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ANNUAL SITE ENVIRONMENTAL REPORT
FOR CALENDAR YEAR 1994

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PREFACE

The Western Area Power Administration (Western) has established a formal environmental protection, auditing, monitoring, and planning program that has been in effect since 1978. The significant environmental projects and issues Western was involved with in 1994 are discussed in this annual site environmental report. It is written to show the nature and effectiveness of the environmental protection program.

The Department of Energy Order 5400.1, Chapter II.4, requires the preparation of an annual site environmental report. Because Western has facilities located in 15 states, this report addresses the environmental activities in all the facilities as one "site."

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1.0 INTRODUCTION

The Western Area Power Administration (Western) was established on December 21, 1977, pursuant to Section 302 of Public Law 95-91, the Department of Energy Organization Act dated August 1, 1977. Western is responsible for the Federal electric power marketing and transmission functions in 15 central and western states encompassing a 1.3 million-square-mile geographic area (Figure 1).

In 1994, Western provided power to more than 600 wholesale power customers consisting of cooperatives, municipalities, public utility districts, investor-owned utilities, federal and state agencies, irrigation districts, and project use customers. The wholesale power customers, in turn, provide service to millions of retail consumers in the States of California, Nevada, Montana, Arizona, Utah, New Mexico, Texas, North Dakota, South Dakota, Iowa, Colorado, Wyoming, Minnesota, Nebraska, and Kansas.

Western is responsible for the operation and maintenance of nearly 17,000 miles of transmission lines, 271 substations, and various appurtenant power facilities in the states listed above. Western also is responsible for planning, construction, and operation and maintenance of additional federal transmission facilities that may be authorized in the future. Electric power marketed by Western is generated by the Bureau of Reclamation (BuRec), the U.S. Army Corps of Engineers (Corps), and the U.S. Section of the International Boundary and Water Commission (IBWC). There is a combined total of 55 hydroelectric power generating plants in the service area. Additionally, Western markets the United States entitlement from the Navajo coal-fired plant near Page, Arizona. The maximum operating capability that Western currently markets more than 10,000 megawatts (MW). In 1994, Western sold over 36-billion kilowatt (kW) hours of electricity that generated more than \$787 million in revenues.

Western's organization consists of the Headquarters Office located in Golden, Colorado, and five Area Offices located in Billings, Montana; Phoenix, Arizona; Loveland, Colorado; Sacramento, California; and Salt Lake City, Utah. Additionally, there are five District Offices and six power dispatching centers. Figure 1 is the Western marketing area. Through its power marketing and transmission program, Western secures revenues to meet the annual costs of operation and maintenance of transmission facilities, purchased power, wheeling, and other expenses. Western is required to repay within allowable time periods all the power investment plus interest as well as the portion of the Government's irrigation and other non-power investments beyond the water users repayment capability.

DUTY LOCATIONS

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2.0 SUMMARY

Many state and federal environmental protection laws and regulations are applicable to Western. Western facilities are within the jurisdiction of six Environmental Protection Agency (EPA) regions and 15 states. To help assure conformance with all regulatory requirements, Western developed Environmental Protection Implementation Plans (EPIP) in accordance with DOE Order 5400.1, for Headquarters and each of the five Area Offices. The EPIPs establish environmental protection programs that define Western's environmental compliance program, the overall environmental protection and pollution prevention goals and objectives. Additionally, Western Headquarters compiled the Long Range Environmental Plan, also required by DOE Order 5400.1, to provide general guidance for compliance with environmental laws and regulations as they pertain to environmental protection compliance issues. Western is taking action to prevent, control, and abate environmental pollution at facilities under its control.

One of the major regulatory impacts upon Western continues to be the Toxic Substances Control Act (TSCA) that regulates the use of polychlorinated biphenyls (PCB). Western's policy is to eliminate PCBs from its system wherever economically and operationally possible to lessen the impact of PCB regulations. Western has undertaken efforts to minimize procurement expense and maximize contracting efficiency by coordinating PCB removal activities throughout Western's power marketing system.

Electric and magnetic field (EMF) effects of alternating current (AC) and direct current (DC) power transmission remain a concern in the decision-making process under the National Environmental Policy Act (NEPA). Increased public awareness has also added impetus for additional research in the area of EMF effects. Western continues to monitor the research efforts underway in these areas and is a participant in a study coordinated by Bonneville Power Administration that exposes sheep to high voltage AC fields.

Throughout 1994, Western's environmental planning process continued toward increasingly early public and agency involvement in proposed projects. This emphasis on early scoping of environmental issues, which follows the amended DOE Guidelines for Compliance with NEPA, is to identify significant impacts.

Western determines the appropriate level of environmental documentation by its policy of pre-scoping and increasing the level of public and agency participation in project development.

In July 1994, Western was delegated the authority to approve its own environmental assessments (EA) as part of its NEPA program. This authority has shortened the environmental process and provided for project decisions to be made closer to the project level. Additionally, the Area Offices were provided an opportunity to seek the authority to approve their own categorical exclusions.

Large scale projects and projects with a high potential for significant environmental impacts are analyzed within the framework of EAs and impact statements. Most Western projects result in minimal environmental impacts with appropriate planning and mitigation.

More comprehensive official participation by the Advisory Council on Historic Preservation earlier in the planning process has streamlined Western's cultural resource compliance activities. Monitoring of project implementation through public and agency feedback has improved planning methods.

3.0 COMPLIANCE SELF-ASSESSMENT

3.1 COMPLIANCE STATUS

Western operates in compliance with environmental and other requirements established by federal, state, and local statutes and regulations, Executive Orders, Department of Energy Orders, and agreements with federal, state, and local regulatory agencies. The following paragraphs summarize Western's compliance status with the major environmental statutes.

3.1.1 Resource Conservation and Recovery Act (RCRA)

Since 1984, many regulations have been proposed or finalized as a result of the Hazardous and Solid Waste Amendments of 1984 (HSWA). HSWA-based regulations impact Western most significantly by classifying some facilities as small quantity generators of hazardous waste. HSWA also impacts Western by prohibiting the landfilling of liquids, dioxin-containing wastes, and certain solvents.

The State of California requires that disposal of "extremely hazardous wastes" be permitted on a case-by-case basis. The state considers PCBs at a concentration of greater than 5,000 ppm as an "extremely hazardous waste".

3.1.1.1 Underground Storage Tanks (UST)

California requires the annual renewal of permits to operate underground storage tanks. Through the monitoring and updating of permits, Western continued to comply with California underground storage tank regulations during 1994.

Western removed underground storage tanks at the following facilities: Sherman Hills substation, Wyoming and Mead Substation, Nevada. Closure of all tanks was in accordance with state regulations.

A leaking underground storage tank was discovered in 1985 at the Huron O&M Center in South Dakota. At the direction of the State of South Dakota, monitoring wells were installed to determine if off-site migration was taking place. In December 1990, the state required Western to place an additional monitoring well on-site for further verification regarding off-site migration. The installation was accomplished in 1991, and the monitoring data for the past year is found in Table 5. Remediation of the contaminated soil took place in late 1993. Approximately 700 cubic yards of soil were removed from the site and approximately 6,000 gallons of gasoline contaminated water was pumped from the

excavation site. The groundwater monitoring well was removed in accordance with state requirements. It was determined by the state that Western has successfully remediated this site. The State of South Dakota found in late 1993 that Western's monitoring results, to date have been satisfactory and suspended further monitoring requirements.

3.1.2 Toxic Substances Control Act (TSCA)

Western continued the removal and proper disposal of PCBs from facilities during 1994. An agency-wide PCB transportation and disposal contract ensures consistent and proper handling of PCB waste material. The contractor transports and disposes of the PCBs and prepares all necessary paperwork, including certificates of destruction or disposal. Western reduced the risk of future PCB releases by removing and disposing of more than 252,793 kg of PCB-contaminated oil and equipment.

3.1.3 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Congress passed the Superfund Amendments and Reauthorization Act (SARA) of 1986, which revised and expanded CERCLA. Many revisions apply to Western.

Western does not have any sites currently listed on the National Priority List (NPL), but the Agency has taken a proactive role by implementing a Facility Evaluation Program. The purpose of this program is to evaluate all Western facilities for sources of and suspected releases of oil, hazardous substances, pollutants, or contaminants into the environment. Western has also proactively conducted Preliminary Assessments and Site Investigations (PA/SI) at sites which could have the potential for contamination. The Montrose Power Operations Center, located in Montrose, Colorado, notified EPA of hazardous waste storage activities in the early 1980's as did the Watertown Substation in Watertown, South Dakota, and Casper Maintenance Yard in Casper, Wyoming. None of these sites are RCRA hazardous waste Treatment, Storage or Disposal Facilities, but because they have facilities for storage of PCB wastes, the sites were listed on the docket. Preliminary Assessments and screening Site Investigation final reports have been completed and submitted to EPA.

Update No. 6 of the Federal Agency Hazardous Waste Compliance Docket listed two Western facilities which Western disputed: Pierre Hydroelectric Plant and Parker Dam. EPA corrected the listing of the Pierre Hydroelectric Plant, to reflect ownership by the Corps. Parker Dam is pending further review by EPA and no notifications were received in 1994. Update No. 7 listed three facilities as Site Evaluation Accomplished (SEA): Montrose Power Operations, Hinton, and Casper Maintenance Yard. In 1994, Western was notified by EPA that no further remedial action was planned at the Watertown, South Dakota facility. Closure of the the RCRA part B facility in Hinton, Iowa, was approved by the EPA

in 1994 after the pentachlorophenol contaminated soil was incinerated.

In 1987, Western acquired a 1.45 acre parcel of land east of the Gering Substation in Gering, Nebraska, with the intent of using the area for expansion of the existing substation. An inactive foundry and machine shop is located on the parcel. After acquiring the property, Western suspected that it was contaminated with heavy metals and solvents associated with activities conducted at the site by the prior owners. Western conducted a site visit and reconnaissance of the facility in March of 1990. Based on the results of the reconnaissance, Western determined that a more detailed environmental investigation was necessary. Western conducted a Preliminary Assessment in early 1991. This facility was listed on the Federal Agency Hazardous Waste Compliance docket Update No. 5 which was published in December 1991. The final Site Investigation report was submitted to EPA Region 7 in early 1992. The additional sampling that EPA required indicated less contamination than had been previously expected.

3.1.4 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Western is required to comply with the use, storage, and disposal regulations contained in FIFRA and individual state pesticide management programs. Pesticides are used by Western to control vegetation, rodents, and for wood preservation.

During 1993 and 1994, Western implemented Integrated Pest Management (IPM) methods. Western developed a program which addresses the control of vegetation at facilities and along transmission line rights-of-way (ROW). This program combines mechanical, biological, and chemical methods in a way that minimizes economic, health, and environmental risks. Herbicide risk assessments will be conducted to serve as a screening process for the development of a Western-approved herbicide use list. Herbicides can then be selected from this approved list for use by Western and/or contract applicators. Western is also evaluating herbicides for their potential for groundwater and surface water contamination. By setting limits on known physical and chemical characteristics of herbicides which influence leaching potential mitigation measures will be outlined which are known to reduce the likelihood of herbicide contamination risks to human health and the environment. In addition, a program is being developed to monitor herbicide residues in soil and water to determine the concentrations or persistence of these chemicals in the environment. Specific application and management guidance has been identified and incorporated into the vegetation management program.

Pesticide guidance is being developed for miscellaneous pesticide uses such as the disposal of chemically treated wood poles and crossarms and the control of rodent/bird damages at Western facilities. An interagency agreement has been established between the Department of Agriculture, Animal Damage Control, and Western

for the control of pest-caused damages to electric transmission facilities.

In compliance with the Federal Noxious Weed Act of 1974, as amended by Section 15, Management of Undesirable Plants on Federal Lands, 1990, and State/ County noxious weed management legislation, Western has written draft policy guidance for the management of noxious weeds identified by State and County weed management laws on Western fee-owned and nonfee-owned (easements, ROW, permits, etc.) land. Western has entered into interagency agreements and county cooperative agreements for assistance with control of noxious weeds.

The annual selection of contractor services for control of vegetative growth within substations and maintenance yards has been updated to include the submittal of the contractors' technical qualifications along with cost information. The contractor is selected based upon technical merit as well as cost proposal. In addition, the scope of the statement-of-work for annual chemical control of vegetation has been expanded to include the control of State and County targeted noxious weed species on Western fee-owned land.

3.1.5 Clean Air Act (CAA)

Several potential sources of air emissions exist at Western facilities that are regulated under the CAA: dust during construction activities; friable asbestos during building renovation or demolition; and volatile organic compounds emissions from gasoline dispensing facilities and cold solvent cleaners.

In arid regions, Western requires that all disturbed areas and roads be watered during construction activities to reduce particulate (dust) air pollution.

Asbestos regulations under the National Emission Standards for Hazardous Air Pollutants affect Western when any work is planned to modify or demolish existing buildings. Surveys to identify and quantify asbestos in Western facilities were initiated in 1988. The results of these surveys indicated the presence of asbestos in some older buildings.

Some states also regulate the removal and disposal of friable asbestos. Western personnel notify all appropriate regulatory agencies when planning renovation and demolition projects, and assure proper disposal of asbestos wastes.

A Refrigerant Working Group composed of individuals from various parts of Western has been formed to develop strategies to comply with Sections 608 and 609 of the CAA. A consensus of the group was to inventory all equipment containing ozone-depleting refrigerants to comply with regulations and plan for the phase out of ozone-depleting substances. Technician certification is mandatory effective November 14, 1994, for all individuals who service air conditioning and refrigeration equipment. This

includes motor vehicle air conditioners (MVAC) and MVAC-like appliances under Section 609 of the CAA. Facilities will have to acquire approved equipment and training for technicians, or contract for such services that have EPA approval, to conform to the refrigerant recycling rule. Facilities will also have to implement procedures to ensure that leaks are repaired and records are kept in accordance to the regulations. The equipment used for servicing also needs to be able to comply with the applicable requirements.

3.1.6 Safe Drinking Water Act (SDWA)

3.1.6.1 Underground Injection Control (UIC)

As required by UIC regulations, Western has completed an inventory of wells at all its facilities. All wells found to date, at the facilities, are considered Class V injection wells.

These consist mostly of floor drains within some battery rooms and vehicle maintenance buildings which are connected to dry wells. Some air compressors used on power circuit breakers send small quantities of blow-by oil into dry wells. The Area Offices are working with EPA regions and states to obtain permission to permanently abandon the battery and oil room injection wells as needed and to close the wells accepting the blow by from air blast breakers. Additionally, some septic systems used to dispose of sanitary waste qualify as injection wells. Western is eliminating the use of injection wells at their new facilities and has plugged the drains from washbays and maintenance facilities leading to dry wells or septic systems at a number of facilities.

3.1.7 Clean Water Act (CWA)

3.1.7.1 Spill Prevention, Control, and Countermeasure Plans (SPCC)

The discharges from the facilities Western owns and operates are generally not regulated under the CWA and other water pollution control laws and statutes. Most of Western's facilities do not generate effluent except for stormwater runoff. New stormwater discharge regulations have impacted some of Western's facilities.

In 1990, Western identified unpermitted point source discharges at some of its larger facilities where floor drains were found to connect to storm sewer drainage systems. Most of the discharges are to dry ditches along public roadways next to the facilities. These were corrected in 1991 and 1992 as part of the Facility Evaluation Program. The purpose of this program is to evaluate all Western facilities for sources of and suspected

releases of oil, hazardous substances, pollutants, or contaminants into the environment.

Western facilities using or storing oil must assess the potential for spilled oils to reach navigable waters or their tributaries. If the potential exists, Western develops and implements Spill Prevention, Control, and Countermeasure plans, including appropriate provisions for diversion and secondary containment.

SPCC plans are reviewed every three years and amended, if necessary. All new and amended plans are recertified by a registered professional engineer. About 25 facility SPCC plans were reviewed, amended, or recertified in 1994. Water pollution control regulations found in 40 CFR §112 also provide guidelines for construction of structures to prevent spilled oil from reaching navigable waters. Western follows these guidelines when designing new facilities or refurbishing existing substations.

The Salt Lake City Area developed a standard spill containment kit that is stored at facilities regulated under 40 CFR 112. Western is considering using these kits Western-wide. Western is also studying the use of alternative secondary containment measures, such as aboveground storage tanks with reinforced concrete secondary shells and improved oil/water separators.

The Miles City Converter Station, located in Montana, is a back-to-back, alternating-current to direct-current converter facility. This facility has been granted a water pollution control permit from the State of Montana. This facility is required to conduct a quarterly groundwater monitoring program for the on-site coolant system evaporation pond. The Billings Area Office has applied for a permit to hook up to the Miles City sewer system. Construction on the project started in late 1994.

3.1.8 Hazardous Materials Transportation Act (HMTA)

Much of the hazardous and toxic materials transported for Western is shipped via contracted commercial haulers. However, trained and qualified Western employees occasionally transport toxic materials from one facility to another.

Hazardous waste transportation requirements for the California Department of Health Services are more extensive than those of the U.S. Department of Transportation (DOT). Therefore, the Sacramento Area Office and Phoenix Area Office must have a California waste hauler's permit for the transportation of PCB wastes. In 1994, the permits for vehicle inspections and insurance were renewed by both Area offices. The annual report on quantities shipped was provided to the State as required by their waste hauler's permit.

Western environmental staff developed a training program in 1993 which addresses the requirements of HM-126F for the safe transportation of hazardous materials. DOT regulates Western's transportation of hazardous wastes, PCB wastes, and other hazardous materials. DOT also regulates personnel transport, gasoline and other fuels for use in construction equipment, large batteries for use at substations, battery acid, compressed gases, especially nitrogen, sulfur hexafluoride and acetylene, and bulk quantities of non-hazardous electrical oil.

3.1.9 National Historic Preservation Act (NHPA)

During 1994, Western initiated or continued previous cultural resource compliance efforts for 26 projects in 8 states. The projects included the construction of substations, microwave communication facilities, construction at pumping plants, repeater facilities, electrical transmission lines, access road maintenance, access road construction, site monitoring, site testing, and warehouse construction. In accordance with Section 106 of the NHPA, as amended, Western solicited the comments of the State Historic Preservation Officer(s) in 8 states regarding these projects. This allowed Western to evaluate cultural resources within the proposed project areas and identify potential effects of the projects on significant cultural resources. Plans to mitigate potential project effects included avoiding, monitoring, testing, and excavation.

3.2 CURRENT ISSUES

The DOE Office of Audit conducted a Line Program Environmental Management Audit in December 1991. A total of 19 findings were identified by the audit team. Seven of the 19 findings were compliance findings, in that the audit team felt that Western was not in compliance with DOE Orders. The remaining 12 were "Best Management Practice" findings. Western received the final audit report May 22, 1992, and submitted a final remedial action plan July 30. Department approval was received August 28, 1992. Listed below is a table of the activity on the remedial action items for the first quarter calendar year 1994 (January through March 1994).

FINDINGS

	REMEDIAL ACTION ITEM	DATE COMPLETED
OS/BMPF-2	Identify Personnel needing environmental language in their job descriptions. Prepare letter to rewrite job descriptions. Review existing job descriptions. Review existing performance standards. Apply existing job descriptions. Apply existing performance standards. Develop environmental job descriptions as needed. Develop environmental performance standards as needed.	In progress In progress DOE lead In progress DOE revising In progress DOE lead Drafted
CA/BMPF-1	Implement a documented periodic Western-wide environmental Self-Assessment Program to provide Senior Management with information on the status of Western's environmental performance.	Drafted
SR/BMPF-1	Perform analysis of current and projected staffing needs for Headquarters Division of Environmental Affairs.	Not done
SR/BMPF-2	Provide environmental awareness training to all line personnel and key managers.	Not done
EP/CF-1	Develop Meteorological Monitoring Plan Develop Groundwater Monitoring Plan Develop program for evaluating and permitting surface water discharges (Stormwater Pollution Prevention Guidance Manual) Begin implementation of Western-wide Waste Minimization and Pollution Prevention Program Develop Western-wide Environmental Monitoring Plan Implement the Western-wide Groundwater Protection Management Program.	In progress April, 1994 Drafted (Feb. 1994) In progress In progress Drafted
EP/CF-2	Develop guidance for well closures. Finalize Hazardous Waste Management Plans. Implement Hazardous Waste Management Plans. Develop Pesticide Management Program. Develop Underground Storage Tank Program. Develop Underground Injection Control Program. Develop a comprehensive SPCC Program.	Drafted Partially complete In progress In progress In progress In progress Drafted
EP/CF-3	Develop guidance to ensure remedial responses comply with regulatory requirements. Incorporate remedial action response training into Training Program.	March 1994 In progress

EP/BMPF-1	Develop procedure to ensure mitigation action plans are followed.	In progress
IC/BMPF-1	Develop "lessons learned" program.	In progress
SR/BMPF-2	Modify IDP and DTIS systems.	In progress
SR/BMPF-3	Develop Environmental Training Program. Identify personnel needed environmental training. Determine training needs. Coordinate training needs with other functional areas. Develop generic SOW for training. Incorporate environmental training into IDP and DTIS systems. Develop recordkeeping procedures. Procure training.	Partially complete In progress Partially complete Partially complete In progress Not done Not done Not done
PE/CF-1	Incorporate self-assessment missing elements. Incorporate self-assessment into training.	In progress In progress
PE/CF-2	Rewrite WAPA 5482.1 (replaced by WAPA 5482.2A) Supplement audit/appraisal plans, as needed. Incorporate into training program. Implement all phases of audit and appraisal program.	March 1994 Drafted Not done Not done
PE/CF-3	Establish program to collect data to track and trend. Establish program to track and trend. Provide training in tracking and trending.	Partially complete Partially complete Not done
PE-BMPF-1	Provide environmental training to maintenance personnel.	In progress
RM/BMPF-1	Review and define existing risk management. Develop procedures to ensure identification of regulatory issues pertinent to risk management.	First Phase completed

Several separate hazardous/toxic material spill incidents were reported. These spills were cleaned up as required by TSCA, RCRA, or the CWA, and the spills resulted in insignificant environmental damage. The locations and materials spilled are listed below:

TABLE 1
LIST OF HAZARDOUS MATERIAL SPILLS
DURING CALENDAR YEAR 1994

<u>FACILITY</u>	<u>STATE</u>	<u>SPILLED SUBSTANCE</u>
Shiprock substation	NM	300 gallons of non-PCB Dielectric Fluid
Flaming Gorge substation	WY	Non-PCB Dielectric Fluid (<RQ)

Reportable quantity (RQ) is the quantity of hazardous/toxic substance for which reporting of a spill or discharge is required. Under the National Contingency Plan all spills involving 1 pound or more by weight of PCBs (>RQ) must currently be reported to the National Response Center. Notification should be in the shortest possible time after discovery, but in no case later than 24 hours after discovery. Spills of less than 1 pound of PCBs by weight (<RQ) must be cleaned up in accordance with TSCA requirements, but notification of EPA is not required.

3.3 SUMMARY OF PERMITS

Western is required to obtain permits for underground storage tanks, PCB transportation and storage, hazardous waste storage, gasoline dispensing and underground injection wells.

TABLE 2
LIST OF ENVIRONMENTAL PERMITS
OBTAINED OR ONGOING DURING CALENDAR YEAR 1994

NAME	ISSUING AGENCY	STATUS	EXPIRATION DATE
404 Permit			
Nationwide	U.S. Army Corps	Ongoing	None
Hazardous Waste			
Hauler Registration	State of CA	Renewed	10/31/94
Variance Application	State of CA	Obtained	10/31/94
Permit to Operate			
Underground Storage Tanks	Shasta County	Ongoing	Annually
	Sacramento County	Ongoing	Annually
Hazardous Materials Permit			
Hazardous Materials Business Plans	Shasta County	Ongoing	Annually
	Sacramento County	Ongoing	Annually
	Tehama County	Ongoing	Annually
	Alameda County		
	Kern County		
	Calaveras County		
	San Joaquin		
	Santa Clara County		
	Colusa County		
	Merced County		
	Contra Costa County		
Water Quality			
Miles City Converter	State of Montana	Ongoing	5/31/94
Virginia Smith Converter Station	State of Nebraska	Ongoing	Annually
RCRA Part B Permit			
Permit for Hinton Hazardous Waste Storage Facility	U.S. EPA	Closed	N/A
Gasoline Dispensing			
Facility Permit (CA)	Air Pollution Control District	Ongoing	9/94

3.4. COMPLIANCE SUMMARY (JANUARY THROUGH MARCH 1995)

National Environmental Policy Act (NEPA). Western has several categorical exclusions (CX), environmental assessments (EA) and EISs in various stages of the NEPA process. The most notable are described here.

Billings Area Office: CXs processed were: Fargo building purchase; Midland Substation; Devaul Substation; Bonesteel Substation; Rapid City Substation; Winner Substation; Hawksnest Microwave; Rainbow/Havre Reroute; Huron Substation; Westfield and Forbes Communications Site Upgrade; Page Communication Site Disposal Review; Williston Stage 6 Upgrade; and the Sioux City Stage 11 Upgrade.

Loveland Area Office: The following CXs were processed: Sidney Substation; Granby Substation; Brush Maintenance Building; and Lovell Substation Stage 08. The following EAs were processed: Estes-Marys Lake Transmission Line Project and Gering-Stegall Transmission Line Project. An EIS was processed for the Flatiron-Erie Transmission Line Project.

Phoenix Area Office: The following CXs were processed: Pole Replacement Project for the Arizona Department of Transportation; Silvercroft Wash Pole Replacement for the City of Tucson; ED2 Substation Upgrade; and Oracle-Tucson Transmission Line.

Sacramento Area Office: The following CXs were processed: Los Vaqueros Tap; Fiddymont Substation City of Roseville; Stampede Rate Adjustment; Tracy-Ygnacio 69-kV Transmission Line Relocation Viera Ranch II Grant of Easement; Powerex Enabling Agreement; Shasta Dam PowerPlant Rewind; and Tracy-Ygnacio 69-kV Rehabilitation and License Agreement.

Salt Lake City Area Office: The final EIS for Glen Canyon Dam was distributed to the public in March 1995 with the Record of Decision expected by March or April 1996, following a General Accounting Office audit. Various environmental groups have taken exception to inclusion in the final EIS of a new maximum allowable release of 25,000 cfs (up from 20,000 cfs in the draft EIS) and a maximum allowable upramp rate of 4,000 cfs/hour (up from 2,500 cfs/hour in the draft EIS) arguing that the scientific support for such changes is insufficient. The changes were made following extensive consultation with scientists and the public, including the environmental organizations. The changes would benefit the hydropower resource without any apparent environmental consequence. The Navajo Transmission Project EIS studies of a potential corridor across the Hualapai Indian Reservation have been completed and the results are being incorporated into the alternatives being evaluated. The cooperating agencies met March 9, 1995, in Flagstaff, AZ, and received an overall update on the status of the draft EIS. The current schedule forecasts a draft EIS by the fall of 1995. For the Salt Lake City Area Integrated Projects Electric Power Marketing EIS, Western has provided the draft of the final EIS to cooperating agencies (BuRec; Fish and Wildlife Service; National Park Service, Utah, Colorado, New Mexico, Arizona, and Wyoming). The National Park Service has asked for a 60-day comment period. Western agreed; therefore, comments will be taken until late April. Western is completing a CX on

the proposal to make permanent the test flows at Collbran for the Upper and Lower Molina PowerPlants Reoperation Proposal. These test flows were intended to determine the feasibility of changing flows from a "base-load" to a "peaking" operation. BuRec and FWS have agreed to this proposed change provided that the entire operation be subject to an endangered species review at a later date.

Resource Conservation and Recovery Act (RCRA).

Billings Area Office: The Huron District Office received a letter from EPA Region VII stating they accepted Western's closure plan for the hazardous waste facility at Hinton, Iowa. The 1994 hazardous waste reports have been submitted to the State. The Bismarck District Office environmental staff sampled the used oil at the Bismarck warehouse. The analyses indicate the used oil is off-specification used oil. The Billings Area Office submitted a Hazardous Waste License Application to the Minnesota Pollution Control Agency for the storage of used motor oil.

Loveland Area Office: Liquified Petroleum Gas (LPG) Tank Plot Plans were submitted and approved for Grouse Mountain and Blue Ridge Microwave sites. These sites have buried LPG tanks which were required by the Forest Service. Western contracted for the consolidation of flammable liquid wastes at Loveland and Brush. The sites were sampled for a waste profile prior to incineration at Ensco. The hazardous wastes and asbestos waste is scheduled for disposal in mid-April.

Phoenix Area Office: The Phoenix Area Office submitted hazardous waste generation facility annual reports to the Arizona Department of Environmental Quality. These reports documented activities during 1994 for the 21 Phoenix area sites in Arizona: Bouse Substation, Buckeye Substation, Casa Grande Substation, Cochise Substation, Coolidge Substation, Davis Dam Substation, ED-2 Substation, ED-4 Substation, ED-5 Substation, Gila Substation, Liberty Substation, Maricopa Substation, Mesa Substation, Nogales Substation, Oracle substation, Phoenix O&M Complex, Phoenix Substation, Pinnacle Peak Substation, Prescott Substation, Tucson Substation, and Wellton Substation. The warehouse sent fifteen batteries to Exide Corporation for recycling. Laidlaw Environmental Service of California transported two drums of hazardous waste (waste naphtha and waste paint related materials) along with one drum of non-RCRA waste (gear oil) from the Operations and Maintenance Complex to the treatment, storage and disposal facility for Laidlaw in Phoenix.

Sacramento Area Office - Four drums of soil contaminated with mineral oil was removed and disposed from the Tracy Substation. Four non-PCB oil capacitors were sent for metal recycling from the Elverta Maintenance facility. Removal and disposal of approximately 40 cubic yards of asbestos-containing pipe from the Tracy 04 reconstruction project took place in early April. Approximately 2,250 gallons of mineral oil with less than 1 ppm PCB were removed from a breaker at Keswick Substation.

Salt Lake City Area Office: Ensco transported and disposed of hazardous and non-hazardous waste previously located at the Montrose Power

Operations Center. The waste consisting of five drums of hazardous and three drums of non-hazardous waste was picked up in mid-January.

Comprehensive Environmental Response, Compensation, and Liability Act.

Billings Area Office: The Bismarck District Office staff conducted environmental inspections at the following facilities: Fargo, Grand Forks, Lakota, Devils Lake, Carrington, Jamestown, and Bismarck. These were joint inspections with area safety and Headquarters security staffs. An environmental audit was conducted of the Devils Lake trailer lots for property management in mid-March. The Huron District Office submitted Tier II reports in February to the appropriate State agencies, fire departments and local emergency planning committees for the following: 32 substations in South Dakota, 4 substations in Iowa, 1 substation in Minnesota, and 1 substation in Nebraska. The Fort Peck District Office completed Tier II reports for 9 substations. The Bismarck District Office completed Tier II reports for the following: 21 substations in North Dakota, 1 substation in Minnesota, and 1 Minnesota Hazardous Waste Chemical Report as required per SARA Title III Section 311 and 312. All reports contained site plans and oil-filled equipment lists. North Dakota and Minnesota require reporting of 10,000 pounds of transformer oil in addition to extremely hazardous substances.

Loveland Area Office: The removal activity was completed at the Sishc Foundry in Gering, Nebraska, the end of February. The Groundwater Investigation Plan was approved by EPA and the State of Nebraska, and well installation is scheduled for mid-April. Western received notification from EPA that no further action is required under CERCLA at the Fort Morgan Substation.

Phoenix Area Office: Tier II report forms were submitted for Phoenix Operations and Maintenance Complex, Liberty Substation and Pinnacle Peak Substation to the Arizona Emergency Response Commission, Maricopa County Emergency Planning Committee and the Phoenix Fire Department. The Operations and Maintenance Complex reported for unleaded gasoline, diesel fuel and sulfuric acid. Liberty and Pinnacle Peak Substations reported for sulfuric acid.

Salt Lake City Area Office: The environmental staff identified several substation and microwave facilities with sufficient quantities of batteries that exceed reporting thresholds for sulfuric acid. Annual Tier II reports for Sections 311 and 312 were generated and forwarded to the appropriate State Emergency Response Commissions (SERC), Local Emergency Response Committees (LEPC), and Designated Emergency Response Authorities (DERA). In addition, the Jet A fuel at Montrose was reported.

Toxic Substances Control Act.

Nothing to report.

Safe Drinking Water Act.

Nothing to report.

DOE 5400.1.

The Western Quality Assurance Program Plan has been formatted for inclusion in Western's two-volume Environmental Manual being written for distribution to all staff involved in environmental work. Preliminary implementation is underway in the Area Offices within Western. Quality assurance requirements are written into all statements of work for contracted field and laboratory support at Western sites.

4.0 ENVIRONMENTAL PROGRAM INFORMATION

4.1 ENVIRONMENTAL PROTECTION PROGRAMS

4.1.1 Environmental Protection Implementation Plan

In accordance with DOE Order 5400.1, Western developed an Environmental Protection Implementation Plan for Headquarters and each of the five Area Offices. The plans establish a written program that defines Western's environmental compliance, protection, and pollution prevention goals and objectives. The plans also delineate the responsibilities and authorities of the Heads of Field Organizations. Each Area Office is responsible for overseeing development of the program and ensuring its implementation. Western's Division of Environment is responsible for overseeing development and implementation of the Environmental Protection Implementation Plan for Western's Headquarters Office.

4.1.2 Environmental Auditing Program

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

- discover noncompliance with applicable local, state, and Federal regulations;
- reduce environmental risks;
- allow for communication with facility personnel;
- improve overall environmental performance;
- provide assistance and discuss compliance alternatives for problem areas;
- accelerate development of good environmental management practices;
- provide for worker safety when working with hazardous materials; and
- provide management with a tool for evaluating the priority of compliance issues.

The Western environmental auditing program includes auditing of Western facilities. The purpose of these audits is to advise

facility and Area management of the applicability of current regulations regarding their particular operations. The audits are also conducted to review records, point out areas of non-compliance, and identify practices that are at variance with industry environmental standards. The audit results are used to provide compliance assistance to the facilities.

In 1994, 40 facilities were audited by Headquarters Division of Environment staff. These functional appraisals were undertaken in accordance with DOE Order 5482.1B and included substations, maintenance facilities, and storage yards. The audits were performed as part of Western's Combined Field Review Program. In 1992 Western initiated a Combined Field Review Team incorporating environmental, safety, and maintenance staff members. This provides a multi-disciplinary view of jointly related issues to supplement the formal audit program.

Formal audit reports are prepared for each functional appraisal to discuss the problems found and call attention to potential problems noted by the auditors. The reports include recommended actions the facility may adopt to improve compliance with the applicable regulations. The audited facilities are required by DOE Order 5482.1B and Western Order 5482.1 to formally respond to the audit within 30 days after receiving the report, and to correct the identified problems.

4.1.3 Long Range Environmental Plan

In 1988, the Department of Energy committed to the preparation of a long range plan to address the Department's environmental, safety, and health concerns. Western began the preparation of its long range environmental plan in 1988 in accordance with DOE Order 5400.1. An updated draft of the plan was prepared in November of 1990 and revised again in 1994. The primary purpose of the plan is to present environmental protection requirements, goals, and necessary resources so that long range budgets and other commitments can be made. The information presented in the plan will also aid the Area offices and facilities in understanding, and complying with the Federal environmental protection regulations. Some specific issues addressed in the plan are provided below.

- assessing environmental compliance
- implementing programs and achieving compliance
- emergency planning
- environmental training equipment
- recordkeeping and waste tracking
- enforcement actions
- air quality control
- water quality control
- managing and disposal of hazardous wastes
- transporting of hazardous wastes
- managing and disposal of pesticides
- managing solid wastes
- managing polychlorinated biphenyls

- managing underground storage tanks
- compliance with community right-to-know
- assessment and management of past disposal practices

4.1.4 Environmental Protection Compliance Information

In 1994, Western continued to provide field staff with information on environmental protection compliance. Information and summaries of specific regulations, statutes, and compliance issues are covered in non-legal terms, to enhance understanding and readability. Advisories developed during 1994, as shown below, supplement the more formal notices (sent in the form of handbooks and memoranda) that are used to inform Area and District Managers and their environmental staff of regulatory requirements.

- Final Quality Assurance Program Plan
- WAPA 5400.1A and 2A which assign responsibilities and delegate authority for ensuring environmental compliance.
- NPDES Stormwater Discharge Rules Updates
- Underground Storage Tank Requirements
- SARA Title III Right-to-Know Guidance
- Revised Preliminary Assessment/Site Investigation Guidance Document
- Groundwater Protection Guidance
- Class V Underground Injection Well Information and Guidance
- Oil Pollution Act of 1990 Update and Guidance
- DOE Guidance Sheets for RCRA/CERCLA
- Land Disposal Restrictions Regulation Changes
- Clean Air Act Updates and Guidance
- Risk Management Guidance
- EPA SAFER and SACM Guidance
- Stormwater Management Guidance

4.1.5 Waste Minimization

Minimization of hazardous waste production is continuing at Western. First, hazardous waste minimization is accomplished by

the reduced use of hazardous materials, that is, smaller amounts of hazardous materials, such as solvents, are being used. Second, materials that are non-toxic or that have reduced toxicity are being substituted, whenever possible, for more hazardous materials. Western is specifying a product that is not listed as hazardous be substituted, where possible, for treating wood transmission line structures. Third, employees are being informed as to the desirability of using alternate, less regulated solvents, degreasers, corrosion inhibitors, and other substances.

4.2 STATE AND LOCAL ENVIRONMENTAL REQUIREMENTS

Western operates in 15 western and mid-western states. State, county, and local governments apply environmental and siting controls and restrictions to Federal agencies as well as to private industry. Executive Order 12088 requires Federal agencies to comply and coordinate with EPA and state and local environmental regulators in many situations.

Most of the states in Western's service area regulate the 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 control over or tracking hazardous and toxic materials. Congress has included provisions in most of its Federal environmental acts for states to become authorized to implement and manage the requirements of Federal acts. Examples of this include RCRA authorization, community right-to-know, pesticide application, and underground storage tank regulations.

Western cooperates with state and local environmental regulators and works toward compliance with applicable laws, statutes, regulations, and ordinances. Environmental audits of Western facilities address applicable state requirements in addition to those imposed by the Federal government.

4.3 ENVIRONMENTAL PLANNING ACTIVITIES AND RESEARCH

Table 3 lists the EAs and EISs completed in calendar year 1994. One EA was completed in calendar year 1994.

Western's list of standard mitigation measures (Appendix C) accompanies all transmission line construction contracts. This list has been developed over the years to ensure compliance with the NEPA, the Council on Environmental Quality (CEQ) guidelines, the NHPA, and the Fish and Wildlife Coordination Act, among others. These measures are based on Western's experience with impacts associated with transmission line construction, operation, and maintenance.

TABLE 3
ENVIRONMENTAL ASSESSMENTS AND
ENVIRONMENTAL IMPACT STATEMENTS
FOR CALENDAR YEAR 1994

PROJECT NAME	CLEARANCE DATE
Salt Lake City Integrated Projects Power Marketing EIS	06/95
Flatiron-Erie Transmission Line EIS	02/95
Energy Planning and Management Program (EPAMP) EIS	03/95
Central Valley Project 2004 Power Marketing EIS	11/96
Adelanto-Lugo Transmission Line Project EIS	06/96
Navajo Transmission Project EIS	10/96
Emery-Grand Junction Transmission Line Project EIS	no date
Sacramento Energy Service Center EA	04/94
Provo River Marketing EA	11/94
Big George-Carter Mountain Transmission Line EA	03/94
Tracy Direct Connect Transmission Line EA	09/94
Weld-Windsor Transmission Line EA	no date
Gering-Stegal Transmission Line Project EA	05/95

In 1994, Western continued its policy of initiating contacts with resource management and permitting agencies in the early stages of projects. This provides an effective and efficient means of assuring the consideration of sensitive environmental parameters.

Western construction activities operated under two Mitigation Action Plans during CY94. Accomplishments under the Plan for the Mead-Phoenix Transmission Line Project are reported in Attachment D and those for the Sacramento Operations Center are reported in Attachment E. Other mitigation activities undertaken during CY94 are listed below.

- Surveys were undertaken for the American burying beetle and the prairie fringed orchid in South Dakota; black-footed ferrets in Wyoming; birds of prey in Wyoming, Colorado, Nebraska, Utah, and Arizona; and various endangered or threatened plants in Arizona and New Mexico.

- Aviation marker balls were installed at river crossings in Montana, Nebraska, and California.
- Purchased 1200 acres of waterfowl habitat in California and developed Waterfowl Management Plan.
- Monitored reconstructed vernal pools (wetlands) in California to determine success rate. Requirements were to replace 2.92 acres. Western is currently showing 3.27 acres as successful habitat.

Western had approximately 37 environmental planning projects either started or underway during CY94. Most of these projects, listed in Table 4, are CXs, EISs or EAs for high voltage transmission lines, power marketing rate adjustments, and/or communications systems.

TABLE 4
ENVIRONMENTAL PLANNING PROJECTS ONGOING
OR COMPLETED IN CALENDAR YEAR 1994

PLANNING PROJECTS	CLEARANCE
CATEGORICAL EXCLUSIONS	
LAO Wood-Pole Replacement CX	03/94
Frenchman Creek Substation CX	04/94
Fort Morgan North Tapline CX	04/94
Holyoke and Wray Substations CX	04/94
Olinda Substation Maintenance Building CX	03/94
Fiber Optics Communication System CX	no date
Fiddymont Substation CX	04/95
Salt Lake City Integrated Projects Rate Adjustment CX	10/94
Flaming Gorge Switchyard and Substation CX	10/94
Brush Field Office Maintenance Building CX	12/94
Provo River Project Rate Adjustment CX	12/94
McConnico Substation Development CX	12/94
Basic Substation Easement Outgrant CX	11/94
Casper-Glendo South Access Road Erosion Control and Revegetation	12/94
Saguaro-Tuscon and Tuscon-Apache Pole Replacement CX	02/95
Lovell Substation Stage 08 CX	01/95
ED 2 Substation Upgrade CX	02/95
Transmission Line Aerial Ball Installation CX	01/95
Western-wide Routine Maintenance CX	01/95
Kayenta-Shiprock Staged Fault Test CX	03/95

4.3.1 Research

Western participated in several programs dealing with environmental planning. Among these is the Colorado River Endangered Fish Species Recovery Program. For this program Western provides program review of the ecological studies of such endangered fish as the Colorado River Squawfish and the Humpback Chub. Western also has personnel serving on the Joint High Voltage Direct Current Agricultural Study Oversight Committee, Western Systems Coordinating Council Environmental Committee, the Mid-Continent Area Power Pool Environmental Committee, American Public Power Association Environmental Committee, and the Electric Power Research Institute's Environmental Research Oversight Committees.

5.0 ENVIRONMENTAL MONITORING INFORMATION

5.1 GROUNDWATER MONITORING

Two Western facilities are required by state regulations to conduct quarterly groundwater monitoring. The groundwater monitoring wells at the facilities are to determine if degradation of groundwater is occurring.

5.1.1 Miles City Converter Station

Miles City Converter Station is a back-to-back, alternating-current to direct-current converter facility. It is located in Montana and has obtained a water pollution control permit from the State of Montana. The permit is required under the Administrative Rules of Montana 16.20.1017. The permit, number MGWPCS-0020, allows Western to discharge coolant water to an on-site evaporation pond. The coolant water discharge contains low concentrations of a corrosion inhibitor, an anti-foaming agent, and sodium hypochlorite.

Western was authorized by the State of Montana, to operate an evaporation pond at the Miles City Converter Station in June of 1984. Operation began on July 11, 1985, and the first sampling event occurred on November 14, 1985. As required by the state permit, there are three wells located at the facility used to monitor groundwater degradation. The wells are sampled on a quarterly basis and samples are sent to an off-site laboratory for analysis. The results of the 1994 monitoring are included in Appendix A.

The permit requires quarterly analysis of the groundwater monitoring wells for the following parameters:

- Specific conductance (umhos/cm @ 25 C)
- ethylene glycol (mg/l)
- total phosphorus (mg/l)
- static water level (tenths of feet below datum)

Three alternatives to correct deficiencies of the existing cooling water system at the Miles City Converter Station were formulated in 1992. The alternatives were: (1) connecting to city sewer; (2) replacing the cooling system with a new closed loop system;

(3) continuing present operations and re-permitting the evaporation pond. The engineering and environmental preferred alternative is to connect to city sewer. Connection to the city sewer system is anticipated for early 1995.

5.2 HAZARDOUS MATERIAL SPILL INFORMATION

Western had no significant hazardous materials spills in 1994.

6.0 GROUNDWATER PROTECTION PROGRAM

Western is developing a risk-based groundwater protection management program for the protection of both groundwater quality and quantity. A groundwater monitoring plan, as required by DOE Order 5400.1, will be part of the program. Until recently, groundwater protection management requirements had been incorporated into other programs which inherently involve groundwater protection; such as underground storage tanks, underground injection control, and solid waste disposal. Compliance with federal, state, and local regulations is an integral part of all Western programs.

One of the findings during the DOE audit of the Phoenix Area Office in 1990, was the need for a Facility Evaluation Program. As a result, a Facility Evaluation Program was developed and implemented by Western in 1991. To date, over 300 facilities have been evaluated. This program is aimed at evaluating all Western facilities for sources of and suspected releases of oil, hazardous substances, pollutants, or contaminants into the environment.

7.0 QUALITY ASSURANCE

The current quality assurance policy for Western has been established in Western Order 5700.1. It is Western's policy that, in the areas of environmental compliance, safety, and health, quality requirements shall be established consistent with DOE Orders. The Assistant to the Administrator for Conservation, Environment, and Safety is responsible for the quality of compliance with relevant environmental laws and regulations. The Area Managers are responsible for the quality of activities in their own geographical areas. Due to the nature of Western's operations, an independent data verification program has not been established. Independent laboratories are used for analyzing samples taken by Western or its contractors, and the laboratories used are certified when required by federal, state or local regulations. Western uses split sampling and similar techniques to test the accuracy of data from laboratories. An independent data verification program will be established for a specific project if required by the regulatory agency involved.

A Quality Assurance Program Plan (QAPP) has been developed to outline the policies, objectives, concepts, systems, and procedures for Western as required by DOE Orders 5400.1 and 5700.6C. The QAPP draft was peer reviewed and preliminary implementation of the plan began in late 1992. The implementation of a QAPP will provide credibility for environmental projects and ensures the generation of legally defensible data.

REFERENCES

Clean Air Act
Clean Water Act
Code of Federal Regulations
Comprehensive Environmental Response Compensation and Liability Act
Department of Energy Organization Act of 1977 (P.L. 95-91)
DOE Order 5400.1
DOE Order 5482.1B
DOE Order 5484.1
Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)
Emergency Planning Community Right-to-know Act
Executive Order 12088
Executive Order 12843
Executive Order 12856
Executive Order 12873
Federal Facilities Compliance Act
Federal Insecticide, Fungicide, and Rodenticide Act
Federal Water Pollution Control Act
Fish and Wildlife Coordination Act (16 U.S.C. 661-666c)
Hazardous and Solid Waste Amendments of 1984
National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347)
National Historic Preservation Act of 1966, as Amended
Pollution Prevention Act
Resource Conservation and Recovery Act
Safe Drinking Water Act
Superfund Amendments and Reauthorization Act of 1986
Toxic Substances Control Act
Western Area Power Administration Order 5400.1A
Western Area Power Administration Order 5480.2A

APPENDIX A

**Miles City Converter Station
Groundwater Monitoring Results**

Client Name: U. S. DEPT. OF ENERGY
Project No.: 85-945
Laboratory No.: 147535
Sample Name: NORTH WELL
Sample Date: 12/13/93
Collected by: ROGER JAEGER
Time Sampled: 1630
Sample Type: GROUNDWATER

Page 2

PARAMETER	MEASURED VALUE		DATE ANALYZED
INORGANICS			
Electrical Conductivity	14,000	umhos/cm	12/28/93
NUTRIENTS			
Phosphorous Total	0.28	mg/l	12/22/93

Laboratory No.: 147536
Sample Name: WEST WELL
Sample Date: 12/13/93
Collected by: ROGER JAEGER
Time Sampled: 1230
Sample Type: GROUNDWATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
INORGANICS			
Electrical Conductivity	16,100	umhos/cm	12/28/93
NUTRIENTS			
Phosphorous Total	0.40	mg/l	12/22/93

Huntingdon

Chen-Northern, Inc.

Client Name: U. S. DEPT. OF ENERGY
WESTERN AREA POWER ADMINISTRATION
Project No.: 85-945
Laboratory No.: 147537
Sample Name: EAST WELL
Sample Date: 12/14/93
Collected by: ROGER JAEGER
Time Sampled: 0945
Sample Type: GROUNDWATER

Page 3

PARAMETER	MEASURED -VALUE		DATE ANALYZED
INORGANICS			
Electrical Conductivity	15,900	umhos/cm	12/28/93
NUTRIENTS			
Phosphorous Total	0.15	mg/l	12/22/93

Huntingdon

Chen-Northern, Inc.

2

Accu-Labs® Research, Inc.

4663 Table Mountain Drive Golden, Colorado 80403-1650
(303) 277-9514 FAX (303) 277-9512

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JAN 10 '94

BILLINGS

A N A L Y S I S R E P O R T

DATE: 01/06/94 PAGE 1

DAVE COUNCILL
CHEN-NORTHERN, INC.
P.O. BOX 30615
BILLINGS, MT 59107

Lab Job Number: 8734-52022-3
Date Samples Received: 12/20/93
Customer PO Number: 81104

These samples to be disposed of 30 days after the date of this report.

ALR Designation -	8734-52022-3-1	8734-52022-3-2	8734-52022-3-3
- Sponsor Designation -	- 147535 NORTH WELL	147536 WEST WELL	- 147537 EAST WELL --
Date Collected -			

Determinations in mg/L unless noted

Ethylene Glycol	<10	<10	<10
-----------------	-----	-----	-----

By:

John B. Atwater
John B. Atwater
Organic Chemistry Supervisor

JBA/ep
ep

Client Name: USDE WESTERN AREA POWER ADMINISTRATION, Ft. Peck
Project No.: 85-945
Laboratory No.: 149675
Sample Name: NORTH WELL
Sample Date: 03/16/94
Collected by: MARTIN WALLETT
Time Sampled: 1200
Sample Type: GROUNDWATER

Page 2

PARAMETER	MEASURED VALUE		DATE ANALYZED
INORGANICS			
Electrical Conductivity	15,000	umhos/cm	03/22/94
NUTRIENTS			
Phosphorous Total	0.06	mg/l	04/07/94

Laboratory No.: 149676
Sample Name: EAST WELL
Sample Date: 03/16/94
Collected by: MARTIN WALLETT
Time Sampled: 1715
Sample Type: GROUNDWATER

PARAMETER	MEASURED VALUE		DATE ANALYZED
INORGANICS			
Electrical Conductivity	15,700	umhos/cm	03/22/94
NUTRIENTS			
Phosphorous Total	0.21	mg/l	04/07/94

Client Name: USDE WESTERN AREA POWER ADMINISTRATION, Ft. Peck
Project No.: 85-945
Laboratory No.: 149677
Sample Name: WEST WELL
Sample Date: 03/16/94
Collected by: MARTIN WALLETTE
Time Sampled: 1600
Sample Type: GROUNDWATER

Page 3

PARAMETER	MEASURED VALUE		DATE ANALYZED
INORGANICS			
Electrical Conductivity	16,300	umhos/cm	03/22/94
NUTRIENTS			
Phosphorous Total	0.17	mg/l	04/07/94

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(303) 277-9514 FAX (303) 277-9512

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APR 11 1994

BILLINGS

A N A L Y S I S R E P O R T

DATE: 04/08/94 PAGE 1

DAVE COUNCILL
CHEN-NORTHERN, INC.
P.O. BOX 30615
BILLINGS, MT 59107Lab Job Number: 8734-53358-3
Date Samples Received: 03/23/94
Customer PO Number: 81667

These samples to be disposed of 30 days after the date of this report.

ALR Designation -	8734-53358-3-1	8734-53358-3-2	8734-53358-3-3
Sponsor Designation -	NORTH WELL	EAST WELL	WEST WELL
Date Collected -	03/16/94	03/16/94	03/16/94

Determinations in mg/L unless noted

Ethylene Glycol	16	17	13
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By: John B. Atwater
John B. Atwater
Organic Chemistry Supervisor

JBA/rt

Client Name: USDE WESTERN AREA POWER ADMINISTRATION
Project No.: 85-945
Laboratory No.: 153270
Sample Name: NORTH WELL
Sample Date: 07/13/94
Collected by: ROGER JAEGER
Time Sampled: 1140
Sample Type: GROUNDWATER

Page 2

PARAMETER	MEASURED VALUE		METHOD NUMBER	DATE ANALYZED
INORGANICS				
Electrical Conductivity	18,600	umhos/cm	120.1	07/20/94
NUTRIENTS				
Phosphorous Total	0.04	mg/l	365.1	07/14/94

Laboratory No.: 153271
Sample Name: WEST WELL
Sample Date: 07/13/94
Collected by: ROGER JAEGER
Time Sampled: 1528
Sample Type: GROUNDWATER

PARAMETER	MEASURED VALUE		METHOD NUMBER	DATE ANALYZED
INORGANICS				
Electrical Conductivity	16,700	umhos/cm	120.1	07/20/94
NUTRIENTS				
Phosphorous Total	0.14	mg/l	365.1	07/14/94

Client Name: USDE WESTERN AREA POWER ADMINISTRATION
Project No.: 85-945
Laboratory No.: 153272
Sample Name: EAST WELL
Sample Date: 07/13/94
Collected by: ROGER JAEGER
Time Sampled: 1710
Sample Type: GROUNDWATER

Page 3

PARAMETER	MEASURED VALUE	METHOD	DATE NUMBER ANALYZED
INORGANICS			
Electrical Conductivity	16,600	umhos/cm	120.1 07/20/94
NUTRIENTS			
Phosphorous Total	0.19	mg/l	365.1 07/14/94

Huntingdon

4123 South 67th Street
Omaha, Nebraska 68117
Phone (402) 331-4453
(Chem/NDT) Fax (402) 331-8779

ORGANICS REPORT

Project Name/ Location	Analysis of Water for Ethylene Glycol		
Client:	Huntingdon Engineering & Environmental, Inc. Attn: David Councill 600 S. 25th Street Billings, Montana 59101 (406) 248-9282	Job No.: Lab No.: P.O. No.:	6210-94-259.010 C 5049-5051 89750
Ordered by:	David Councill/Huntingdon-Billings	Date Rec'd:	7-20-94
Submitted by:	David Councill/Huntingdon-Billings	Report Date:	8-3-94
		Fax Date:	8-3-94
Test Method:	Modified ASTM D 3695		

TEST RESULTS

Lab No.:	C 5049	C 5050	C 5051
Sample I.D.:	153270	153271	153272
Sample Type:	Water	Water	Water
Sample Date:	7-13-94	7-13-94	7-13-94
Ethylene Glycol Content % V/V:	<0.001	<0.001	<0.001
Analyst/Date:	SF/7-31-94	7-31-94	7-31-94

CC: (2) Client

Huntingdon Engineering & Environmental

[Signature] 8/3/94
Seth Frishman, Chemistry Manager
SF/cjw

RESULTS SHOWN ARE RESULTS OBTAINED ONLY ON SAMPLES BY METHOD SHOWN, AND DO
NOT NECESSARILY CONSTITUTE APPROVAL BY US OF THE SOURCE OR
PRODUCT FROM WHICH SAMPLE WAS TAKEN

Client Name: USDE WESTERN AREA POWER ADMINISTRATION, Ft. Peck Page 2
Project No.: 85-945
Laboratory No.: 155276
Sample Name: NORTH WELL
Sample Date: 09/27/94
Collected by: ROGER JAEGER
Time Sampled: 1130
Sample Type: GROUNDWATER

PARAMETER	MEASURED VALUE		METHOD NUMBER	DATE ANALYZED
INORGANICS				
Electrical Conductivity	14000	umhos/cm	120.1	10/05/94
NUTRIENTS				
Phosphorous Total	0.03	mg/l	365.1	10/13/94

Laboratory No.: 155277
Sample Name: WEST WELL
Sample Date: 09/27/94
Collected by: ROGER JAEGER
Time Sampled: 1650
Sample Type: GROUNDWATER

PARAMETER	MEASURED VALUE		METHOD NUMBER	DATE ANALYZED
INORGANICS				
Electrical Conductivity	15400	umhos/cm	120.1	10/05/94
NUTRIENTS				
Phosphorous Total	0.14	mg/l	365.1	10/13/94

Client Name: USDE WESTERN AREA POWER ADMINISTRATION, Ft. Peck Page 3
Project No.: 85-945
Laboratory No.: 155278
Sample Name: EAST WELL
Sample Date: 09/27/94
Collected by: ROGER JAEGER
Time Sampled: 1405
Sample Type: GROUNDWATER

PARAMETER	MEASURED VALUE		METHOD NUMBER	DATE ANALYZED
INORGANICS				
Electrical Conductivity	14300	umhos/cm	120.1	10/05/94
NUTRIENTS				
Phosphorous Total	0.06	mg/l	365.1	10/13/94

Huntingdon

RECEIVED

4123 South 67th Street
Omaha, Nebraska 68117
Phone (402) 331-4453
(Chem/NDT) Fax (402) 331-8779

ORGANICS REPORT

DEC-5 '94

BILLINGS

Project Name/ Location Analysis of Water for Ethylene Glycol

Client: Huntingdon Engineering & Environmental, Inc.
Attn: David Council
600 S. 25th Street
Billings, Montana 59101
(406) 248-9282

Job No.: 6210-94-259.001
Lab No.: C 186-188
P.O. No.: 095825

Ordered by: David Council/Huntingdon-Billings

Date Rec'd: 10-11-94
Report Date: 11-29-94
Fax Date: 11-29-94

Submitted by: David Council/Huntingdon-Billings

Test Method: Modified ASTM D 3695

TEST RESULTS

Lab No.:	C 186	C 187	C 188
Sample I.D.:	155276 North Well	155277 West Well	155278 East Well
Sample Type:	Water	Water	Water
Sample Date:	None Given	None Given	None Given
Ethylene Glycol Content % V/V:	<0.001	<0.001	<0.001
Analyst/Date:	EP/11-28	11-28	11-28

CC: (2) Client

Huntingdon Engineering & Environmental

Seth Frishman 11/30/94
Seth Frishman, Chemistry Manager
SF/cjw-ct

RESULTS SHOWN ARE RESULTS OBTAINED ONLY ON SAMPLES BY METHOD SHOWN, AND DO NOT NECESSARILY CONSTITUTE APPROVAL BY US OF THE SOURCE OR PRODUCT FROM WHICH SAMPLE WAS TAKEN

PCB WASTE DISPOSAL FOR CY 1994

Billings Area Office

Bismarck District Office	5,289 kg
Ft. Peck District Office	2,115 kg
Huron District Office	1,612 kg

TOTAL - BAO	9,016 kg
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Loveland Area Office

TOTAL	24,479 kg
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Phoenix Area Office

TOTAL	184,843 kg
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Sacramento Area Office

TOTAL	28,809 kg
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Salt Lake City Area Office

TOTAL	5,646 kg
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TOTAL	252,793 kg
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APPENDIX B

Standard Mitigative Measures for Construction, Operation, and Maintenance of Transmission Lines

STANDARD MITIGATIVE PRACTICES

Mitigation Measure

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 streambanks, 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. Powerline 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 powerline 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.

APPENDIX C

**REPORT ON CY 1994 ACCOMPLISHMENTS
MITIGATION ACTION PLAN
FOR THE
MEAD-PHOENIX TRANSMISSION LINE PROJECT**

**REPORT ON CY 1994 ACCOMPLISHMENTS
MITIGATION ACTION PLAN
FOR THE
MEAD-PHOENIX TRANSMISSION LINE PROJECT**

Prepared to Accompany DOE/EIS-0107-F

Prepared by:

**Division of Environmental Affairs
Western Area Power Administration
Golden, CO**

UPDATED March 18, 1994

**MITIGATION ACTION PLAN
FOR THE
MEAD-PHOENIX TRANSMISSION LINE PROJECT**

The Mead-Phoenix 500-kV transmission line project will connect the Western Area Power Administration's (Western) Mead substation in Clark County, Nevada, to the Westwing Substation in Maricopa County, Arizona. As the lead Federal agency, Western prepared an EIS for the project, in accordance with 40 CFR 1500-1508. The final EIS was published in February, 1986 (DOE/EIS-0107-F). In 1989, the project was modified somewhat from the originally proposed direct current (d.c.) facility to an alternating current (a.c.) configuration, and an Environmental Analysis (analysis) of the changes in the project and the environmental conditions in the project area was prepared in accordance with 40 CFR 1502. The analysis indicated that a supplement to the EIS was not needed, and a record of decision was issued for the project and published in the Federal Register on September 7, 1990 (55 FR 36862).

Both the EIS and the analysis identified some impacts which would occur as a result of the proposed action and a series of mitigative measures to minimize those impacts. This mitigation action plan (plan) has been prepared in accordance with DOE Order 5440.1E. The information contained in the plan has been summarized from the EIS and the analysis. The site specific mitigation measures listed in Appendix A are fully described in the draft EIS, Table 5-2. The draft EIS should be reviewed in conjunction with this plan to better understand the mitigation measures listed in the table. Copies of the draft and final EIS may be obtained by writing:

Area Manager
Phoenix Area Office
Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85005

Monitoring of the mitigation measures described below and in the draft EIS will be accomplished by the project Sponsors' construction inspector. The construction inspector will notify Western's Division of Environmental Affairs, in writing, when the mitigative measures are completed. Additionally, Western's Division of Environmental Affairs will also provide some oversight of the construction activities. In accordance with DOE 5440.1E, Western's Division of Environmental Affairs will submit an annual report, beginning with the first Annual Site Environmental Report prepared after the onset of construction activities, to EH-25 regarding the status of the mitigative measures and any changes associated with them. The latter could be the result of landowner request or changes in the status of an environmental resource.

Western incorporates a list of "Standard Mitigative Practices" in its environmental reports and construction contract specifications. This list is included as Appendix B. In addition to these standard practices, site specific measures are also included in construction contract specifications. The site specific mitigation measures for the Mead-Phoenix project are listed in Appendix A by resource type and route segment. The locations of the route segments (Links) are shown in Figure 1.

As of January 1994, several modifications to the mitigation action plan have occurred as a result of discussions with land management agencies and resource management agencies, particularly the U.S. Bureau of Land Management, the National Park Service, and the Arizona Department of Fish and Game. These modifications are directed primarily at sensitive plant species, the desert tortoise (both Mojave and Sonoran populations) and birds of prey. An example of this modifications would include the decision to relocate Arizona and Nevada native plants of concern out of "harms way" rather than salvage by transporting them to a collection point for distribution to the general public.

Western reinitiated Section 7 consultation with the U.S. Fish and Wildlife Service in July, 1993, as a result of some designations of proposed critical habitat for the Mojave desert tortoise in the Nevada portion of the project.

Modifications to the mitigation measures which have occurred since it was written are presented in bold type in Appendix A. Activities which have been completed are underlined.

Appendix A frequently refers to "survey prior to construction" and "avoid sensitive features" in the Mitigation section. These measures will be accomplished by having qualified personnel conduct preconstruction surveys for the resource of concern, and by having appropriate technical experts, such as archaeologists and biologists, at the locations of resources of concern during structure siting and construction activities. Identification of a sensitive resource and subsequent actions will be coordinated with the appropriate resource management agency. All pre-construction surveys and monitoring studies will be coordinated with land owners/managers. Surveys for listed and candidate plant species will be conducted during the appropriate phenology for identification of the plant species. Because plant species are being reclassified, mostly in their candidate status, contact with the appropriate state and Federal agency will be necessary prior to beginning these surveys. Surveys for species protected by the Arizona "Native Plant Law" and the Nevada "Cactus and Yucca Law" will be coordinated with the appropriate state agency. Relocation of salvaged plant material, if needed, will be coordinated with the landowner or resource management agency.

SURVEYS FOR PLANTS OF CONCERN TO THE STATE OF ARIZONA, THE U.S. FISH AND WILDLIFE SERVICE, THE U.S. BUREAU OF LAND MANAGEMENT, AND THE NATIONAL PARK SERVICE WERE CONDUCTED INITIALLY DURING THE PERIOD APRIL-MAY, 1993. IN ADDITION, SURVEYS AND FLAGGING OF CERTAIN SPECIES OF CONCERN ARE ONGOING IN FRONT OF ACCESS ROAD AND STRUCTURE PAD CLEARING CREWS. THESE LATTER SURVEYS IDENTIFY SENSITIVE SPECIES WHICH NEED TO BE EITHER AVOIDED OR RELOCATED TO MINIMIZE LOSS OF PLANTS. IN THE CASE OF ARIZONA CLIFFROSE, ACCESS ROADS ARE BEING LAID OUT SO THAT ANY EROSION THAT MAY OCCUR WILL NOT ADVERSELY AFFECT THE INDIVIDUAL PLANTS DOWN-GRADIENT FROM THE ROAD.

In November 1994, Western again re-initiated Section 7 consultation with the U.S. Fish and Wildlife Service to request an increase in the "take" of Mojave desert tortoises. The request was based on an increased number of tortoises found in the Nevada portion of the project and that the project sponsors agreed to several reasonable and prudent measures, including the capture and marking of certain tortoises in the Mead National Recreation Area, helicopter stringing of spans in Nevada to minimize potential vehicle/turtle encounters, and blocking of access roads when construction crews were not on site.

AS CONSTRUCTION ACTIVITIES GAINED SPEED DURING THE 1994 SEASON, NEARLY ALL PRE-CONSTRUCTION MITIGATION MEASURES WERE ALSO COMPLETED. SURVEYS FOR PLANTS OF CONCERN TO THE STATES OF ARIZONA AND NEVADA, THE U.S. FISH AND WILDLIFE SERVICE, THE U.S. BUREAU OF LAND MANAGEMENT, AND THE NATIONAL PARK SERVICE WERE COMPLETED INITIALLY DURING THE PERIOD 1994. FLAGGING AND/OR SALVAGE OF SPECIES OF CONCERN WERE ALSO COMPLETED. IN THE CASE OF ARIZONA CLIFFROSE, ACCESS ROADS WERE LAID OUT SO THAT ANY EROSION THAT MAY OCCUR WILL NOT ADVERSELY AFFECT THE INDIVIDUAL PLANTS DOWN-GRADIENT FROM THE ROAD. SURVEYS FOR ENDNAGERED, THREATENED, OR SENSITIVE WILDLIFE SPECIES WERE ALSO COMPLETED. MONITORING OF CONSTRUCTION ACTIVITIES WAS UNDERWAY AT ONE TIME OR ANOTHER THROUGHOUT THE ENTIRE YEAR OF 1994.

APPENDIX C-1a

LAND USE

LINK NO.	MILE SEGMENT	IMPACT	MITIGATION
3/5	4.6-4.7	Crosses corral	Place structures to avoid sensitive features
	31.2-31.3	Crosses cemetery	Place structures to avoid sensitive features. REROUTED LINE AWAY FROM CEMETERY.
21a	1.9-10.5	Crosses two dwellings	Purchase dwellings at landowner request. DWELLINGS PURCHASED.
68	0.0-0.3	Near airfield	Place line parallel to glidepath
14c	1.7-2.4	Crosses proposed state natural area	Place structures to span sensitive features

APPENDIX C-1b

VISUAL RESOURCES

LINK NO.	MILE SEGMENT	IMPACT	MITIGATION
21a	0.3-1.3	Background visual impacts	Use nonspecular conductors and place structures to avoid sensitive features
	1.3-1.9	Foreground/middleground impacts	Use dull steel on towers, nonspecular conductors and avoid sensitive features
	1.9-10.5	High visual impact	Use special tower design, dull steel towers, nonspecular conductor, and avoid sensitive features
78	0.0-3.1	High visual impact	Use dull steel on towers, nonspecular conductors and avoid sensitive features

APPENDIX C-1c

BIOLOGICAL RESOURCES

LINK NO.	MILE SEGMENT	IMPACT	MITIGATION
1	0.0-16.7	Desert bighorn critical habitat	Survey prior to construction, avoid during critical period. DELETED PRECONSTRUCTION SURVEY, THERE WILL BE NO CONSTRUCTION DURING JANUARY THROUGH APRIL.
	0.0-16.7	DESERT TORTOISE HABITAT	SURVEY PRIOR TO CONSTRUCTION, AVOID TORTOISE BURROWS OR MOVE TORTOISES. SURVEYS CONDUCTED APRIL-MAY, 1994.
	0.0-26.5	<u>Penstemon</u> <u>bicolor</u> habitat	Survey prior to construction, coordinate with FWS AND NPS if found. <u>SURVEY CONDUCTED APRIL-MAY, 1993.</u>
	7.0-11.0	Raptor nesting area	Survey prior to construction, avoid active nest sites, mark line at river crossing. <u>FIRST SURVEY CONDUCTED MAY, 1993. SECOND SURVEY CONDUCTED IN MARCH, 1994.</u>
3/5	0.0-31.0	Raptor nesting area	Survey prior to construction, avoid active nest sites. <u>FIRST SURVEY CONDUCTED MAY, 1993. SECOND SURVEY CONDUCTED MARCH, 1994.</u>
13	12.0-14.6	Desert tortoise habitat	Survey prior to construction, avoid tortoise burrows or move tortoises. <u>SURVEYS CONDUCTED IN APRIL-MAY, 1994.</u>
14a	0.0-25.0	Desert tortoise habitat	Survey prior to construction, avoid tortoise burrows or move tortoises. <u>SURVEYS CONDUCTED IN APRIL-MAY, 1994.</u>
14b	0.0-22.4	Desert tortoise habitat	Survey prior to construction, avoid tortoise burrows or move tortoises. <u>SURVEYS CONDUCTED IN APRIL-MAY, 1994.</u>
14b	10.0-22.5	Arizona cliffrose habitat	Survey prior to construction, coordinate with FWS if found. LOCATE ACCESS ROADS TO MINIMIZE SECONDARY IMPACTS DUE TO EROSION. SURVEY CONDUCTED APRIL-MAY, 1993.
14b	17.0-19.0	Raptor nesting area	Survey prior to construction, avoid active nest sites. <u>FIRST SURVEY CONDUCTED MAY, 1993. SECOND SURVEY CONDUCTED MARCH, 1994.</u>

APPENDIX C-1d

EARTH RESOURCES

ALL GEOTECHNICAL SURVEYS WERE COMPLETED BY END OF 1993.

LINK NO.	MILE SEGMENT	IMPACT	MITIGATION
35	0.0-1.3	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
	1.8-2.0	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
	2.3-2.4	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
	2.9-4.8	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
	6.8-8.8	Erosion potential	Avoid sensitive features, close unneeded access roads
68	0.0-0.1	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
	0.2-0.5	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
	1.7-1.9	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
77	0.0-4.6	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
78	0.0-0.8	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads
	1.3-2.0	Erosion potential	Avoid sensitive features, close unneeded access roads
	2.3-3.1	Erosion potential	Geotechnical survey during structure siting, close unneeded access roads

APPENDIX C-1e

CULTURAL RESOURCES (The locations of cultural resource mitigation will be given by site number to avoid disclosure)

SITE NUMBER	SITE CLASS	MITIGATION
NA9,088	Prehistoric	No construction activities between 8427+00 and 8430+00. Use existing access roads.
NA17,314	Prehistoric	No construction activities between 776+50 and 778+50. Use existing access roads.
NA18,133	Prehistoric	Access road will "tee" off of existing access road. Structure laydown & assembly, and crane pad will be north of structure. Monitor during construction. No other construction activities between 9996+00 and 9998+00.
NA18,134	Prehistoric	No construction between 9916+00 and 9921+00. Use existing access road with NO upgrading.
NA18,135	Prehistoric	No construction between 9784+50 and 9794+50 except structure erection. Use existing access roads.
NA18,138	Prehistoric	No restrictions
NA18,144	Prehistoric	No construction between 8989+00 and 8991+50. Use existing access roads.
NA18,145	Prehistoric	No construction activities between 8216+00 and 8219+00. Use existing access road with NO upgrading.
NA18,147	Prehistoric	No construction activities between 8073+00 and 8076+00. Use existing access road with NO upgrading.
NA18,152	Prehistoric	No construction activities between 7007+00 and 7008+50. Use existing access roads.
NA18,153	Prehistoric	No construction activities between 5866+00 and 5868+00. Use existing access roads.

APPENDIX D

**REPORT ON THE
MITIGATION ACTION PLAN
FOR THE
SACRAMENTO OPERATIONS CENTER**

**REPORT ON THE
MITIGATION ACTION PLAN
FOR THE
SACRAMENTO OPERATIONS CENTER**

The Sacramento Area Office proposed to construct an operations center (SOC) in Folsom, California to eliminate overcrowding at its existing Sacramento facilities and improve operation efficiency. Habitat for one federally listed threatened species, the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), was identified at the project site. Of the two shrubs identified, one would be affected by the proposed action. Mitigation and compensation measures were subsequently established.

Mitigation and compensation measures implemented at the SOC:

- Location of a mitigation area was identified in the northernmost portion of the property.
- The relocation of the one elderberry shrub occurred on November 13, 1992, and followed the guidelines specified by the U.S. Fish and Wildlife Service. [To increase the likelihood of plant survival, transplanting and replacement planting was conducted during the winter months (November through March) when the shrub was dormant.]
- Protective construction fencing was installed around the second elderberry shrub on the site.
- Habitat compensation planting occurred on March 11, 1993. The replacement planting ratio used to mitigate the transplanted elderberry shrub was 5:1. Transplanting efforts followed the recommended guidelines specified by the U.S. Fish and Wildlife Service and included 20 elderberry seedlings, 8 oak saplings, a bubbler irrigation system and protective chain-link fencing.
- Meeting with USFWS to review possible impacts to 10-acre site on October 19, 1993.
- Transmitted letter to USFWS to apprise them of results of the mitigation and monitoring effort on October 26, 1993.
- A couple of bushes were replaced prior to end of construction and the irrigation system repaired after tampering by a vagrant was discovered.
- Task order prepared for contractor to monitor mitigation area for first three years until buildings are occupied and Western personnel on hand.
- Surveys conducted in 1994 indicated that only two of the 20 elderberry plants had not survived. All oak saplings were were surviving.

Colorado	Fort Morgan North 115-kV Tapline	Surveyed for endangered species habitat(p-dog towns, swift fox, and raptors)and wetland habitat. Proposed marker balls for wintering eagles, avoided locating structures in wetlands.	March 1994
Colorado	Wood Pole Replacement #1	Field reconnaissance for endangered species(p-dog towns, raptors) and wetland habitat, one structure in wetland location. Winter construction minimized impacts. Field check scheduled for Spr 95.	Spring 1994

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DOE Scientific and Technical Information Center

Headquarters, Western Area Power Administration,

A0000, A0010, A0100, A0200, A1000, A2000, A3100

Area Manager, B0000, Billings Area Office

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Area Manager, J0000, Loveland Area Office

Area Manager, L0000, Salt Lake City Area Office

Area Manager, N0000, Sacramento Area Office

Environmental Manager, B0400, Billings Area Office

Environmental Manager, G0400, Phoenix Area Office

Environmental Manager, J0400, Loveland Area Office

Environmental Manager, L0400, Salt Lake City Area Office

Environmental Manager, N0400, Sacramento Area Office