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Annual Site Environmental Report

For Calendar Year 1989

United States Department of Energy
Western Area Power Administration
Office of Environmental Affairs
Golden, Colorado 80401

MASTER

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**ANNUAL SITE ENVIRONMENTAL REPORT
FOR CALENDAR YEAR 1989**

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Western Area Power Administration
Office of Environmental Affairs
1627 Cole Boulevard
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PREFACE

The Western Area Power Administration (Western) has established a formal environmental protection, auditing, monitoring, and planning program which has been in effect since 1978. The significant environmental projects and issues Western was involved with in 1989 are discussed in this annual site environmental report. It is written to demonstrate 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 numerous facilities located in fifteen states, this report was written to address the environmental activities in all of the facilities as one "site."

TABLE OF CONTENTS

	Page
PREFACE	i
LIST OF TABLES	iii
LIST OF FIGURES	iii
1.0 INTRODUCTION	1
2.0 SUMMARY	4
3.0 ENVIRONMENTAL PROGRAM INFORMATION	6
3.1 Environmental Protection and Compliance	7
3.1.1 Regulatory Issues	8
3.1.2 Environmental Protection Programs	18
3.2 Environmental Planning Activities and Research ..	24
3.2.1 Projects	26
3.2.2 Environmental Planning Permits	29
3.2.3 Cultural Resources	29
4.0 COMPLIANCE SUMMARY	31
REFERENCES	34
APPENDIX A	A-1
APPENDIX B	B-1
DISTRIBUTION LIST	

LIST OF TABLES

	Page
Table 1 LIST OF ENVIRONMENTAL PERMITS, NOTICES, AND ORDERS OBTAINED OR ONGOING DURING CALENDAR YEAR 1989	17
Table 2 ENVIRONMENTAL PROTECTION COMPLIANCE INFORMATION SERIES	21
Table 3 ENVIRONMENTAL ASSESSMENTS FOR CY 1989	25
Table 4 SPECIAL MITIGATION MEASURES IMPLEMENTED BY WESTERN FOR NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE AND FISH AND WILDLIFE COORDINATION ACT COMPLIANCE	26
Table 5 ENVIRONMENTAL PLANNING PROJECTS ONGOING IN CY 1989	27
Table 6 REPORTED HAZARDOUS MATERIAL OR OIL SPILLS	33

LIST OF FIGURES

Figure 1 Map of Western Area Power Administration	3
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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 1989, Western provided power to 609 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 16,554 miles of transmission lines, 259 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 51 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 is

10,407 megawatts (MW). In 1989, Western sold 35.4 billion kilowatt hours of electricity which generated more than \$579 million in revenues.

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

FIGURE 1

2.0 SUMMARY

Many state and federal environmental protection laws and regulations adopted prior to 1989, and predicted for the future are applicable to Western facilities. The challenge for effective environmental management under these increasing requirements is being met by incorporating procedures that improve efficiency and responsiveness.

Western facilities are located in areas under 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 (EPIPs) 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 and the overall environmental protection and pollution prevention goals and objectives. Additionally, Western Headquarters has begun compiling 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 has developed and established an environmental protection compliance audit program. This program provides knowledgeable personnel to visit facilities on a regular basis. The audits are designed to identify problems and provide remedies. Western is taking action to prevent, control, and abate environmental pollution at facilities under its control.

The major regulatory impact upon Western continues to be the Toxic Substances Control Act (TSCA) which regulates the use of polychlorinated biphenyl (PCB). PCB materials are becoming more intensely regulated as more stringent Federal and State requirements are promulgated. Western's policy is to eliminate PCBs wherever economically and operationally possible in order 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 decisionmaking 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 which exposes sheep to high voltage AC fields.

Throughout 1989, Western's environmental planning continued toward increasing public and agency involvement early in the planning process of proposed projects. This emphasis on early scoping of environmental issues, which follows the amended DOE Guidelines for Compliance with NEPA, was done to identify significant impacts. Western is better able to determine the appropriate level of environmental documentation by its policy of pre-scoping and increasing the level of public and agency participation in project development.

Large scale projects and projects with a high potential for significant environmental impacts are analyzed within the framework of environmental assessments and impact statements. The majority of Western's projects result in minimal environmental impacts with appropriate planning and mitigation. These projects are analyzed and cleared with much less documentation, requiring less time and paperwork and resulting in increased efficiency.

Earlier and more comprehensive official participation by the Advisory Council on Historic Preservation is resulting in a streamlining of Western's cultural resource compliance activities. Increasing the level of monitoring of project implementation through public and agency feedback is helping to improve planning methods for the future.

3.0 ENVIRONMENTAL PROGRAM INFORMATION

The Western environmental program is divided into two major categories: 1) environmental protection and compliance and 2) compliance with environmental planning, siting, and mitigation requirements including cultural resource protection. Actions and activities taken by Western in both of these categories are discussed in the following sections.

3.1 Environmental Protection and Compliance

The Toxic Substances Control Act (TSCA), the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and amendments to these acts continue to be the primary sources of regulations for managing hazardous and toxic materials. However, several other Federal environmental laws have also resulted in regulations applicable to Western. These include the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), National Emission Standards for Hazardous Air Pollutants (NESHAP) established under the Clean Air Act, the Underground Injection Control (UIC) program promulgated under the Safe Drinking Water Act (SDWA), and the Clean Water Act (CWA).

Western is required to notify federal and sometimes, state and local agencies of regulated activities. Western obtains permits and licenses as required, or enters into interagency agreements that allow proceeding with environmentally regulated projects. In addition to the environmental regulations, permits, orders, and notices applicable to Western, contractors who work for Western are required to obtain all required clearances and permits before commencing work. Maintenance, monitoring, and reporting required by regulation or by permits issued to the contractors are the responsibility of that contractor.

3.1.1 Regulatory Issues

Resource Conservation and Recovery Act

Federal, state, and local governments have continued to expand the scope of controls and requirements for the use, handling, storage, transportation, and disposal of hazardous and toxic materials. Some states and localities have instituted measures that are more stringent than those of the federal government. The increasing amount of hazardous waste regulations is involving more Western activities.

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

The State of California also requires that persons or organizations that dispose of "extremely hazardous wastes" (the State considers PCBs at a concentration of greater than 5,000 ppm as an "extremely hazardous waste") obtain a permit on a case-by-case basis.

HSWA required, in part, that the owners or operators of underground storage tanks must notify designated State agencies if the tanks are used for storage of petroleum products. Each Area Office, required to do so, filed the reports required under HSWA before the 1986 deadline.

Monitoring or testing of most existing underground tanks is required in a staged program under HSWA. Western continued its efforts at complying with UST regulations during 1989.

In 1988, permits were obtained from two California counties to allow Western to operate fuel storage tanks. The permits require monthly reporting of the volume of material in the tanks and daily gauging. These permits also require the installation of leak detection monitoring equipment, to be phased in over several years. Table 1 provides information on the tank permits.

South Dakota notified Western that results of groundwater analyses from an area around an underground storage tank which had been removed in 1988 indicated that groundwater was potentially contaminated. Western was requested to install groundwater monitoring wells and commence quarterly groundwater monitoring. The installation of the monitoring wells was completed in late 1989.

Toxic Substances Control Act

Western continued the coordination of removal and proper disposal of PCBs from facilities during 1989. An agency-wide PCB transportation and disposal contract has been used to help ensure consistent and proper handling of PCB waste material. The contracted firm is required to transport and dispose of the PCBs and prepare all necessary paperwork, including certificates of destruction or disposal.

During 1989, Western has reduced the risk of future PCB spills by removing and disposing of a large amount of PCB-contaminated oil and equipment. In the Boulder City Area, 21,749 gallons of PCB-contaminated insulating oil was

eliminated from Wellton - Mohawk Substation, 11,000 gallons of PCB-contaminated oil and two PCB transformers were removed and disposed of from Coolidge Substation, and from Phoenix Storage facility, over 50,000 lbs of PCB-contaminated transformers were removed and properly disposed. The Boulder City Area Office is in the process of reviewing all of its facilities for environmental compliance. Each substation is checked for possible sources of PCB contamination. These reviews are conducted prior to any new construction being allowed on site.

Cleanup of Flagstaff Substation located in Arizona, was completed in late 1989. Work was underway in the cleanup of PCB spills in Pinnacle Peak Substation in 1989, and it is expected to be completed in March, 1990. Old spills of PCBs were discovered on and near capacitor banks while Western was preparing to upgrade the substations. Cleanup efforts at both facilities were conducted in accordance with TSCA requirements (40 CFR 761) and coordinated with EPA Region IX. PCB equipment and PCB-contaminated soil, concrete, steel and porcelain were removed from each facility. A total of 36 PCB transformers and 3,240 PCB capacitors were removed and disposed of in 1989 from these facilities. Approximately 650 cubic yards of PCB-contaminated soil, 379,000 pounds of PCB-contaminated steel and porcelain, and 60 PCB-contaminated concrete footings were removed and disposed from Flagstaff Substation. At Pinnacle Peak Substation, wipe samples were taken from the steel structures in the 345-kV series capacitor banks and from the shunt capacitor banks in 1989. Cleanup of the North Shunt Capacitor Yard at Pinnacle Peak Substation was initiated in 1989 and will be completed in 1990.

Western's environmental compliance auditing program has been useful in locating potential problems with the management of PCBs and in correcting those problems. Audits conducted by Western's contractors noted a few minor PCB spills and leaks in oil-filled electrical equipment. The PCB leaks were eliminated and the PCB spills were cleaned up within 48 hours of notification of the responsible official.

Comprehensive Environmental Response, Compensation, and Liability Act

Congress passed the Superfund Amendments and Reauthorization Act (SARA) of 1986, which revised and expanded CERCLA. Many of the revisions; for example, hazardous material spills, natural resource damage assessments, and cleanup standards, apply to Western.

Western does not have any sites listed on the National Priority List (NPL), nor does it appear that Western owns any sites that are eligible for listing. However, three facilities were listed on the Federal Docket in November, 1988. The Hinton Hazardous Waste Storage Facility in Hinton, Iowa, was the site of a spill of a pole-treating mixture resulting in the generation of F027 waste. The Hinton facility has submitted a Part B Permit application and is under a federal facility agreement negotiated in 1986 with EPA Region VII, which requires that the site be managed in accordance with RCRA standards. Montrose Power Operations Center, located in Montrose, Colorado had notified EPA of hazardous waste storage activities in the early 1980s as did Watertown Substation in Watertown, South Dakota. Neither site has a RCRA hazardous waste treatment, storage or disposal (TSD) facility, but because both have facilities for storage of PCB wastes the sites remained

eligible for the docket. Contractors conducted Preliminary Assessment (PA) site visits at each of the three sites during October and November, 1989. Screening site investigations (SSI) will be performed at Montrose and Watertown facilities during 1990.

Federal Insecticide, Fungicide, and Rodenticide Act

The regulations resulting from FIFRA that pertain to proper use and application of pesticides are applicable to Western. Western is an end user, not a producer, of pesticides. Pesticides are used by Western to control weeds, for wood preservation, and small amounts are used for rodent control. In 1989, environmental audits showed that Western remained in compliance with the applicable pesticide regulations. No orders or other actions resulting from misuse or misapplication of pesticides were issued to Western by any enforcement agency in 1989. It is anticipated that the endangered species labeling requirements proposed by the EPA may have some minor effect in future years on Western and its contractors.

Clean Air Act

Two potential sources of air emissions exist at Western facilities are regulated under the Clean Air Act; dust during construction activities and friable asbestos during building renovation or demolition.

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

Asbestos regulation under NESHAP effects 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 indicate the presence of asbestos.

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

Safe Drinking Water Act

Underground Injection Control

Western is in the process of inventorying injection wells throughout its system. All wells found to date are classified as Class V injection wells. It has been found that the floor drains within some battery rooms and vehicle maintenance buildings are connected to dry wells. Additionally some air compressors used on power circuit breakers send blow-by into dry wells. Further, some septic systems used to dispose of sanitary waste qualify as injection wells. As required by UIC regulations, Western is submitting inventory information to EPA regional offices to retain authorization by rule.

Clean Water Act

The discharges from the facilities Western owns and operates are generally not regulated under the Clean Water Act and other water pollution control laws and statutes. This is because most of Western's facilities do not generate effluents except for storm-water runoff. In 1989, Western identified 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. The need to apply for NPDES permits for these discharges is being determined by the Areas that are responsible for the facilities.

Miles City Converter Station

The Miles City Converter Station is a back-to-back, alternating-current to direct-current converter facility. It is located in Montana and holds 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 permit is required under the Administrative Rules of Montana 16.20.1017. The permit, number MGWPCS-0020, which expires May 31, 1994, allows Western to discharge coolant water to an on-site evaporation pond. Coolant water discharge contains low concentrations of a corrosion inhibitor, an anti-foaming agent, and sodium hypochlorite.

There are three monitoring wells located at the site, as required by the state permit. The wells are sampled on a quarterly basis and samples are sent to an off-site laboratory for analysis.

The permit requires quarterly monitoring 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)

The results of the 1989 monitoring are included in Appendix A.

Spill Prevention, Control, and Countermeasure Plans

Preparation and implementation of spill prevention, control, and countermeasure (SPCC) Plans are required for those Western facilities that have oil storage capacity and other conditions meeting the regulatory threshold. The plans must be reviewed every three years and amended if necessary. All new and amended plans must be recertified by a registered professional engineer. Ninety facility SPCC plans were reviewed, amended, or recertified in 1989, and two new draft plans were written.

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 considers these guidelines when designing new facilities or refurbishing existing substations. One containment structure was designed and constructed for the Glen Canyon facility in 1989.

Hazardous Materials Transportation Act

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

Hazardous waste transportation requirements of the California Department of Health Services are more extensive than those of the U.S. Department of Transportation (DOT). Therefore, the Sacramento Area Office (SAO) and Boulder City Area Office (BCAO) must have a California waste hauler's permit for the transportation of waste PCBs. In 1989, the permit 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.

TABLE 1

**LIST OF ENVIRONMENTAL PERMITS, NOTICES, AND ORDERS
OBTAINED OR ONGOING DURING CALENDAR YEAR 1989**

<u>NAME</u>	<u>ISSUING AGENCY</u>	<u>STATUS</u>	<u>EXPIRATION DATE</u>	<u>COMMENTS</u>
404 Permit - Nationwide	U.S. Army Corps	Ongoing	None	Section 323.b
Hazardous Waste Hauler Registration Variance Application	State of Calif.	Renewed	10/31/90	
		Pending	N/A	
Permit to Operate	Shasta, CA	Ongoing	12/89	
Underground Storage Tanks	Sacramento, CA	Ongoing	12/92	
Water Quality Permit, Miles City Converter	State of Montana	Ongoing	5/94	
RCRA Part B Permit for Hinton Hazardous Waste Storage Facility	U.S. Environ- mental Protection Agency	Application filed 11/88		

3.1.2 Environmental Protection Programs

Environmental Protection Implementation Plan

In accordance with DOE Order 5400.1, Western developed EPIPs for Headquarters and each of the five Area Offices. The plans establish a written program that defines the 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 Environmental Affairs is responsible for overseeing development and implementation of the EPIP for Western's Headquarters Office.

Environmental Auditing Program

Western established a strong environmental auditing program in 1980 that continues to provide effective and timely results. 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 all 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 1989, 34 facilities were audited by contracted auditors. These functional appraisals were undertaken in accordance with DOE Order 5482.1B and included substations, maintenance facilities, and storage yards.

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.

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. A first draft was issued in March 1989. 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 a program 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 biphenyl
- managing underground storage tanks
- compliance with community right-to-know
- assessment and management of past disposal practices

Environmental Protection Compliance Information

In 1989, Western continued its program for providing field staff with timely and pertinent information regarding 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 1989, as shown in Table 2, 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.

TABLE 2

**ENVIRONMENTAL PROTECTION COMPLIANCE
INFORMATION SERIES**

<u>Title</u>	<u>Date Issued</u>
Underground Storage Tanks	1/20/89
PCB Decontamination Procedures	3/8/89
Waste Oil Management	4/6/89
PCB Spill Cleanup Policy	5/8/89

Waste Minimization

The Congressional intent to encourage minimization of hazardous waste production by private and public generators is continuing to be achieved by Western on several fronts. 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. For example, many wood preservatives are classified by EPA as being hazardous wastes when they are spilled, discarded, or not used for their intended purpose. 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.

State and Local Environmental Requirements

Western operates in 15 western and mid-western states. There has been a trend in recent years for state, county, and local governments to 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 the 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 cleanup 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.

High-Voltage, Alternating Current Sheep Study

Western and four other electrical transmission organizations supported a study initiated in late 1989 to determine the possible effects of HVAC lines on the melatonin levels in sheep.

Oregon State University is the prime contractor for the research project. The Electric Power Research Institute is providing a panel of scientific advisors to assure the research is done correctly and without bias.

A final report incorporating data and results, from a study sponsored by Western and eight other organizations, was

provided in 1989. The primary objective of the research study was to determine if there were any effects of a 500-kV DC line on reproduction and production of beef cattle, and on wheat and alfalfa raised under controlled, simulated farming and ranching conditions. Final data analysis showed no demonstrable effects on either cattle or crops.

3.2 Environmental Planning Activities and Research

Table 3 lists the Environmental Assessments (EA) completed in calendar year (CY) 1989. As can be seen from the table, three EAs were completed either in draft or in final form in CY 1989. No records of decision were issued for Environmental Impact Statements (EISs). In addition, fourteen Determination Memoranda were cleared in CY 1989.

Western's list of standard mitigation measures (Appendix B) accompanies all transmission line construction contracts. This list has been developed over the years to ensure compliance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) guidelines, the National Historic Preservation Act, 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 FOR CY 1989

	EA	
	<u>DRAFT</u>	<u>FINAL</u>
New Waddell-Westwing	11/87	3/89
South Microwave		7/89
Lovell-Heart Mountain- Big George Transmission Line	9/88	

In 1989, Western continued its policy of initiating contacts with resource management and permitting agencies in the early stages of projects. As previously mentioned, this provides an effective and efficient means of assuring the consideration of sensitive environmental parameters.

In addition to its standard mitigation measures, Western frequently incorporates special mitigative techniques to address local environmental concerns. These may include special projects such as visual simulation studies, endangered or threatened plant and/or animal surveys, or special studies of extraordinary environmental concerns, such as floodplains, wetlands, or sensitive land use features. A list of these studies which were completed or ongoing in 1989, is provided in Table 4.

TABLE 4

**SPECIAL MITIGATION MEASURES IMPLEMENTED BY WESTERN FOR
NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE AND
FISH AND WILDLIFE COORDINATION ACT COMPLIANCE**

<u>STUDY</u>	<u>STATE(S)</u>	<u>DATES(S)</u>
Endangered, Threatened, or Special Plant Survey	CA	3-8/89
Endangered and Threatened Wildlife Survey	AZ/NV	10/89
San Joaquin Valley Kit Fox Mitigation	CA	1-12/89
Install Orange Globes and Beacons for Air Safety	CA	10-12/89
Study of Bird Collisions with High Voltage TL	MT	12/89 Final
Biological Assessments	NB/CO	5/89
	WY/NB	9/89
	CO	11/89
Monitored Golden Eagle Nest During TL Construction	UT	6-7/89

3.2.1 Projects

Western had approximately 50 environmental planning projects either started or underway during CY 1989. Most of these projects, listed in Table 5, are EISs or EAs for high voltage transmission lines, power marketing rate adjustments, and/or communications systems.

TABLE 5

**ENVIRONMENTAL PLANNING
PROJECTS ONGOING IN CY 1989**

<u>PROJECT NAME</u>	<u>DATE STARTED</u>
Alcova Substation	2/87
Ault-Gunbarrel TL	10/86
Ault-St. Vrain TL	10/87
Blended Rate Adjustment	9/88
Blue River-Summit TL	12/85
Bridgeport Substation	1/88
California-Oregon Transmission Project	9/84
Carter Mountain-Thermopolis	3/87
Casper Area TL Modifications	4/89
Central Valley Project - 1994 Marketing Plan	3/89
Charlie Creek-Belfield TL	4/86
City of Lodi TL	10/87
Colorado River Storage Project Rate Adj.	11/88
Copper Mountain Substation	4/89
Flagstaff Substation	11/87
Flatiron Erie	10/86
Flatiron Switchyard	1/89
Flatiron-Weld TL	1/87
Fort Morgan Substation	7/86
Fort Peck-Wolf 115-kV Upgrade	5/89
Holcomb-Guymon	2/89
Hunter Microwave	8/89
Kimball Substation	4/89
Kiowa Creek	1/86
Kremmling-Windy Gap	4/85
Lawrence Livermore National Laboratory TL	7/85
Limestone-McGrew TL	10/87

TABLE 5 (Continued)
ENVIRONMENTAL PLANNING
PROJECTS ONGOING IN CY 1989

<u>PROJECT NAME</u>	<u>DATE STARTED</u>
Lovell-Big George	11/85
McCullough Communication Site	3/88
Mead-69-kV TL	8/87
Mead-Adelanto TL (on hold)	12/84
Mead-Northwest Intertie Study	1/86
Mead-Phoenix TL	7/81
Miracle Mile-Spence	12/89
Pavillion Substation	11/89
Pick-Sloan Eastern Division Study	
Pinnacle Peak Substation	11/87
Platte-Sinclair Emergency Tie	11/88
Post 1989 Power Marketing Plan	
Post 1994 Power Marketing Plan	
Richland Microwave	8/89
Seminole-Kortes Switchyard	3/86
Shadow Mountain Substation	12/89
Sidney-North Yuma TL	10/87
South Dakota Microwave System-Stage IV	8/87
South Microwave Project	2/88
Spence Substation	4/88
Tracy-Banks TL	8/88
Weld-Windsor	11/89
Westwing-New Waddell TL	9/85
Williston Microwave	11/89
Wolf Point Substation	11/89

TL = Transmission Line

3.2.2 Environmental Planning Permits

Several environmental planning permits were obtained in CY 1989. These included special use permits issued by the U.S. Forest Service and the Bureau of Land Management for construction of a transmission line, and associated access roads and a microwave communication system in Colorado.

3.2.3 Cultural Resources

During 1989, Western initiated or continued previously initiated cultural resource compliance efforts for 30 undertakings in 8 states. The undertakings included the construction of substations, microwave communication facilities, and electrical transmission lines. In accordance with Section 106 of the National Historic Preservation Act, as amended, Western solicited the comments of the President's Advisory Council on Historic Preservation regarding these undertakings by following the "Section 106" consultation process established in 36 CFR 800. As part of its environmental planning process, Western consulted with the State Historic Preservation Officers in 8 states in order to successfully inventory and evaluate cultural resources within the proposed project areas. This allowed Western to identify possible effects of the projects on significant cultural resources, and

develop and carry out plans to mitigate project effects on significant cultural resources.

Western's Cultural Resource Compliance (CRC) program was initiated in 1983 when DOE authorized Western to designate an Historic Preservation Officer. A CRC Program Manager was added in 1986. The functions of the CRC Program Manager were taken over by the Preservation Officer in 1990. As part of the CRC program, Western reviews and provides comments on proposed Federal regulations and guidelines regarding cultural resource management. Annually, Western's CRC staff attend symposia, conferences, and training courses regarding historic preservation issues.

Special Environmental Activities and 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.

4.0 COMPLIANCE SUMMARY

Although Western makes every effort to comply with Federal, State and local regulations, one notice of violation (NOV) and one notice of non-compliance were issued to Western in 1989. These are described below.

Resource Conservation and Recovery Act

Underground Storage Tanks

In December of 1988, Western was notified by Sacramento County that an underground storage tank at the Elverta Maintenance Facility was out of compliance because it had not been tested. The reason Western had not been testing it is that the tank had never been used. It was installed at the time the facility was constructed, just prior to the implementation of the regulations, and a decision was made not to use it because of the regulations. Western worked with the County to obtain an abandonment permit so that the tank may be abandoned in place by filling it with grout and sealing it off. The permit is expected to be received in early 1990, and the abandonment will be accomplished as soon as possible.

Hazardous Waste

The Environmental Protection Agency (EPA) issued Western a Notice of Violation (NOV) for two violations of RCRA regulations. Field personnel at the Hinton Hazardous Waste Storage Facility, Iowa, had not taken part in an annual review of contingency plan implementation which is a

violation of 40 CFR 265.16(c), and a weekly inspection log was missing which is a violation of 40 CFR 265.15(b)(1).

Western responded to the NOV by letter, dated December 21, 1989, to Region VII of the EPA. In response to the violation of 40 CFR 265.16(c), Western will ensure that the required training is provided no later than April 1990. In response to the violation of 40 CFR 265.15(b), Western acknowledged that the alleged violation had occurred and stated that we would endeavor to ensure that the error is not repeated in the future.

Western has been notified by two counties in California that it must pay "Hazardous Waste Generator Fees", based on a schedule of fees by weight of hazardous waste disposed of in a particular year. Acting upon the advice of our General Counsel, we have told the counties that these fees appear to be taxes and cannot be paid unless the counties provide specific services in return for the fee. The Counties have not yet responded.

Hazardous Material Spills

Several separate hazardous material spills incidents were reported as required. These minor spills were cleaned up immediately and resulted in insignificant environmental damage. The spills occurred at the locations listed in Table 6. All of the spills occurred within Western's facility's boundaries. In all cases, the contaminated soil and equipment were disposed of and/or decontaminated as required by TSCA, RCRA, or the CWA.

TABLE 6

REPORTED HAZARDOUS MATERIAL OR OIL SPILLS¹

<u>FACILITY</u>	<u>STATE</u>	<u>SPILLED SUBSTANCE</u>
Shiprock Substation	NM	PCB-Containing Dielectric Fluid
Collbran Substation	CO	PCB-Containing Dielectric Fluid
Rifle Substation	CO	PCB-Containing Dielectric Fluid
Hayden Substation	CO	PCB-Containing Dielectric Fluid
Montrose Storage Yard	CO	PCB-Containing Dielectric Fluid
Archer Substation	WY	Dielectric Fluid (Mineral Oil)
Sidney Substation	NB	Dielectric Fluid (Mineral Oil)
Flaming Gorge Switchyard	UT	Circuit Breaker (Mineral Oil)
Malin Substation	OR	PCB Dielectric Fluid

¹ In most cases, spills were in amounts less than the "reportable quantities" specified regulation.

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.)
Executive Order 12088
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
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 5480.1

APPENDIX A

**Miles City Converter Station
Groundwater Monitoring Results**

600 SOUTH 25TH STREET
P. O. BOX 30615
BILLINGS, MT 59107
(406) 248-9161
FAX (406) 248-9282

TECHNICAL REPORT

REPORT TO: U.S. DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION
P O BOX 145
FORT PECK, MT 59223

DATE: April 13, 1989
JOB NUMBER: 85-945
SHEET: 1 OF 1
INVOICE NO.: 74303

REPORT OF: Water Analysis - Miles City Converter Station

Sample Identification:

On March 15, 1989, these water samples, lab numbers 96084-96086, were received in our laboratory for analysis. Tests were conducted in accordance with the U.S. Environmental Protection Agency Manual EPA 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes." The results of the analysis are as follows. A < sign indicates less than the reported value was present in the sample.

TEST RESULTS:

Lab No.:	96084	96085	96086	
Sample Description:	North Well	East Well	West Well	
Date Sampled:	3/10/89	3/10/89	3/10/89	
Collected by:	WAPA	WAPA	WAPA	Date Analyzed
Specific Conductance umhos/cm	14,500	15,200	17,400	3/23/89
Nalco 8367 as Total Phosphorous, mg/l	0.03	0.06	0.06	3/28/89
Ethylene Glycol, mg/l	< 20	< 20	< 20	Not Given
Total Well Depth from Top of Casing, ft.	58.4	33.7	50.0	--
Static Water Level from Top of Casing, ft.	24.1	25.7	24.8	--

Reviewed by _____

cc: WAPA, ATTN: Ben Blaquiére
Box 789
Miles City, MT 59301
kmb

hen-Northern, Inc.

A member of the **HHH** group of companies

600 SOUTH 25TH STREET
P. O. BOX 30615
BILLINGS, MT 59107
(406) 248-9161
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TECHNICAL REPORT

REPORT TO:

U.S. DEPARTMENT OF INTERIOR
WESTERN AREA POWER ADMINISTRATION
P O BOX 145
FORT PECK MT 59223

DATE: July 5, 1989
JOB NUMBER: 85-945
SHEET: 1 OF 1
INVOICE NO.: 79035

REPORT OF:

Groundwater Analysis - Miles City Converter Station

Sample Identification:

On June 14, 1989, these water samples were received in our laboratory for analysis. Tests were conducted in accordance with the U.S. Environmental Protection Agency Manual EPA 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes." The results of the analysis are as follows. A < sign indicates less than the reported value was present in the sample.

TEST RESULTS:

Lab No.:	97572	97573	97574	
Sample Description:	North	East	West	
	Well	Well	Well	Date
Date Sampled:	6/08/89	6/08/89	6/08/89	Analyzed
Specific Conductance, umhos/cm	16,400	16,400	18,600	6/22/89
Nalco 8367 as Total Phosphorus, mg/l	0.12	0.16	0.11	6/29/89
Ethylene Glycol, mg/l	<20	<20	<20	None Given
Total Well Depth from Top of Casing, ft.	58.4	33.7	50.0	
Static Water Level from Top of Casing, ft.	23.2	24.0	24.4	

Reviewed by

David M. Hummel

cc: WAPA
P O Box 789
Miles City, MT 59301

Chen-Northern, Inc.

A member of the **HIH** group of companies

600 SOUTH 25TH STREET
P. O. BOX 30615
BILLINGS, MT 59107
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TECHNICAL REPORT

REPORT TO: U. S. DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION
P. O. BOX 145
FORT PECK, MT 59223

DATE: November 8, 1989
JOB NUMBER: 85-945
SHEET: 1 OF 1
INVOICE NO.: 84546

REPORT OF: Groundwater Analysis - Miles City Converter Station

Sample Identification:

On September 20, 1989, these water samples, Lab Nos. 99043 - 99045, were received in our laboratory for analysis. Tests were conducted in accordance with the U.S. Environmental Protection Agency Manual EPA 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes." The results of the analysis are shown below. A < sign indicates less than the reported value was present in the sample.

TEST RESULTS:

Lab No.:	99043	99044	99045	
Sample Description:	North Wall	East Wall	West Wall	
Date Sampled:	9/15/89	9/15/89	9/15/89	
Collected by:	Client	Client	Client	Date Analyzed
Specific Conductance, umhos/cm	14,000	14,900	16,200	9/22/89
Nalco 8367 as Total Phosphorous, mg/l	0.09	0.19	0.19	9/29/89
Ethylene Glycol, mg/l	< 20	< 20	< 20	
Total Well Depth from top of casing, ft.	58.4	33.6	50.0	
Static Water Level from top of casing, ft.	23.7	23.6	23.7	

Reviewed by *Robert A. Grimmer*

cc: WAPA
Attn: Mr. Ben Blaquiere
Box 789
Miles City, MT 59301

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A-3

Chen-Northern, Inc.

A member of the **HIH** group of companies

600 SOUTH 25TH STREET
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BILLINGS, MT 59107
(406) 248-9161
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TECHNICAL REPORT

REPORT TO:

U.S. DEPARTMENT OF INTERIOR
WESTERN AREA POWER ADMINISTRATION
P O BOX 145
FORT PECK MT 59223

DATE: January 3, 1990

JOB NUMBER: 85-945

SHEET: 1 OF 1

INVOICE NO.: 85763

REPORT OF: Groundwater Analysis - Miles City Converter Station

Sample Identification:

On December 11, 1989, these groundwater samples were received in our laboratory for analysis. Tests were conducted in accordance with the U.S. Environmental Protection Agency Manual EPA 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes." The results of the analysis are as follows. A < sign indicates less than the reported value was present in the sample.

TEST RESULTS:

Lab No.:	101135	101136	101137	
Sample Description:	North	East	West	
	Well	Well	Well	Date
Date Sampled:	12/07/89	12/07/89	12/07/89	Analyzed
Specific Conductance, umhos/cm	13,700	14,500	14,500	12/14/89
Nalco 8367 as Total Phosphorus, mg/l	0.69	0.29	0.38	12/14/89
Ethylene Glycol, mg/l	<20	<20	<20	None Given
Total Well Depth from Top of Casing, ft.	58.4	33.6	50.0	
Static Water Level from Top of Casing, ft.	23.6	23.9	23.9	

Reviewed by

Deborah A. Gumm

cc: WAPA - Attn: Ben Blaquiere
P O Box 789
Miles City, MT 59301

APPENDIX B

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

Standard mitigative practices employed by the Western Area Power Administration to minimize impacts of transmission line construction and maintenance are described below.

Visual Resources

- Conductors may have a non-reflective finish to avoid sheen and to provide blending of the conductors into any given setting through which the line must pass.
- Western follows design practices identified in the "Environmental Criteria for Electric Transmission Systems" prepared by the U.S. Department of Agriculture and the U.S. Department of Interior and "National Forest Landscape Management", Volume 2, Chapter 2, "Utilities" prepared by the U.S. Department of Agriculture.

Surface Water Protection

- Structure sites and other disturbed areas are located at least 300 feet from rivers, streams (including ephemeral streams), ponds, lakes, and reservoirs, where practical.
- New access ways are located at least 300 feet from rivers, ponds, lakes, and reservoirs, where practical.
- At crossing of perennial streams by new access ways, culverts of adequate size to accommodate the estimated peak flow of the stream are installed.
- Waste waters from concrete batching, or other construction operations, shall not enter streams, watercourses, or other surface waters without the use of turbidity control methods.
- Dewatering work for structure foundations or earthwork operations adjacent to streams or watercourses are conducted in a manner to prevent muddy water and eroded materials from entering the streams.
- Excavated material or other construction materials are not stockpiled near watercourse perimeters where they can be washed away by high water or storm runoff or can in any way encroach upon the actual watercourse itself.

Vegetation Protection

- o Structures are carefully located to span narrow bands of sensitive vegetation conditions, including wetlands.
- o Access ways are located to avoid sensitive vegetation conditions, including wetlands, or, if they are linear, to cross them at the least sensitive feasible point.
- o Removal of vegetation is minimized to avoid creating a swath along the right-of-way.
- o Structures are 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

Wildlife Protection

- o Construction activities are timed to reduce impacts to wildlife during periods when human disturbance may unduly stress populations. These include critical winter or summer periods, birthing periods, or other periods of high sensitivity.
- o Western's transmission line structures for 69-kV and higher, are designed to minimize the potential for electrocuting raptors or large birds.

Dust Abatement

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

DISTRIBUTION

Office of Environmental Guidance and Compliance, EH-23
Office of Environmental Audit, EH-24
Office of NEPA Project Assistance, EH-25
Office of Science and Technological Information
DOE Scientific and Technical Information Center
Boulder City Area Office, Western Area Power Administration
Billings Area Office, Western Area Power Administration
Loveland Area Office, Western Area Power Administration
Sacramento Area Office, Western Area Power Administration
Salt Lake City Area Office, Western Area Power Administration
Headquarters, Western Area Power Administration

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