residences, so that turbine noise at residences will be in the range of ambient noise levels.

This mitigation has already been implemented by SCE.

Table 1. Summary of Mitigation Action Plan.

Mitigation Commitment	Responsible Party	Action	Duration and Reporting Requirements
Avoiding the disturbance of important paleontological resources without appropriate scientific data recovery.	SCE and its construction contractors	This potentially significant impact has been partially mitigated via pre-construction surveys that yielded no scientifically important fossils. To reduce the level of impact to less than significant, Western will also implement the following: Any paleontological resource discovered by SCE or any person working on its behalf would be immediately reported to Western. SCE would suspend all operations within 100 ft of such discovery until written authorization to proceed is issued by Western. An evaluation of the discovery would be made by Western to determine appropriate actions to prevent the loss of significant scientific values. SCE would be responsible for the cost of evaluation, and any decision as to proper mitigation measures would be made by Western after consulting with SCE.	Throughout the construction period. Western will be provided with a report of findings within 6 months after the evaluation of the discovery.
Ensuring that construction or operation does not result in the invasion of non-native weedy species	SCE, its construction contractors, and its operations and maintenance personnel	Noxious weeds would be mechanically controlled in all surface-disturbed areas. If herbicides are needed to control weeds, they would be applied by a licensed contractor. Equipment would be washed at a commercial facility prior to construction and on-site during construction if weeds are encountered in the project area.	Throughout the construction period and then for the life-of-project. All weed control activities will be documented by SCE, and an annual weed control report will be provided to Western.
Avoiding disturbance of an active raptor nest.	SCE and its environmental contractor.	SCE has conducted raptor nest surveys of the entire project area and has identified 26 active raptor nests within the project area. If possible, SCE will time construction to avoid activities within specified buffers, to be determined in consultation with Western until after the young have fledged. If construction must occur within the specified protection zone for a given nest, Western will prescribe additional mitigation (e.g., screening the nest from construction activity, monitoring the nest during construction) to protect the nest from disturbance, to be determined on a case-by-case basis.	A raptor nest report, including a description of case-by-case mitigation for active nests, will be provided to Western by December 31 in each year that construction occurs.
Avoiding disturbance of any cultural resource site eligible for the NRHP.	SCE and its construction and environmental contractors	If a previously undiscovered site or Traditional Cultural Property is exposed and discovered during construction, all activity would be halted. The site would be inspected and evaluated by Western to determine if the site is eligible for the NRHP and the treatments necessary--in consultation with SCE and the SHPO--to avoid further impacting the site. This standard approach to handling unanticipated cultural resource discoveries within the project area would ensure that impacts to cultural resources due to the proposed project would not be significant.	Throughout construction. Western will be provided with a report of findings for any unanticipated discovery within six months after treatment.

Table 1 (Continued)

Mitigation Commitment	Responsible Party	Action	Duration and Reporting Requirements
Preventing loss of life, limb or property due to fires.	SCE, its construction contractors, and its operations and maintenance personnel.	All fires would be extinguished immediately by SCE personnel, if there is no danger to life or limb, and the appropriate landowner and the county sheriff's department would be notified immediately. Some fire-fighting equipment would be located in vehicles and in the O&M facility. If the fire cannot be extinguished by SCE personnel, the landowner and sheriff would be so advised. Fire deterrents within the wind farm would include access roads, which may serve as fire breaks and regular clearing of vegetation from areas around transformers, riser poles, and buildings.	Throughout construction, operations, and maintenance. Annual reports describing any fires and fire suppression activities will be provided to Western.
Ensuring that the project's operation does not result in regular annoyance to the area's residents.	SCE	Use of new turbine technologies and incorporating a setback from residences will avoid regular annoyance to the area's residents. SCE will use state-of-the are turbines that have been designed to minimize noise levels (e.g., upwind rotors, thinner blade tips, streamlined towers and nacelles). Turbines will be place approximately 1000 ft from residences, so that turbine noise at residences will be in the range of ambient noise level	Complete

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APPENDIX H

MITITAGION ACTION PLAN
BEAVER CREEK-HOYT-ERIE TRANSMISSION LINE UPGRADE

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Mitigation Action Plan
To Implement Mitigation Requirements for
Beaver Creek-Hoyt-Erie Transmission Line Upgrade Project
Morgan and Weld Counties, Colorado
November 2005

Action Plan for Standard Project Practices and Mitigation

Mitigation Action Identifier	Responsible Party for Implementing	Mitigation Action	Party Responsible for Monitoring and Ensuring Compliance
1	Construction Contractor Western Maintenance	The contractor shall limit the movement of crews and equipment to the ROW, including access routes. The contractor shall limit movement on the ROW to minimize damage to residential yards, grazing land, crops, orchards, and property, and shall avoid marring the lands.	Western Engineering Construction (during Construction Phase) Western Maintenance (During maintenance of facility)
	Construction Contractor Western Maintenance	The contractor shall coordinate with the landowners to avoid impacting the normal function of irrigation devices during project construction and operation.	Western Engineering Construction (During Construction Phase) Western Maintenance (During Maintenance of facility)
2	Construction Contractor Western Maintenance	When weather and ground conditions permit, obliterate all construction caused deep ruts that are hazardous to farming operations and to movement of equipment. Such ruts shall be leveled, filled and graded, or otherwise eliminated in an approved manner. Ruts, scars, and compacted soils in hay meadows, alfalfa fields, pastures, and cultivated productive lands shall have the soil loosened and leveled by scarifying, harrowing, disking, or other approved methods. Damage to ditches, tile drains, terraces, roads, and other features of the land shall be corrected. At the end of each construction season and before final acceptance of the work in these agricultural areas, all ruts shall be obliterated, and all trails and areas that are hard-packed as a result of construction operations shall be loosened and leveled. The land and facilities shall be restored as nearly as practicable to the original condition.	Western Engineering Construction (During Construction Phase) Western Maintenance (During maintenance of installed facility)

3	Western shall identify locations and quantities of water bars for inclusion in the Project Specifications and Bid Schedule. Construction Contractor	Water turnoff bars or small terraces shall be constructed across all ROW trails on hillsides to prevent water erosion and to facilitate natural revegetation on the trails.	Western Engineering Construction
4	Construction Contractor Western Maintenance	The contractor and Western shall comply with all Federal, state, and local environmental laws, orders and regulations. Prior to construction, all supervisory construction personnel will be instructed on the protection of cultural and ecological resources. To assist in this effort, the construction contract will address: a) Federal and state laws regarding antiquities and plants and wildlife, including collection and removal; and b) the importance of these resources and the purpose and necessity of protecting them.	Western Environment will identify and map avoidance areas that the Construction contractor be required to avoid. Western Engineering Construction will ensure avoidance is enforced during construction Western Maintenance will ensure that avoidance is continued through life of project
5	Construction Contractor Western Maintenance	The contractor shall exercise care to preserve the natural landscape. Construction activities shall be conducted to minimize scarring, or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, approved construction roads, or excavation operations, vegetation shall be preserved and shall be protected from damage by the contractor's construction operations and equipment.	Western Engineering Construction during construction phase Western Maintenance during routing maintenance.

6	Construction Contractor Western Maintenance	On completion of the work, all work areas except access trails shall be scarified or left in a condition that will facilitate natural revegetation (unless reseeding, mulching or other specific requirements apply), provide for proper drainage, and prevent erosion. All destruction, scarring, damage, or defacing of the landscape resulting from the contractor's operations shall be repaired by the contractor.	Western Engineering Construction during construction phase Western Maintenance during Maintenance Phase.
7	Construction Contractor	Construction trails not required for maintenance access shall be restored to the original contour and made impassable to vehicular traffic. The surfaces of such construction trails shall be scarified as needed to provide a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion.	Western Engineering Construction
8	Construction Contractor	Construction staging areas shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent. On abandonment, all storage and construction materials and debris shall be removed from the site. The area shall be regraded, as required, so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion.	Western Engineering Construction
9	Construction Contractor	Borrow pits shall be excavated so that water will not collect and stand therein. Before being abandoned, the sides of borrow pits shall be brought to stable slopes, with slope intersections shaped to carry the natural contour of adjacent, undisturbed terrain into the pit or borrow area, giving a natural appearance. Piles of excess soil or other borrow shall be shaped to provide a natural appearance.	Western Engineering Construction

10	Construction Contractor Western Maintenance	Construction activities shall be performed by methods that prevent entrance or accidental spillage of solid matter, contaminants, debris, and other objectionable pollutants and wastes into flowing streams or dry water courses, lakes, and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.	Western Engineering Construction during Construction phase. Western Maintenance during Maintenance of installed facility.
11	Construction Contractor Western Maintenance	Dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, streams or water courses will not be performed without prior notice to appropriate state agencies and compliance with applicable NPDES requirements.	Western Engineering Construction during Construction phase. Western Maintenance during Maintenance of installed facility.
12	Construction Contractor Western Maintenance	Excavated material or other construction materials shall not be stockpiled or deposited near or on stream banks, lake shorelines, or other water course perimeters where they can be washed away by high water or storm runoff or can in any way encroach upon the actual water source itself.	Western Engineering Construction during Construction phase. Western Maintenance during Maintenance of installed facility.
13	Construction Contractor	Waste waters from construction operations shall not enter streams, water courses, or other surface waters without use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, filter fences, approved flocculating processes that are not harmful to fish, recirculation systems for washing of aggregates, or other approved methods. Any such waste waters discharged into surface waters shall be essentially free of settleable material. Settleable material is defined as material that will settle from the water by gravity during a 1-hour quiescent period.	Western Engineering Construction

14	Construction Contractor	The contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.	Western Engineering Construction
15	Construction Contractor	Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, shall not be operated until corrective repairs or adjustments are made.	Western Engineering Construction
16	Construction Contractor Western Maintenance	Burning or burying of waste materials on the ROW or at the construction site will not be allowed. The contractor shall remove all waste materials from the construction area. All materials resulting from the contractor's clearing operations shall be removed from the ROW.	Western Engineering Construction during Construction phase. Western Maintenance during Maintenance of installed facility.
17	Construction Contractor Western Maintenance	The Contractor shall make all necessary provisions in conformance with safety requirements for maintaining the flow of public traffic and shall conduct his construction operations so as to offer the least possible obstruction and inconvenience to public traffic.	Western Engineering Construction during Construction phase. Western Maintenance during Maintenance of installed facility.

18	Construction Contractor Western	Western will apply necessary mitigation to eliminate problems of induced currents and voltages onto conductive objects sharing a ROW, to the mutual satisfaction of the parties involved. Western will install fence grounds on all fences that cross or are parallel to the proposed line.	Western Engineering (design phase) will quantify and include fence grounds and gates. Western Maintenance (routine maintenance of installed project) Western Engineering Construction (during construction)
19	Construction Contractor Western Maintenance	Minimize activities in riparian areas or span riparian areas. Avoid disturbance to riparian vegetation whenever practical.	Western Engineering Construction (construction phase) Western Maintenance (Maintenance of installed facility)
	Construction Contractor Western Maintenance	Minimize the crossing of riparian areas with Equipment and vehicles during construction and maintenance activities.	Western Engineering Construction (construction phase) Western Maintenance (Maintenance of installed facility)

	Construction Contractor Western Maintenance	Existing bridges or fords will be used to access the ROW on either side of riparian areas.	Western Engineering Construction (construction phase) Western Maintenance (Maintenance of installed facility)
20	Western Engineering Design	Western would design and construct the transmission line in conformance with *Suggested Practices for Protection of Raptors on Powerlines* (Avian Power Line Interaction Committee, 1994) to eliminate the potential for raptor electrocution.	Western Engineering-Design Western Engineering Construction (Installation) Western Maintenance (routine maintenance of installed devices)

Action Plan for Project and Site Specific Mitigation Requirements

Mitigation Action Identifier	Responsible Party AND Action	Mitigation Action Description	Additional Information
SOILS-1	Environment: Will map areas to be revegetated, provide the seed mix requirements. Environment will present requirements to be included in the construction specifications and estimated quantities for the bid schedule. Western Construction: Will oversee implementation by monitoring contractor performance. Contractor will implement measures as agreed to or as modified based on field conditions.	All constructed pad disturbances, staging areas, stringing sites, and ROW access roads located in areas of high and extremely high wind erodibility potentials that are not reclaimed by the landowner during normal agricultural practices need to be stabilized following construction. Western will monitor such sites to ensure that they are successfully revegetated with desirable plant species. Measures that may be used to achieve this goal, individually or in combination, include seedbed preparation, fertilization, drill or broadcast seeding, straw mulching, hydromulching, the use of erosion control mats, or chemical tackifiers. Any seed mixture to be used will be a mixture recommended by the Natural Resources Conservation Service of the County within which the disturbance is located. Fertilizer to be applied, if any, prior to seeding will be based on the recommendations of the landowner or the Natural Resources Conservation Service. The areas of high potential wind erosion susceptibility to which this mitigation measure is applicable are listed on Table 3.4 -1.	Environment will monitor once a year until revegetation is successful. Maintenance will monitor and repair blown out areas that were disturbed during this project. Maintenance will use the same seed mixture or another mixture recommended and approved by the NRCS.

PALEO-1	Environment will present the requirements to the Construction Contractor at the preconstruction conference. Western Construction will coordinate with Western environment if suspected finds are made during construction activities.	The contractor shall receive instructions from Western regarding the potential presence of fossils in pole excavations and in areas excavated or disturbed for roadwork. The contractor will be notified of his obligation to report any suspected paleontological finds to Western. If suspected finds are made, Western will retain a paleontologist to assess the significance of the paleontological finds and make recommendations.	

WATER-1	Western Engineering Design shall perform geological investigations. Western Engineering Design shall site structures based on design criteria. Western Engineerign Construction shall ensure that borings are made at each structure location identified by Western Engineering Design to the depth of the designed foundation plus 5 feet. The borings will be overseen by a registered professional geologist familiar with the characteristics of the clay layer and capable of identifying it. The borings shall be discontinued if the clay layer is encountered. The structure design will be modified if required to avoid the clay layer. Even if the pre-construction borings indicate that the clay layer was not encountered, Engineering Construction shall ensure that construction boring shall be monitored by a certified professional geologist and a record shall be made of the observations for each foundation. The professional geologist shall be retained by Western. The record shall be provided to Western and to the City of Brush.	In order to avoid potential impacts to groundwater resources, Western would conduct detailed geological investigations prior to construction in order to insure that penetration of the clay layer would be avoided or mitigated during the final engineering and design and installation of the new structures. Borings and logging of soils structure will be conducted at each new structure site within the City of Brush property and/or Brush Prairie Ponds Recharge Area. (Structures within Sections 20, 21, 22 and W1/2 of 23 T3N, R56W). Borings will extend five feet beyond the depth of the structure foundations to determine if the clay layer would be encountered. Monitoring of the test holes will be conducted by a geologist to determine if the clay layer is reached. In the unlikely event that foundations would reach the clay layer, the holes will be filled prior to penetrating the clay layer and an alternative design, requiring shallower foundation, will be used.	Western shall provide independent monitoring by a registered professional geologist.
WATER - 1A	Western Engineering Design and Engineering Construction shall site structures so that the outermost edge of the structure foundation is at least 100 feet from the pipeline.	Western shall not install a structure foundation within 100 feet of the City of Brush Water Pipeline	

WATER 1B	Specific restrictions shall be placed in Project Specifications by Engineering Design and Engineering Construction (Specification Writer). Western shall ensure that the construction contractor adheres to the restrictions Western Maintenance shall adhere to the restrictions	Vehicles or other construction equipment shall not be refueled; Fuels shall not be stored; and any fuel or petroleum product spill (regardless of quantity) shall be immediately cleaned up on within ½ mile of the southern section lines of sections 20, 21, 22,and 23 of T3N, R56W	Changes to these requirements approved by the City of Brush should be obtained in writing and a copy forwarded to the environmental office.
VEG-1	Western will identify off ROW access around wetlands and provide access information and wetland maps in the construction specifications. Environment will provide a map of the wetland areas and discuss the requirement with the Engineering Construction and/or the construction contractor during the preconstruction meeting. Western Construction shall monitor the avoidance.	The contractor will span wetland areas located along the ROW and avoid physical disturbance to wetland vegetation and aquatic habitat. Equipment and vehicles will not cross wetlands along the ROW during construction and maintenance activities. If crossings are required (e.g. for the installation of pulling lines) additional in-field decisions on mitigation shall be made with the appropriate regulatory agency. To the extent possible, existing uplands, bridges, etc. will be used to access the ROW on either side of wetlands.	
VEG-2	Western shall ensure that all vehicles will be washed annually or prior to entering on the ROW after being in an area with noxious weeds. Disturbed areas shall be reclaimed as provided elsewhere in this mitigation plan. Noxious weeds shall be controlled along the ROW in cooperation with landowners.	The contractor will minimize the introduction and/or spread of weeds by washing all equipment at a commercial facility prior to the start of construction each year, by avoiding vehicle traffic in known weedy areas, and by rewashing equipment if weeds are encountered. Western or its contractor will reclaim all disturbed areas as soon as practical after construction each year and would implement a noxious weed control program as necessary.	

WILDLIFE -1	Environment shall prepare a map and other information that identifies the location and restrictions. This information will be included in the project construction specifications by Engineering Construction. Environment will conduct an inventory or contract for an inventory. Western Engineering Construction shall ensure that these restrictions are complied with by the construction contractor..	Western or its environmental contractor will conduct a raptor nest inventory each year prior to construction and will implement mitigation (avoidance, screening, and timing of construction) to prevent the project from disrupting any occupied nests during the breeding season as per CDOW recommended buffer zones and seasonal restrictions.	
WILDLIFE -2	Environment shall prepare a map and other information that identifies the location and restrictions. This information will be included in the project construction specifications by Engineering Construction. Environment will conduct an inventory or contract for an inventory, if necessary. Western Engineering Construction shall ensure that these restrictions are complied with by the construction contractor..	Ground-clearing activities will not occur from April through June, in the Brush Prairie Ponds SWA, per CDOW recommendation. Construction restrictions will lessen the potential for inadvertent loss of migratory bird nests during the avian breeding season.	
WILDLIFE -3	Engineering Construction shall ensure that construction activities along the existing ROW (of the 115-kV transmission line) will be restricted from Sept through January. Activities along the realignment will be negotiated with the CDOW.	No construction activities will occur in the Brush Prairie Ponds SWA during the waterfowl hunting season (September through January 31) to preclude conflicts with hunting use of the SWA, per CDOW recommendation.	

SS-1	Environment will include in its raptor survey under WILDLIFE-1, the identification of potential nest and roosting areas and make recommendations for avoidance in conformance with the CDOW recommendations. Western Engineering Construction will ensure that restrictions included in the project specifications are enforced. Western Maintenance will ensure that the restrictions are adhered to during the Maintenance Phase.	Western will adhere to "Recommended buffer zones and seasonal restrictions for Colorado raptors" (CDOW, 2002) to preclude impacts to bald eagle nest and winter night roost sites. Measures will be implemented to avoid/minimize construction activities within 0.5 mile of a nest site during the nesting season between November 15 and July 31 or within 0.25 mile of a winter night roost site between November 15 and March 15.	
SS-2	Environment will conduct or contract for burrowing owl surveys per CDOW recommendations if required.	If construction cannot avoid prairie dog towns between March 1 and October 31, burrowing owl surveys will be completed, per Colorado Division of Wildlife guidelines to ensure construction activities would not impact breeding burrowing owls.	
SS-3	Western Engineering Design and Construction responsible for design, installation. Western Maintenance responsible for ongoing maintenance of installed devices.	Ensure that the overhead ground wires are marked to improve visibility by bald eagles at the crossing of the South Platte River. The devices used will conform to the recommendations of the Avian Powerline Interaction Committee published specifications.	
CULT-1	Environment shall provide maps that identify avoidance areas to Engineering and Design so that avoidance sites can be identified in the Project Specifications. Western Construction shall ensure that the avoidance areas are enforced during construction. Western Maintenance shall ensure that the areas are avoided during routine Maintenance.	Impacts to eligible cultural sites caused by construction of new towers will be mitigated by planning, design and avoidance. Whenever possible, transmission structures placement will be planned outside of site boundaries. In cases where avoidance is not possible, a mitigation plan will be formulated. If new structures are to be placed within 100 feet of an eligible site, an archaeological monitor may be present to ensure that the site is not impacted during construction. Western will clearly mark eligible sites within the ROW that must be avoided and instruct the contractor to avoid them.	

CULT-2	Environment shall provide maps that identify avoidance areas to Engineering and Design so that sites can be avoided. Western Construction shall ensure that the avoidance areas are enforced during construction. Western Maintenance shall ensure that the areas are avoided during routine Maintenance.	Maintenance and upgrading of access roads along the borders of eligible irrigation sites will be done with caution, to avoid filling historic irrigation systems with sediment from the roadbed. Construction or maintenance of culverts or bridges allowing access roads to cross eligible sites will be avoided wherever possible. Maintenance and upgrading of access roads on eligible sites will be avoided. Where avoidance is not possible, mitigation through photographic documentation to Athearn's (1990) Level II standards will be implemented prior to any construction or roadwork. This will mitigate adverse effects. These guidelines apply not only to roads surveyed as project access roads, but also to roads beneath the transmission lines that were subsumed in the transmission line survey.	
VISUAL-1	Western Design shall include the requirement for compatible colored structures in their structure design and specifications. Western Engineering/Construction shall include the requirement in the procurement package.	The 230-kV steel pole structures will be a neutral, non-reflective or naturally weathering or dulling steel material, such as galvanized steel. Non-reflective or weathering conductors and compatible toned insulators will also be used. Rusting steel (e.g. Corten) will not be used in these settings due to the strong visual contrasts that the darker rusted steel tone would create in these open settings.	

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APPENDIX H

MITITAGION ACTION PLAN

PARKER-GILA 161-KILOVOLT TRANSMISSION LINE QUARTZSITE REROUTE

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MITIGATION ACTION PLAN

for the

PARKER-GILA 161-KILOVOLT TRANSMISSION LINE QUARTZSITE REROUTE, QUARTZSITE, ARIZONA

(DOE/EA-1487, BLM AZ 050-2004-0063)

WESTERN AREA POWER ADMINISTRATION
BUREAU OF LAND MANAGEMENT

December 2005

Western Area Power Administration
Bureau of Land Management

MITIGATION ACTION PLAN

1.0 HISTORY AND BACKGROUND

The Western Area Power Administration (Western) and the Bureau of Land Management (BLM) prepared an Environmental Assessment (EA) for the Parker-Gila 161-kilovolt (kV) Transmission Line Quartzsite Reroute, Quartzsite, Arizona (DOE/EA-1487, BLM AZ 050-2004-0063). Based on the EA, Western and BLM have determined that the proposed Project would not result in any significant environmental impacts, and the preparation of an environmental impact statement (EIS) will not be required. The basis for this determination is described in the Finding of No Significant Impact issued December 2005.

Western proposes to reroute a portion of our Parker-Gila 161-kV Transmission Line around the Town of Quartzsite and remove the appropriate portion of the existing transmission line. In addition, a fiber optic cable will replace one of the overhead ground wires. The construction of the reroute and the removal of the portion of existing transmission line through the Town of Quartzsite would be begun and completed in 2006. A number of environmental protection measures are included with the proposed action to minimize potential adverse environmental effects.

The requirements for preparing a Mitigation Action Plan (MAP) are specified in 10 CFR § 1021.331 (b), U.S. Department of Energy (DOE) National Environmental Policy Act Implementing Procedures. These guidelines state that DOE shall prepare a MAP for commitments to mitigations that are essential to render the impacts of a proposed action not significant. The guidelines further state that the MAP shall also explain how mitigation will be planned and implemented. The EA analyzed the impact of the proposed Project. Western and the BLM have determined that mitigation measures are essential to render the impacts of the proposed Project not significant; mitigating impacts to a historic road during construction activities; and avoiding impacts to nine prehistoric rock features during construction activities.

2.0 FUNCTION AND ORGANIZATION OF THE MITIGATION ACTION PLAN

The following sections describe the plans and actions by which Western will implement and verify mitigation action commitments described above.

Section 3.0 describes the monitoring and verification of mitigation actions and the reporting requirements. Section 4.0 describes the mitigation commitments and action plans for the Project. The commitment to the mitigation is present along with an action plan composed of the tasks, responsible party, and schedule anticipated for the mitigation.

3.0 MITIGATION ACTION PLAN MONITORING AND REPORT SYSTEM

Section 5.d (11) (f) of DOE Order 451.1B, National Environmental Policy Act Compliance Program, requires Western to report MAP activities in its Annual Site Environmental Report (Annual Report), published by October 1 of each year. The Annual Report will reflect new information or changed circumstances. If major changes to mitigation included in this MAP are necessary, these changes will be described in the Annual Report. The Annual Report will be made available to the public.

A member of Western's environmental staff will verify mitigation results and determined if the mitigation actions achieved their intended purpose. Existing organizational and administrative controls will be used to gather information regarding implementation and status of mitigation actions. Such controls include applicable reporting systems, inspection and verification. The results of inspection and verification will be reported on the anniversary of the MAP in the Annual Report. When mitigation actions are completed and verified, the information will be included in the Annual Report.

4.0 MITIGATION COMMITMENTS AND ACTION PLANS

Mitigation practices were defined for the Project in the EA and were considered during the assessment of impacts of the Project. Measures not addressed as part of this MAP will be implemented as part of Western's standard business and environmental program practices.

Table 4.1 outlines the mitigation measures to reduce impacts to less than significant and action items necessary to assure the mitigation is implemented to protect important cultural resource sites (historical and archaeological).

TABLE 4.1
MITIGATION MEASURES

Alternative	Resource: Mitigation Measure	Actions Needed to Avoid Significant Impact
East Route Alternative	Cultural Resources (historical): Site AZ R:8:105 (ASM) a historic dirt roadway from Quartzsite to Bouse is subject to impact from construction activities during placement of structures, conductor, overhead ground wires and fiber optic cable. An archaeologist will be used to ensure that activities are modified over and near site AZ R:8:105 (ASM) Quartzsite to Bouse Road to mitigate any impact.	1. Western will ensure an archaeological monitor will provide pre-construction training to all project construction crews, explaining the importance of the site and the reason for protecting and respecting the site and similar sites in the area. 2. Site AZ R:8:105 (ASM) is the historic roadway from Quartzsite to Bouse. Western will require that all project activities, personnel and equipment will not access the site other than under the guidance and direction of an on-site archaeological monitor. 3. The road will be crossed perpendicularly at a disturbed location or temporarily bridged with steel plates. The edges of the access road will be fenced in the area to be crossed. 4. All materials used for crossing or marking the roadway will be removed by or under the supervision of an archaeological monitor.

TABLE 4.1 MITIGATION MEASURES		
Alternative	**Resource: Mitigation Measure**	**Actions Needed to Avoid Significant Impact**
East Route Alternative	Cultural Resources (archaeological): Seven sites AZ R:8:107 (ASM), AZ R:8:108 (ASM), AZ R:8:109 (ASM), AZ R:8:110 (ASM), AZ R:8:111 (ASM), AZ R:9:112 (ASM), and AZ R:8:113 (ASM) are prehistoric rock feature sites subject to impact from construction activities during placement of structures, conductor, overhead ground wires and fiber optic cable. An archaeologist will be used to ensure that activities are modified such that the sites with a 100-foot buffer area will be avoided to mitigate any impact.	1. Western will ensure an archaeological monitor will provide pre-construction training to all project construction crews, explaining the importance of the sites and the reason for protecting and respecting the sites and similar sites in the area. 2. Sites AZ R:8:107 (ASM), AZ R:8:108 (ASM), AZ R:8:109 (ASM), AZ R:8:110 (ASM), AZ R:8:111 (ASM), AZ R:9:112 (ASM), and AZ R:8:113 (ASM) are prehistoric rock feature sites. Western will not allow access to the sites or a 100-foot buffer area around each site by any project activities, personnel or equipment. 3. An archaeological monitor will determine access around the sites and buffer area. A monitor will establish or supervise the placement of any marking or fencing necessary to ensure compliance. 4. All materials used for marking or fencing will be removed by or under the supervision of an archaeological monitor.

TABLE 4.1 MITIGATION MEASURES		
Alternative	**Resource: Mitigation Measure**	**Actions Needed to Avoid Significant Impact**
Q-Mountain Route Alternative	Cultural Resources (archaeological): One site AZ R:8:114 (ASM) a prehistoric rock feature is subject to impact from construction activities during placement of structures, conductor, overhead ground wires and fiber optic cable. An archaeologist will be used to ensure that activities are modified such that the site with a 100-foot buffer area will be avoided to mitigate any impact.	1. Western will ensure an archaeological monitor will provide pre-construction training to all project construction crews, explaining the importance of the site and the reason for protecting and respecting the site and similar sites in the area. 2. Site AZ R:8:114 (ASM) is a prehistoric rock feature site. Western will not allow access to the site or a 100-foot buffer area around the site by any project activities, personnel or equipment. 3. An archaeological monitor will determine access around the site and buffer area. A monitor will establish or supervise the placement of any marking or fencing necessary to ensure compliance. 4. All materials used for marking or fencing will be removed by or under the supervision of an archaeological monitor.

TABLE 4.1 MITIGATION MEASURES		
Alternative	**Resource: Mitigation Measure**	**Actions Needed to Avoid Significant Impact**
Granite Mountain Route Alternative	Cultural Resources (archaeological): One site AZ V:7:114 (ASM) a prehistoric rock feature is subject to impact from construction activities during placement of structures, conductor, overhead ground wires and fiber optic cable. An archaeologist will be used to ensure that activities are modified such that the site with a 100-foot buffer area will be avoided to mitigate any impact.	1. Western will ensure an archaeological monitor will provide pre-construction training to all project construction crews, explaining the importance of the site and the reason for protecting and respecting the site and similar sites in the area. 2. Site AZ V:7:114 (ASM) is a prehistoric rock feature site. Western will not allow access to the site or a 100-foot buffer area around the site by any project activities, personnel or equipment. 3. An archaeological monitor will determine access around the site and buffer area. A monitor will establish or supervise the placement of any marking or fencing necessary to ensure compliance. 4. All materials used for marking or fencing will be removed by or under the supervision of an archaeological monitor.

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APPENDIX J

MITITAGION ACTION PLAN

RIGHT-OF-WAY MAINTENANCE IN THE SACRAMENTO VALLEY IN CALIFORNIA

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WESTERN AREA POWER ADMINISTRATION

FINAL
MITIGATION ACTION PLAN

FOR

AN ENVIRONMENTAL ASSESSMENT FOR RIGHT-OF-WAY MAINTENANCE IN THE SACRAMENTO VALLEY, CALIFORNIA

AUGUST 2005

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ACRONYMS AND ABBREVIATIONS

BO ..... Biological Opinion
CFR ..... *Code of Federal Regulations*
DOE..... U.S. Department of Energy
EA..... Environmental Assessment
FONSI..... finding of no significant impact
FR..... *Federal Register*
ft ..... foot/feet
kV ..... kilovolt
MAP..... Mitigation Action Plan
mi..... mile/miles
NEPA..... *National Environmental Policy Act*
NESC..... National Electric Safety Code
ROW..... right-of-way
SNR..... Sierra Nevada Region
UC ..... University of California
U.S.C. ..... *United States Code*
USFWS..... U.S. Fish and Wildlife Service
VELB ..... valley elderberry longhorn beetle
Western ..... Western Area Power Administration
WSCC..... Western Systems Coordinating Council

1.0 INTRODUCTION

1.1. BACKGROUND

The Western Area Power Administration (Western), a power marketing administration of the U.S. Department of Energy (DOE), owns, operates, and maintains all or a portion of seven 230-kilovolt (kV) transmission lines and one 115-kV transmission line in Placer, Sacramento, and Sutter counties, California.

Western must comply with the National Electric Safety Code (NESC), Western Systems Coordinating Council (WSCC), and Western directives for protecting human safety and maintaining the reliable operation of the transmission system. Western needs to maintain its transmission line rights-of-way (ROWs) and access roads to allow crews and equipment entry to the ROWs for inspection, maintenance, and repair activities. Vegetation growing in the ROW could create a safety hazard to line crews and the public as well as interfere with the reliable transmission of electricity. As recently as 1996, vegetation growing too close to a transmission line in Oregon left more than 2,000,000 customers in 11 states without electricity (BPA 1996).

Western has a Biological Opinion (BO) from the U.S. Fish and Wildlife Service (USFWS) addressing current routine ROW maintenance practices for these transmission lines (USFWS 1998). The BO identifies threatened and endangered species and their habitats and identifies avoidance measures to apply based on Western's current routine ROW maintenance methods. However, Western proposes expanding the scope of these maintenance methods. The Final *Environmental Assessment* (EA) *for Right-of-Way Maintenance in the Sacramento Valley, California,* was developed to support further *Endangered Species Act* Section 7 consultation required when Western conducts maintenance activities that are beyond those covered in the BO. On March 30, 2005, the USFWS released a new BO (USFWS 2005), to be tiered under the 1998 BO. This new BO covers maintenance activities described for the proposed action, presented in the EA, within the study area described in Section 1.3.

The proposed action would result in impacts to habitat of the valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), a Federally listed threatened species, through the removal of elderberry shrubs with stems of 1 inch or greater diameter near towers and trimming of elderberry shrubs above the 10-foot (ft) level. This impact will be fully mitigated through transplanting of removed shrubs and restoration of VELB habitat. The process for determining and mitigating these impacts is detailed in this Mitigation Action Plan (MAP). These mitigation measures are identified as commitments in the finding of no significant impact (FONSI) and, pursuant to Title 10, Code of Federal Regulations (CFR), §1021.33 1, have been incorporated into this MAP.

Based on the analyses in the EA, and with implementation of the actions prescribed in this MAP, Western has concluded that the ROW maintenance proposed action will result in minimal and insignificant consequences to the environment. Thus, Western considers that the proposed action is not a major Federal action significantly affecting the quality of the human environment, within the meaning of the *National Environmental Policy Act* (NEPA) of 1969, 42 United States Code (U.S.C.) §4321, *et seq.*

1.2. PURPOSE AND SCOPE

This MAP is a Western management document that identifies the potential environmental impacts of vegetation maintenance as decided upon in the Finding of No Significant Impact (FONSI). The MAP identifies commitments made in the FONSI to mitigate those potential impacts and establishes the actions to carry out each commitment.

The EA includes a discussion of controls built into the vegetation management program that are designed to minimize environmental impacts. These controls include performing maintenance activities according to guidelines provided in Western's *Integrated Vegetation Management Environmental Guidance Manual* (Western 2003). Western will undertake additional measures to fully mitigate the impacts of vegetation maintenance as outlined in the FONSI. In accordance with the DOE's implementing procedures for the NEPA (10 CFR §1021.331), this MAP has been prepared to address the mitigation commitments that would be expressed in the FONSI.

The mitigation measures presented in this MAP address habitat loss of the Federally listed threatened VELB. No other required mitigation measures were identified in the EA.

1.3. STUDY AREA DESCRIPTION

The study area is in the Sacramento Valley of northern California and crosses Sutter County, Sacramento County, and Placer County (Table 1-1). Eight transmission line ROWs, and associated access road ROWs and substations, comprise the study area. Descriptions of the transmission line ROWs are as follows:

- **Elverta-Hurley No. 1 and No. 2, 230-kV**. This transmission line is comprised of one ROW of double-circuit towers. The ROW is 120 ft wide in total: 55 ft from centerline to the east/north and 65 ft from centerline to the west/south The length of this ROW is 56,000 ft or 10.6 miles (mi), with a ROW area of 154.3 acres.
- **Hurley-Tracy No. 1 and No. 2, ending at Sacramento-San Joaquin County Line, 230-kV.** This transmission line starts at the Hurley Substation and continues south to the Sacramento-San Joaquin County line. This transmission line has two different configurations and ROWs.
    - From the Hurley Substation (tower 11/2) to the Hedge Substation (tower 18/2), the transmission line continues with one row of double-circuit towers with the same 120-ft ROW as above. The length of this portion is 34,300 ft or 6.5 mi, with a ROW area of 94.5 acres.
    - From the Hedge Substation (tower 18/2) to the Sacramento-San Joaquin County Line (tower 37/2), the transmission line splits into two separate ROWs, each with one row of single-circuit towers. Line No. 1 is on the east, line No. 2 is on the west. Each ROW is 125 ft wide in total: 62.5 ft on each side of centerline. The length of this portion of the line is 95,900 ft or 18.16 mi, with a ROW area of 550.4 acres.

Table 1-1. Transmission Lines in the Study Area

Transmission Line	Start Point	End Point	Length of Transmission Line (mi) [a]	Kilovolts
Elverta-Hurley No. 1 and No. 2 [b]	Elverta Substation	Hurley Substation	10.99 (No. 1) and 10.73 (No. 2)	230
Hurley-Tracy No. 1 and No. 2 [b]	Hurley Substation	Study area ends at Sacramento/San Joaquin County Line. Line continues to Tracy Substation	24.66 within study area. 61.54 (No. 1) and 61.30 (No. 2) to Tracy Substation.	230
Folsom-Nimbus	Folsom Substation	Nimbus Powerplant	6.62	115
Folsom-Roseville	Folsom Substation	Roseville Substation	7.10	230
Roseville-Elverta (consists of two separate lines, Roseville-Fiddyment and Fiddyment-Elverta)	Roseville Substation	Elverta Substation	12.10	230
Cottonwood-Roseville	Study area begins at Sutter/Yuba County Line. Transmission line begins at Cottonwood Substation.	Roseville Substation	28.34 within study area. 137.04 to Cottonwood Substation.	230
O'Banion-Elverta No. 1 and No. 2 [b]	O'Banion Substation	Elverta Substation	26.00 (No. 1 and No. 2)	230

[a] Length of transmission line is from origin to endpoint, including portions within substations or generating facilities
[b] The Elverta-Hurley, Hurley-Tracy, and O'Banion-Elverta transmission line ROWs contain double-circuit towers—separate transmission lines, denoted as No. 1 and No. 2, share the same towers within the ROW.
ROW = Right-of-way

- **Folsom-Nimbus, 115-kV**. This transmission line includes one row of single-circuit towers (the towers are concrete poles). The ROW width is 150 ft total: 75 ft on each side of centerline. The transmission line starts at the Nimbus Powerplant and runs north and east to the Folsom Substation. The length of this ROW is 32,400 ft or 6.14 mi, with a ROW area of 111.6 acres.
- **Folsom-Roseville, 230-kV**. This transmission line includes one row of single-circuit towers. The ROW is 250 ft wide in total: 62.5 ft from centerline to the north/east and 187.5 ft from centerline to the south/west. The transmission line starts at the Folsom Substation and runs north and west to Roseville Substation. The length of this ROW is 34,900 ft or 6.6 mi, with a ROW area of 200.3 acres.
- **Roseville-Elverta (consisting of Roseville-Fiddyment and Fiddyment-Elverta), 230-kV, and Cottonwood-Roseville, 230-kV**. These lines share a ROW for a portion of their length. From Roseville Substation to just past the Sacramento County line, there are two rows of towers. The row on the north is the single-circuit Cottonwood-Roseville transmission line. The ROW to the south is the double-circuit Roseville-Elverta transmission line. The ROW is 250 ft wide in total: the north boundary is 62.5 ft north of the Cottonwood-Roseville centerline, the south boundary is 53 ft south of the Roseville-Elverta/Cottonwood-Roseville centerline; the distance between these centerlines is 134.5 ft.

The length of this portion of the ROW is 60,000 ft or 11.3 mi, with a ROW area of 344.3 acres.

At the Sacramento County line, the **Roseville-Elverta** transmission line turns south to the Elverta Substation. Through this portion of the route, it shares the ROW with the double-circuit O'Banion-Elverta transmission line, to the west. The ROW is a total of 612.5 ft wide; the west boundary is 50 ft west of the O'Banion-Elverta centerline. The length of this portion of the ROW is 7,000 ft or 1.3 mi, with a ROW area of 98.4 acres.

At the Sacramento County line, the **Cottonwood-Roseville** transmission line turns north, sharing the ROW for the first portion with the O'Banion-Elverta transmission line. The Cottonwood-Roseville single-circuit row of towers is on the east and the O'Banion-Elverta double-circuit row of towers on the west. The ROW is a total of 225 ft wide. From the Sacramento-Placer County line north to Cottonwood-Roseville tower 144/4 is 14,300 ft or 2.7 miles, with a ROW area of 73.9 acres.

North of tower 144/4, to the Sutter-Yuba County line, the Cottonwood-Roseville ROW is 100 ft total width: 50 ft on each side of centerline. The length of this portion of the ROW is 75,700 ft or 14.34 mi, with a ROW area of 173.8 acres.

- **O'Banion-Elverta No. 1 and No. 2, 230-kV**. This transmission line includes one row of double-circuit towers. Starting at the Elverta Substation, the ROW is shared with the Roseville-Elverta transmission line for 1.3 mi, and then with the Cottonwood-Roseville transmission line for 2.7 mi, as described above. At tower 157/4, the transmission line runs northwest to the O'Banion Substation on the south side of O'Banion Road. The ROW width varies along this transmission line.
  - From tower 157/4 to 144/2, the ROW is a total of 125 ft wide: 62.5 ft on each side of centerline. The length of this portion of the ROW is 68,200 ft or 12.91 mi, with a ROW area of 195.7 acres.
  - From tower 144/2 to O'Banion Road (tower 135/1), the ROW is a total of 112.5 ft wide: 50 ft to the west and 62.5 ft to the east of centerline. The length of this portion of the ROW is 44,000 ft or 8.3 mi, with a ROW area of 113.6 acres.

Most portions of the lines are located in rural, agriculturally dominated areas. However, major portions of the Folsom-Nimbus, Folsom-Roseville, Elverta-Hurley, and Hurley-Tracy transmission lines are located in suburban/urban areas in or near the cities of Sacramento, Roseville, and Folsom.

The standard ROW width for legal access roads is 30 ft. The legal access road ROWs are located along the following transmission lines:

- **Folsom-Nimbus**, between towers 0/2 and 0/3;
- **Elverta-Hurley**, at towers 9/3 and 11/1; and
- **Hurley-Tracy**, at towers 11/2 through 12/1, 16/2 through 16/5, 26/2, 27/2, 28/4, 29/2, 29/3, 30/1, and 33/3.

The total length of the legal access road ROWs is 8.7 mi, with a ROW area of 31.6 acres.

1.4. RELATED REPORTS

Several reports and data produced in association with the Final *Environmental Assessment for Right-of-Way Maintenance in the Sacramento Valley, California* (Western 2005) were used as sources for this MAP. The reports produced are the

- *Biological Data Report* (included as an appendix to the EA),
- Biological survey results, and the
- *Cultural Resources Report* (summary of findings included within EA).

Additional related reports include

- *Western's Integrated Vegetation Management Environmental Guidance Manual* (Western 2003);
- *USFWS Formal Programmatic Consultation on the Operations and Maintenance Activities of the Western Area Power Administration* (USFWS 1998);
- *USFWS Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (USFWS 1999); and
- *USFWS Valley Elderberry Longhorn Beetle Recovery Plan* (USFWS 1984); and

1.5. COORDINATION AND PARTICIPANTS

Mr. Steve Tuggle of Western's Sierra Nevada Region (SNR) Office in Folsom, California, leads this project. He is assisted by Mr. John Bridges (Biologist) of Western's Corporate Services Office in Lakewood, Colorado. Contractor support is provided by Tetra Tech NUS.

Mr. Tuggle has performed all coordination with Federal and state agencies, particularly the USFWS, Sacramento.

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2.0 MITIGATION OF IMPACTS TO PRIORITY HABITATS

2.1. SUMMARY DESCRIPTION OF PROJECT AREA

The VELB was listed as a threatened species on August 8, 1980 (45 Federal Register [FR] 52803-52807). The VELB is fully protected under the *Endangered Species Act* of 1973, as amended (16 U.S.C. §1531 *et seq*.). The VELB is completely dependent on its host plant, elderberry, which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley. Use of the elderberry by the VELB, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the VELB is an exit hole created by the larva just prior to the pupal stage. The life cycle takes one or two years to complete. The animal spends most of its life in the larval stage, living within the stems of an elderberry plant. Adult emergence is from late March through June, about the same time the elderberry produces flowers.

Critical habitat for the VELB is designated in the Federal Register listing as follows:

- **Sacramento Zone**. An area in the city of Sacramento enclosed on the north by the Route 160 Freeway, on the west and southwest by the Western Pacific railroad tracks, and on the east by Commerce Circle and its extension southward to the railroad tracks. A portion of the Elverta-Hurley transmission line ROW, from towers 8/3 to 8/5, lies approximately 750 ft to the southwest of this area.

- **American River Parkway Zone**. An area of the American River Parkway on the south bank of the American River, bounded on the north by latitude 38º 37'30" N and on the South and east by Ambassador Drive and its extension north to latitude 38º 37'30" N, Goethe Park, and that portion of the American River Parkway northeast of Goethe Park, west of the Jedediah Smith Memorial Bicycle Trail, and north to a line extended eastward from Palm Drive. No portion of Western transmission line ROWs lies within this area.

In addition, an area along Putah Creek, Solano County, and an area west of Nimbus Dam along the American River Parkway, Sacramento County, are considered essential habitat, according to the VELB Recovery Plan (USFWS 1984). These areas support large numbers of mature elderberry shrubs with extensive evidence of use by the beetle. No portion of Western transmission line ROWs or access roads lies within these areas.

The VELB Recovery Plan cites the loss of riparian habitat as the major cause of population decline and suggests that an increase in elderberry habitat will encourage beetle recovery (USFWS 1984). The relationship between population decline and loss of habitat form the basis of the USFWS's application of mitigation ratios in response to the take of beetles or their habitat (Table 2-1). However, during surveys conducted in 1991 and 1997 (Barr 1991, Collinge et al. 2001), 75 percent of apparently suitable habitat was uninhabited by the VELB, suggesting that factors other than elderberry availability are preventing increases in VELB populations.

While there are many ecological principles guiding the population dynamics of sensitive species, the lack of success in generating stronger VELB populations indicates that these

principles may not be appropriate to VELB, even though they form the foundation of the recovery plan. Some complicating factors to VELB recovery include invasive predators and juvenile mortality, host quality, reduction of genetic variability from inbreeding, and climatic trends (Huxel 2001).

A biological survey conducted from September through December 2001, identified four major locations of elderberry along the following ROWs in the study area: Folsom-Nimbus (entire length) and the eastern end of the Folsom-Roseville transmission lines; southern end of Elverta-Hurley and northern end of Hurley-Tracy transmission lines; northern end of the Cottonwood-Roseville transmission line, near Bear River; and the southern end of Hurley-Tracy transmission line.

Table 2-1. Minimization Ratios Based on Location, Stem Diameter, and Presence or Absence of Exit Holes

Location	Stems (maximum diameter at ground level in inches)	Exit Holes	Elderberry Seedling Ratio	Associated Native Plant Ratio
Non-riparian	≥ 1 & ≤ 3	No	1:1	1:1
		Yes	2:1	2:1
Non-riparian	> 3 & < 5	No	2:1	1:1
		Yes	4:1	2:1
Non-riparian	≥ 5	No	3:1	1:1
		Yes	6:1	2:1
Riparian	≥ 1 & ≤ 3	No	2:1	1:1
		Yes	4:1	2:1
Riparian	> 3 & < 5	No	3:1	1:1
		Yes	6:1	2:1
Riparian	≥ 5	No	4:1	1:1
		Yes	8:1	2:1

Source: USFWS 1999

2.2. SUMMARY OF IMPACTS TO BE MITIGATED

Under the proposed action, 422 stems, 1-inch or greater diameter, would be removed from areas within 40 ft of tower centers (approximately 20 ft from tower legs) and within 20 ft of poles. This action is necessary for the safety and reliability of the system; elderberry have been observed growing within tower structures and causing stress to towers that could lead to structural failure (Figure 2-1). This is a serious public safety and environmental issue. The consequences of structural failure include

FIGURE 2-1. ELDERBERRY CAUSING STRESS TO TOWER 9/4, ELVERTA-HURLEY TRANSMISSION LINE

- Fire (to structures and vegetation),
- Loss of electricity to customers (with attendant effects on emergency services and other public infrastructure), and
- Habitat destruction resulting from gaining access to towers and conductors as part of an emergency action (Figure 2-2).

Conservation guidelines for the VELB (USFWS 1999) prescribe minimization ratios as listed in Table 2-1.

A survey conducted in January and February, 2002, identified elderberry bushes for removal along Western's ROWs and counted stems according to protocols described in the Conservation Guidelines for the VELB (USFWS 1999). A follow-up survey conducted in April 2004 refined these numbers based on the latest site conditions. Results of these surveys and required mitigation are summarized in Table 2-2.

The total elderberry mitigation stems listed in Table 2-2 assumes 100 percent of elderberry stems would be transplanted. Because of concern for safety in working with equipment near transmission lines and the structural integrity of towers, Western may not be able to transplant all elderberry shrubs, and therefore be required to double mitigation for untransplanted stems.

FIGURE 2-2. ELDERBERRY AND OTHER VEGETATION BLOCKING TOWER ACCESS

Table 2-2. Summary of Required VELB Mitigation

	Riparian						Non-Riparian		
	Exit Holes [a]			No Exit Holes [a]			No Exit Holes [a]		
Stem Size	*Count*	*Multiplier*	*Mitigation*	*Count*	*Multiplier*	*Mitigation*	*Count*	*Multiplier*	*Mitigation*
1"-3"	107	4	428	141	2	282	6	1	6
>3" to <5"	80	6	480	40	3	120	3	2	6
5" and greater	40	8	320	5	4	20	0	3	0
Totals			1228			422			12
								Total Elderberry Mitigation Stems	1662
								Native Plants	2890
								Total Plants	4552
								Total Elderberry Mitigation Units (1999 Conservation Guidelines)	455
								Total Elderberry Mitigation Acres (1999 Conservation Guidelines)	18.8
								15-Percent Contingency for Non-transplanted Shrubs	2.8
								Acres to Compensate for Additional Take and Trimming	5.0
								Total Elderberry Mitigation Acres	**26.6**

[a] During the surveys, counts of exit holes were based on plant groupings, which could include multiple plants; if exit holes were noted in one stem, the entire group of plants was counted as having exit holes. As the conservation guidelines specify exit hole counts based on individual plants, actual mitigation required may be less than shown in the table if not all plants within a group contain exit holes. Exit hole determination would be made at the time of plant removal.

Western will evaluate each shrub at the time of removal to determine whether transplant is feasible. Western would add 2.8 acres to the 18.8 acres of compensation area calculated in Table 2-2 to account for 15 percent of plants, with various stem sizes, that would not be feasible to transplant. In addition, Western would perform compensation to cover incidental take of up to 10 elderberry shrub clusters per year as well as trimming elderberry above the 10-ft level. Western would set aside an additional 5 acres for this compensation over the 20-year term of the 1998 programmatic BO (USFWS 1998). The total size of the compensation area under the proposed action is 26.6 acres. If, due to funding or other constraints, Western scales back its maintenance program and decides not to remove some shrubs, the compensation acreage would be adjusted accordingly.

2.3. DESCRIPTION OF AREA TO BE MITIGATED

A breakdown of locations of stems proposed for removal is shown in Table 2-3.

2.4. MITIGATION ACTIONS

Western has negotiated with the County of Sacramento to restore VELB habitat along the American River Parkway in return for payment. The compensation area would be located near Western's ROW between Business I-80 and SR-160 north of the American River. This area is a former agricultural field that currently contains non-native herbaceous grasses and star thistle. However, native vegetation is adjacent to the field. Western would contract with a qualified third party to remove non-native vegetation and prepare the compensation area for planting, and perform the following tasks in accordance with Conservation Guidelines for the VELB (USFWS 1999):

- Remove elderberry from current locations, transport to the compensation area, and replant;
- Plant appropriate ratios of elderberry seedlings and associated native species;
- Provide long-term protection, weed control, litter control, fencing, and signage;
- Monitor and develop survey reports over a period of 10 consecutive years or 7 years over a 15-year period; and
- Replace failed plantings if the survival rate drops below 60 percent during the first year.

More detailed information, including the project schedule, is provided in the Memorandum of Understanding.

A total of 411 of the 422 stems to be removed under the Proposed Action are located in the American River Parkway within 3 miles of the mitigation area.

No conservation easement is necessary given the land use plan already in place for the American River Parkway, which is protective of VELB habitat. The County of Sacramento would maintain the area in perpetuity according to this land use plan.

Table 2-3. Stems Proposed for Removal, Listed by Tower

Line and Tower	Stem Diameter (in inches)	Riparian		Non-Riparian	
		Exit Holes	No Exit Holes	Exit Holes	No Exit Holes
Elverta-Hurley 9/4	≥ 1 & ≤ 3	10			
	> 3 & < 5	9			
	≥ 5	7			
Elverta-Hurley 9/5	≥ 1 & ≤ 3	14	22		
	> 3 & < 5	16	0		
	≥ 5	3	0		
Elverta-Hurley 10/1	≥ 1 & ≤ 3	13			
	> 3 & < 5	8			
	≥ 5	5			
Hurley-Tracy 10/5	≥ 1 & ≤ 3	23	21		
	> 3 & < 5	12	19		
	≥ 5	0	1		
Elverta-Hurley 10/6	≥ 1 & ≤ 3		3		
	> 3 & < 5		4		
	≥ 5		0		
Elverta-Hurley 11/A	≥ 1 & ≤ 3	3	4		
	> 3 & < 5	2	4		
	≥ 5	2	3		
Elverta-Hurley 11/B	≥ 1 & ≤ 3	21			
	> 3 & < 5	13			
	≥ 5	15			
Hurley-Tracy 11/2	≥ 1 & ≤ 3	16			
	> 3 & < 5	19			
	≥ 5	8			
Hurley-Tracy 11/3	≥ 1 & ≤ 3	7	89		
	> 3 & < 5	1	13		
	≥ 5	0	1		
Folsom-Roseville 0/1	≥ 1 & ≤ 3				6
	> 3 & < 5				3
	≥ 5				0
Folsom-Nimbus 0/8	≥ 1 & ≤ 3		2		
	> 3 & < 5		0		
	≥ 5		0		
Total		227	186	0	9

The proposed mitigation would enhance opportunities for survival of the VELB for the following reasons (Holyoak, 2004, pers. commun.):

- Because the VELB is a poor colonist (limited dispersal characteristics), the location of the mitigation area adjacent to riparian habitat with demonstrated VELB presence will increase the prospects for VELB migration to the mitigation area;
- Because the site is demonstrably suitable for elderberry, a low mortality rate for elderberry plants is expected; and
- The mitigation site itself is a contiguous area providing better opportunity for the VELB to colonize.

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APPENDIX K

ENVIRONMENTAL PERMITS FOR 2005

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LIST OF ENVIRONMENTAL PERMITS
OBTAINED OR ONGOING DURING CALENDAR YEAR 2005

NAME	ISSUING AGENCY	STATUS	EXPIRATION DATE
404 Permit (Clean Water Act)			
None			
Migratory Bird Treaty Act/Eagle Protection Act			
Removal of bird nests (Arizona)	USFWS	Ongoing	Open
Removal of bird nests (California)	USFWS	Ongoing	Open
Removal and Relocation of Golden Eagle Nests	USFWS	Complete	September 2005
Hazardous Waste			
Hazardous Waste Hauler Registration	California Department of Toxic Substances Control	Renewed	Open
Hazardous Waste Hauling Permit	Minnesota Pollution Control Agency	Ongoing	Annual
Hazardous Waste Transporter Permit	North Dakota Department of Health	Ongoing	10/07/09
Permit to Operate			
Underground Storage Tank (2 total)	Arizona Department of Environmental Quality	Ongoing	Annually
Diesel Tank for Backup Generator	Colorado State Inspector of Oil	Ongoing	Annually
Hazardous Materials Permit			
Hazardous Materials Business Plans (separate permits for 60 facilities)	Various Counties: Alameda (4), Calavaras (1), Colusa (2), Contra Costa (2), Fresno (1), Glenn (1), Kern (1), Lassen (2), Mendocino (1), Merced (5), Modoc (2), Napa (1), Placer (1), Plumas (1), Sacramento (3), San Joaquin (4), San Mateo (2), Santa Clara (4), Shasta (11), Sierra (1), Solano (1), Stanislaus (1), Sutter (1), Tehama (4), Yolo (3)	Ongoing	Annually
Hazardous Waste Generation Permit (separate permits for 21 facilities)	Arizona State Department of Environmental Quality	Ongoing	Annually
HazMat Storage Permit	Nevada State Fire Marshall	Ongoing	Annually
Blythe Substation HazMat Handler's Permit	Riverside County Department of Environmental Health	Ongoing	Annually
Parker Dam Substation HazMat Management Permit	San Bernardino County Fire Department	Ongoing	Annually
Amargosa Substation Waste Management Permit	Clark County Health District	Ongoing	Annually
Henderson Substation Waste Management Permit	Clark County Health District	Ongoing	Annually

NAME	ISSUING AGENCY	STATUS	EXPIRATION DATE
Water Quality			
Septic Tank Permit	Nevada Bureau of Water Pollution Control	Ongoing	Annual
North Dakota Pollution Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction Activity	North Dakota Department of Health	July, 2001	Temporary
	City of Bismarck	July, 2001	Temporary
Clean Air Permits			
Facility Permit – generator	Sacramento Metropolitan Air Quality Management District, California	Ongoing	Annually
Air Quality Permit – Logan Creek Microwave Facility	Glenn County Air Pollution Control District, Arizona	Ongoing	Annually
Air Quality Permit	Maricopa County, Arizona	Ongoing	Annually
Diesel Dispensing			
Facility Permit	Bay Area Air Quality Management District	Ongoing	Annually
Facility Permit	Shasta County Air Quality Management District	Ongoing	Annually
Facility Permit	Sacramento Metropolitan Air Quality Management District	Ongoing	Annually
Gasoline Dispensing			
Facility Permit	Bay Area Air Quality Management District	Ongoing	Annually
Facility Permit	Shasta County Air Quality Management District	Ongoing	Annually
Facility Permit	Sacramento Metropolitan Air Quality Management District	Ongoing	Annually

APPENDIX L

2005 POLLUTION PREVENTION AND WASTE MINIMIZATION REPORT

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Standard Data Report

2005 Annual Report on Waste Generation and Pollution Prevention Progress as required by DOE Order 450.1

Western Area Power Administration

Operations Office: HQ

Prepared for: DOE

Prepared by:

12/15/2005

Standard Data Report

89-Western Area Power Administration

General Site Information

Site Information:

Site Name: 89-Western Area Power Administration
Internet Email Address: iley@wapa.gov
Operations Office Name: HQ
Lead PSO: PM

DOE Point of Contact Information:

DOE Point of Contact: Gene Iley, Jr.
DOE Phone #: 970-461-7294
DOE Fax #: 970-461-7213

DOE Employee address: Address: 5555 E. Crossroads Blvd. P.O. Box 3700 Loveland, CO 80539-3003

Contractor Point of Contact Information:

Contractor Point of Contact:
Contractor Phone #:
Contractor Fax #:

Contractor Address: Contractor Address:

Standard Data Report

89-Western Area Power Administration

Site-Wide Recycling Activities

Recycle Category	Qty	
Paper Products:		
Office and Mixed Paper	70.20	mt
Corrugated cardboard	16.16	mt
Phone Books	3.22	mt
Newpapers/Magazines	4.19	mt
Scrap Metals:		
Stainless steel	0.05	mt
Copper	53.27	mt
Iron/Steel	1,293.31	mt
Aluminum	40.34	mt
Aluminum Cans	0.53	mt
Lead	0.01	mt
Zinc	0.00	mt
Other: (see discussion below)	49.30	mt
Precious metals:		
Silver	0.00	mt
Gold	0.00	mt
Platinum	0.00	mt
Other: (see discussion below)	0.00	mt
Other Items		
Antifreeze	0.71	mt
Engine oils	6.16	mt
Toner cartridges	0.72	mt
Batteries	43.05	mt
Tires	1.40	mt
Food waste	0.00	mt
Concrete/Asphalt	29.23	mt
Fluorescent Bulbs	0.53	mt
Ballasts	0.00	mt
Glass	0.00	mt
Plastic	0.12	mt
Styrofoam	0.00	mt
Transformers	24.61	mt
Wood (chips, compost)	0.00	mt

*Computers/Electronics	14.13	mt
*Other: (see discussion below)	2,082.73	mt

* Optional Reporting

Explanation of "Other" recycling amounts:

Explanation for other amounts: Woodpoles and crossarms = 1637.22, Mineral OIl Dielectric Fluid = 341.1, Wood = 0.91, Freon = 0.01, Fiberglass Microwave Buildings = 30, Aerosol Cans = 0.07, Paint = 0.1, Landfarmed Soil = 70.18, Solvent = 0.19, Non-PCB Bushings = 2.95

Sanitary Waste

Routine		Cleanup/Stabilization	
1,824.88	mt	0.00	mt

Recycling Questions

How many offices/sites was your organization responsible for operating in FY 2005 ? 41

How many of these offices/sites had an active office products recycling program in FY 2005? 20

How many residential housing units did your organization/site operate in FY 2005? 0

How many of these residential housing units had an active household products recycling program in FY 2005? 0

How many demolition projects were managed by and/or contracted by your organization in FY 2005? 0

How many of these demolition projects included the recovery of construction materials in FY 2005? 0

Solid Waste Prevention Questions

Report solid waste prevention efforts for the facilities for which your organization is responsible.
A. Did you institute new solid waste prevention practices in FY 2005?
No
B. If the response is Yes, please provide an explanation of those practices.

C. If the response is NO, please provide an explanation of why not.
Practicable waste reduction processes are already in place. However, pollution prevention opportunity assessments conducted in 2005 have identified additional waste reduction activities that will be implemented in 2006.

Standard Data Report

89-Western Area Power Administration

Total Site Generation - Routine vs. Cleanup/Stabilization Waste

Waste Type	Routine Waste	Unit	Cleanup/Stabilization Waste	Unit	Total Waste	Unit
High Level Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
High Level Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
Transuranic Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
Transuranic Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
Mixed Transuranic Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
Mixed Transuranic Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
Low Level Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
Low Level Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
Mixed Low Level Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
Mixed Low Level Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
RCRA Regulated	0.90	mt	0.00	mt	0.90	mt
State Regulated	13.61	mt	0.00	mt	13.61	mt
TSCA Regulated	39.19	mt	0.00	mt	39.19	mt
Mixed TSCA	0.00	mt	0.00	mt	0.00	mt

Standard Data Report

89-Western Area Power Administration

Site Waste Generation by PSO

'SO: PM

Waste Type	Routine Waste	Unit	Cleanup/Stabilization Waste	Unit	Total Waste	Unit
High Level Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
High Level Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
Transuranic Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
Transuranic Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
Mixed Transuranic Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
Mixed Transuranic Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
Low Level Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
Low Level Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
Mixed Low Level Waste (Liquid)	0.00	m3	0.00	m3	0.00	m3
Mixed Low Level Waste (Solid)	0.00	m3	0.00	m3	0.00	m3
RCRA Regulated	0.90	mt	0.00	mt	0.90	mt
State Regulated	13.61	mt	0.00	mt	13.61	mt
TSCA Regulated	39.19	mt	0.00	mt	39.19	mt
Mixed TSCA	0.00	mt	0.00	mt	0.00	mt

Standard Data Report

89-Western Area Power Administration

Explanation for differences (increase/decrease) in waste generation amounts reported for the year 2005 which differ from 2004 reported amounts by more than 20 percent.

Waste type: Routine - TSCA Waste
PSO: PM
Reported in 2004: 57.8 mt
Reported in 2005: 39.19 mt

Explanation for the difference:
This number will always be variable at Western dependent upon number of projects and maintenance activities for a given year. PCBs are routinely removed from our facilities as part of a systematic program to eventually remove all PCBs.

Waste type: Routine - Sanitary Waste
Reported in 2004: 1369.63 mt
Reported in 2005: 1824.88 mt

Explanation for the difference:
The sanitary waste count is more accurate due to better data derived from pollution prevention opportunity assessments. Also, 3 building cleanouts resulted in additional waste.

FY2005 Site P2 Profile

Please enter the P2 Site Profile for 89-Western Area Power Administration.

1. Have the P2 provisions of the DOE O 450.1 Contractor Requirements Document been incorporated into site management contracts? No

2. Have pollution prevention goals, objectives, and targets been incorporated into the site EMS and/or ISMS? Yes

3. Identify and describe actions taken during the reporting year to incorporate sustainable design and green building practices into site operations:

Western environment, design, and construction staff incorporated more defined recovered material content requirements into our construction standards. The standards will continue to be upgraded with additional green building practices.

4. List the voluntary EPA programs* for which the site has ben recognized as a participant:

1) Energy Star, 2) Alternative, Renewable Energy Sources - WAPA purchased 15 megawatts of renewable energy certificates that is 100% of the energy at Westerns 15 largest buildings (greater than 10,000 sq.ft.), 3) Green Tags Program, and 4) Wind power purchase through Xcel Energy.

5. List other EMS or P2 awards received during the reporting period (e.g., National Environmental Performance Track status, Green Zia):

* P2-Related voluntary programs include, but are not limited to:

- Green Engineering
- Climate Leaders
- Commuter Choice Leadership Initiative
- Energy Star [Buildings]
- Green Power
- National Environmental Performance Track
- National Waste Minimization Partnership
- WasteWise
- Project XL
- Federal Electronics Challeng

WAPA - Recycling Activities – FY 2005 (all values in metric tons)

	CSO	RMR	DSW	UGP	SNR	TOTALS
Paper Products:						
Office and Mixed Paper	21.59	34.66	5.4	6.1	2.45	70.2
Corrugated cardboard	1.54	2.59	0.6	4.83	6.6	16.16
Phone Books	0	1.22	1	1	0	3.22
Newpapers/Magazines	0.98	2.9		0.31		4.19
Scrap Metals:						
Stainless steel	0			0.05		0.05
Copper	0		52.8	0.47	0	53.27
Iron/Steel	0	137.96	756.6	398.75	0	1293.31
Aluminum	0	0.19	3.5	36.65	0	40.34
Aluminum Cans	0.24	0.17		0.12	0	0.53
Lead	0	0.01				0.01
Zinc	0					0
Other: (see discussion below)	0					0
Precious metals:						
Silver	0					0
Gold	0					0
Platinum	0					0
Other: (see discussion below)	0					0
Other Items						
Antifreeze	0	0.4	0.1		0.21	0.71
Engine oils	0	1.92	3.3	0.77	0.17	6.16
Toner cartridges	0.15	0.06		0.38	0.13	0.72
Batteries	0	29	1.8	11.52	0.73	43.05
Tires	0	0.9		0.5	0	1.4
Food waste	0					0
Concrete/Asphalt	0		29		0.23	29.23
Fluorescent Bulbs	0	0.2	0.1	0.12	0.11	0.53
Ballasts	0					0
Glass	0					0
Plastic	0.12					0.12
Styrofoam	0					0
Transformers	0	6.69		17.92	0	24.61
Wood (chips, compost)	0					0
Computers/ Electronics	0	3.5	6.7	2.36	1.57	14.13
*Other: (see discussion below)	0	775.72	233.1	1061.24	12.67	2082.73
TOTALS	24.62	998.09	1094	1543.09	24.87	3684.67

* Explanation for "Other"

Woodpoles & crossarms		599.25	131.8	906.17		1637.22
Mineral oil dielectric fluid		105.13	101.3	122	12.67	341.1
Wood		0.91				0.91
Freon		0.01				0.01
Aerosol Cans		0.07				0.07
Fiberglass microwave building				30		30
Paint		0.06		0.04		0.1
Soil (landfarmed)		70.18				70.18
Solvent		0.11		0.08		0.19
Non-PCB Bushings				2.95		2.95
		775.72	233.1	1061.24	12.67	2082.73

NOTE: CRSP data is included with RMR

WAPA - Waste Generation - FY2004 - Routine (all values in metric tons)**

	CSO	RMR	DSW	UGP	SNR	TOTALS
RCRA Regulated	0	0.04	0	0.24	0.62	0.9
State Regulated	0	0.07	0		13.54	13.61
TSCA Regulated	0		33	3.82	2.37	39.19
Mixed TSCA	0				0	0
Sanitary	250	628.34	320	498.01	128.53	1824.88

** There was no non-routine or cleanup/stabilization waste at WAPA in FY2005 (Western does not have any DOE Legacy type waste).

Percent Recycle Rate* =**	**9.0**	**61.4**	**77.4**	**75.6**	**16.2**	**66.9**

*** Recycled weight / (Recycled weight + Sanitary Waste weight) X 100