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**Final Supplement
Final Environmental Impact Statement**

**BONNEVILLE POWER
ADMINISTRATION**



**Proposed Fiscal Year 1979 Program
Facility Planning Supplement
Southwest Oregon Area Service**

U.S. Department of Energy

September 1979

**Final Supplement
Final Environmental Impact Statement**



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ADMINISTRATION**

**Proposed Fiscal Year 1979 Program
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Responsible Official

U.S. Department of Energy
Washington, D.C. 20545

Ruth C. Clusen
Assistant Secretary for Environment

September 1979



NOTE TO REVIEWERS

This draft statement is one of a series prepared by BPA on various facets of its construction and maintenance activities. This statement covers the potential impact of a major new facility proposed for fiscal year 1979. It must be reviewed and used in conjunction with the overall programmatic environmental statement entitled "The Role of the Bonneville Power Administration in the Pacific Northwest Power Supply System, Including Its Participation in the Hydro-Thermal Power Program: A Program Environmental Statement and Planning Report" (The "Role EIS"), particularly Appendix B - BPA Power Transmission. For convenience, the various components and their relationship are outlined in the chart below.

Environmental Statements and Supplements on BPA Construction and Maintenance Activities

Appendix B to the "Role EIS" - BPA Power Transmission

Describes BPA's overall construction and maintenance program in general, the Pacific Northwest environment in which it operates, and the environmental impacts that typically occur from transmission line construction and maintenance activities. Provides a framework for evaluation of specific proposals.

Final Fiscal Year 1979 Program Statement

Describes the cumulative impact on the Northwest environment of all of the specific major transmission facilities and maintenance activities included in BPA's Fiscal Year 1979 Proposed Program.

Final Facility Planning Supplements

Identifies the need for a specific new transmission facility proposed as part of the Annual Proposed Program, and outlines in preliminary form the probable environmental impact of constructing the facility in accordance with a general proposed system plan and alternative plans.

Draft Facility Location Supplements

Expands the facility planning supplements to include alternative locations for the proposed new facility and environmental impacts associated with each alternative location. This supplement is prepared after public and agency review of the planning supplement has been completed and reconnaissance studies have been made.





Summary

() Draft (X) Final Facility Planning Supplement

Department of Energy, Bonneville Power Administration

1. Type of action: (X) Administrative () Legislative

2. Brief description of action: To allow power generated in Wyoming to be delivered to Southwest Oregon and to facilitate the exchange of electric power between the Pacific Northwest and the Middle Snake region, two basic plans of service, each with two corridor routing options, have been identified to meet system requirements. BPA proposes construction of the following two transmission facilities: (1) a 500-kV line from Idaho Power Company's Brownlee Substation in Idaho to BPA's Slatt Substation near Arlington, Oregon, and (2) a 500-kV line from Buckley (near Maupin, Oregon) to Malin, Oregon. The Brownlee-Slatt option together with the Buckley-Malin line provides the most flexibility to the regional system. The new 500-kV transmission line would provide backup to the overall system in case of loss of existing lines. This backup would be available for power transfer in the Pacific Northwest as well as into the Idaho region when that system requires reinforcement.

3. States and counties involved: Gilliam, Morrow, Umatilla, Union, Baker, Jefferson, Crook, Wheeler, Grant, Malheur, Sherman, Wasco, Deschutes, Lake, and Klamath Counties, Oregon, and Washington County, Idaho.

4. Summary of environmental impacts and adverse environmental effects: The proposed plans of service are the Brownlee-Slatt Corridor 1, a 208-mile (333 km) 500-kV line from Brownlee to Slatt and 500-kV terminals at Slatt, and the Buckley-Malin Corridor, a 232-mile (372 km) 500-kV transmission line. The impacts at this planning stage are generalized pertaining to normal construction and maintenance effects. More explicit impacts will be detailed when line locations have been decided upon and BPA studies their related impacts. Construction, operation, and maintenance of a transmission line along any of the alternate corridors would have minimal impact on air quality. Impacts to geology, soils, and vegetation, disturbance to wildlife and recreation facilities would occur during construction activities. All options, except the proposed plan of service, required some new right-of-way. Where new right-of-way is required, impacts would be greater.

Brownlee, Slatt, Grizzly, and Malin Substations would require acquisition of 2 to 3 acres (1-1½ ha) of additional land for expansion. BPA will purchase approximately 26 acres (10 ha) of land at Buckley to allow for ultimate electrical development. Impacts would be minimal and limited primarily to grading operations.

5. Alternatives considered: Nonconstruction, three other routing alternatives, energy conservation, and load management. The Draft Role Environmental Statement, Appendix B, references alternatives



to construction including local generation, underground transmission, limiting construction of electricity, as well as alternative methods of locating transmission facilities.

6. Comments have been requested from the following agencies: U.S. Department of Agriculture: Forest Service; and Soil Conservation Service; U.S. Department of the Army: Army Corps of Engineers; U.S. Department of the Interior: Bureau of Indian Affairs; Bureau of Land Management; Fish and Wildlife Service; and Geological Survey; and State of Oregon. (See page VI-1 for complete list.)

7. Date made available to Environmental Protection Agency and to the Public:

Draft Supplement: January 19, 1979

Final Supplement:

For additional information contact:
John Kiley, Environmental Manager
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208
Area Code (503) 234-3361, Ext. 5137



BROWNLEE-SLATT/BUCKLEY-MALIN 500-kV TRANSMISSION LINES



STATUS

This Final Facility Planning Supplement documents the environmental impacts of two electrical plans of service to provide power to southwestern Oregon and reinforce the Pacific Northwest power grid. The proposal was selected after comparing the plans with respect to their economic, engineering, and environmental effects and their provision for overall system flexibility. The proposal has been modified slightly from that described in the Draft Facility Planning Supplement. These changes primarily relate to the scheduled dates these facilities are required (see Description of the Proposal). EIS supplements will be prepared and filed evaluating design and location options for components of this project.

The Draft Facility Planning Supplement was filed with the Environmental Protection Agency (EPA) on January 19, 1979. Public meetings were held throughout the State of Oregon in March 1979 along with public review of the document. Comments received during the meetings and on the document are responded to in this Final Planning Supplement. Further review and public meetings will be held upon completion of the Draft Facility Location Supplements to obtain input and recommendations concerning final line locations. Tentative schedule dates for this project are as follows:

Draft Location Supplement Public Review	
Brownlee-McNary	Fall 1980
Buckley-Summer Lake-Malin	Fall 1979
Final Location Supplement File with EPA	
Brownlee-McNary	Winter 1980-81
Buckley-Summer Lake-Malin	Winter 1979-80
Start Land Acquisition	
Brownlee-McNary	Fall 1982
Buckley-Summer Lake-Malin	Summer 1980
Start Construction	
Brownlee-McNary	Spring 1983
Buckley-Summer Lake-Malin	Winter 1980-81
Energization	
Brownlee-McNary	Fall 1985
Buckley-Summer Lake-Malin	Fall 1982

The following discussions describe at a planning level: BPA's proposed action; the alternatives that were considered; the environment of the area in which the proposal is located; and anticipated impacts on existing environmental characteristics. The order in which these subjects are discussed is indicated within the Table of Contents.



BROWNLEE-SLATT/BUCKLEY-MALIN 500-kV TRANSMISSION LINES
STUDY AREA 79-5

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DESCRIPTION OF THE PROPOSAL

The Bonneville Power Administration (BPA) proposes to construct transmission facilities which will coordinate with the recently-approved Midpoint-Malin 500-kV line to be constructed by the Pacific Power and Light (PP&L) Company. These are: (1) the 156-mile (250 km) Buckley-Summer Lake 500-kV line which is scheduled to be energized in the fall of 1982, and (2) the 84-mile (135 km) LaGrande-McNary 500-kV line (BPA's portion of the Brownlee-McNary line) which will be a future budget item with a tentative energization date of Fall, 1985; and, (3) a 44-mile (70 km) McNary-Slatt 500-kV line to be constructed by BPA when additional generation is added at McNary. This coordinated project will facilitate the transfer of electric power from the Pacific Northwest to BPA customers in southern Idaho and Utah. In addition it allows power generated in Wyoming to be delivered to the Pacific Northwest including southwest Oregon. It would also reinforce the existing PNW-PSW Intertie within the State of Oregon. Finally the BPA facilities provide additional transmission capacity for wheeling services and other transactions needed in the region.

SYSTEM REQUIREMENTS

Introduction

The following discussions describe the system requirements and plans to accomplish the above, and identify the proposed plan.

The facilities proposed here will meet the following system requirements:

1. West-to-east transmission capacity to allow BPA to continue to serve its southern Idaho loads.
2. Additional transmission capability to deliver Idaho Power Company's (IPC) share of the Boardman Coal Plant.
3. Additional transmission capability to serve growing Harney Electric Cooperative loads via the Idaho Power Company and Sierra Pacific Power Company systems.
4. Adequate reliability and backup for service to southwest Oregon loads.

5. Additional transmission capacity for east-west interchanges.
6. Increased reliability to the existing Pacific Northwest-Pacific Southwest Intertie system.

Note: More detailed discussion of system requirements is given under Discussion of System Requirements.

In addition to the above items, the proposal would allow for other transactions such as economy energy exchanges, added sales of power and energy, sharing of resources, emergency transfers, and coordination of hydrogeneration within the interconnected regions.

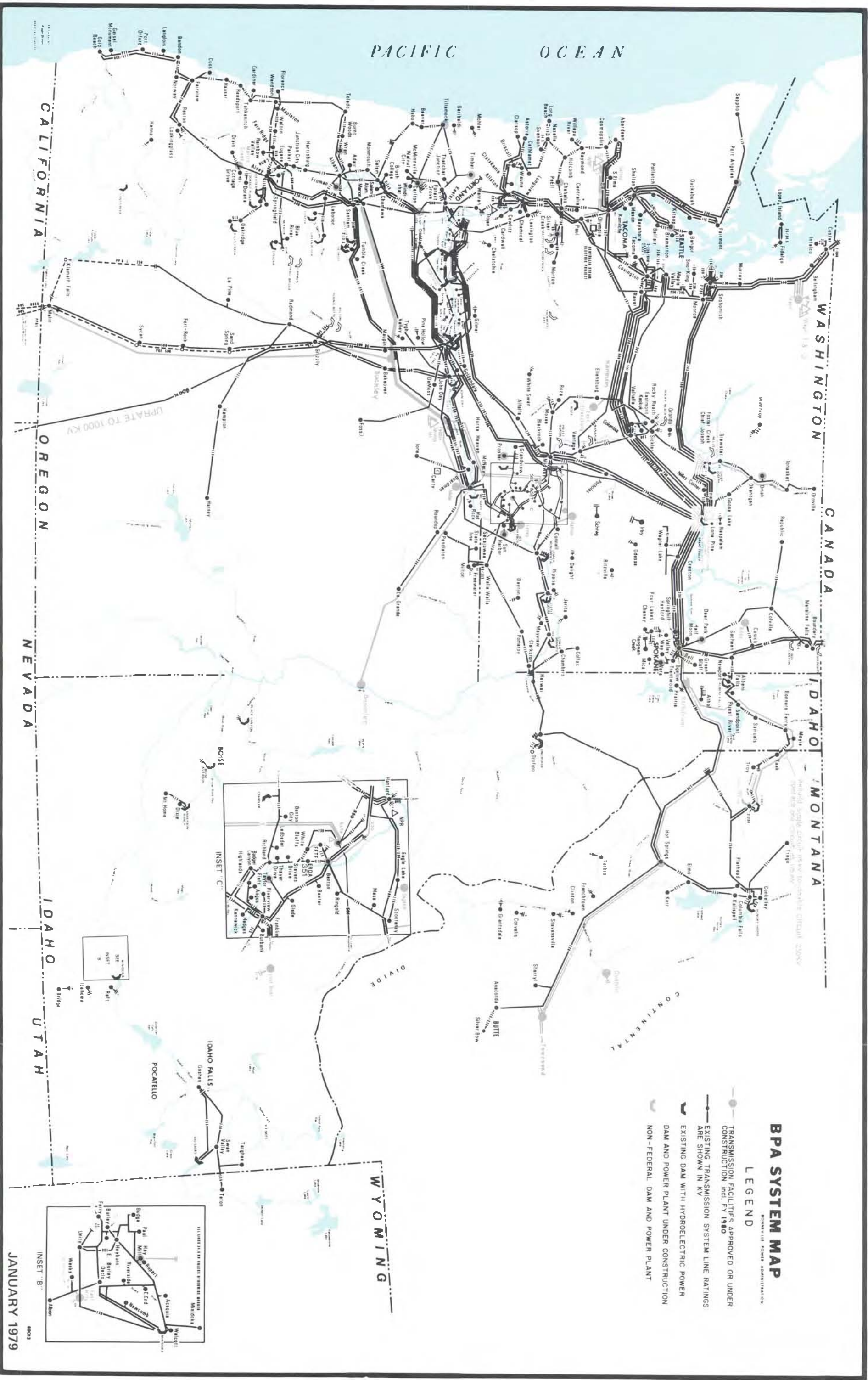
Existing transmission facilities available to BPA between the Northwest and Idaho will not be adequate to meet BPA's transmission requirements to southern Idaho by the early 1980's. BPA's original proposal to construct a Brownlee-Slatt 500-kV line and a Buckley-Malin 500-kV line was dependent on Idaho Power Company's plans to increase the transfer capacity of their transmission system between Midpoint and Brownlee. IPC had planned to increase the voltage on two lines between Midpoint and Brownlee from 230-kv to 345-kV, thereby increasing the transfer capacity. This combination of facilities would have provided the necessary transmission path for east to west transfer of Pacific Power and Light's (PP&L) Wyoming generation to southern Oregon and the west to east path for transfers to Idaho. IPC's schedule for increasing the voltage of their transmission system has been changed to the mid-1980's, therefore the necessary transfer capacity will not exist as early as needed.

With the reduction in transfer capacity through the IPC system PP&L's Midpoint-Malin-Medford 500-kV line is needed to transfer PP&L's Wyoming power to southern Oregon. The Malin-Medford line is common to the plans discussed in this document.

A line-mileage sketch incorporating the proposed lines and other significant lines has been included on the following page.

Historical Development

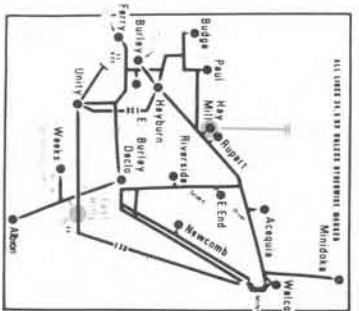
Feasible alternative plans depend not only on system requirements, but also on the existing, planned, or proposed generation and transmission facilities. Prior to the approval of the Midpoint-Malin line by the Public Utility Commissions in Idaho and Oregon, BPA had proposed a different combination of transmission lines to satisfy regional needs. These transmission lines were described in the Draft Facility Planning Supplement (DFPS). The final plan does not involve any additional BPA corridors from what were described in the DFPS, but in fact results in a reduction of the length of BPA lines needed in the immediate future. A historical perspective of the evolution of the project given here will clarify the recent developments.



BPA SYSTEM MAP

LEGEND

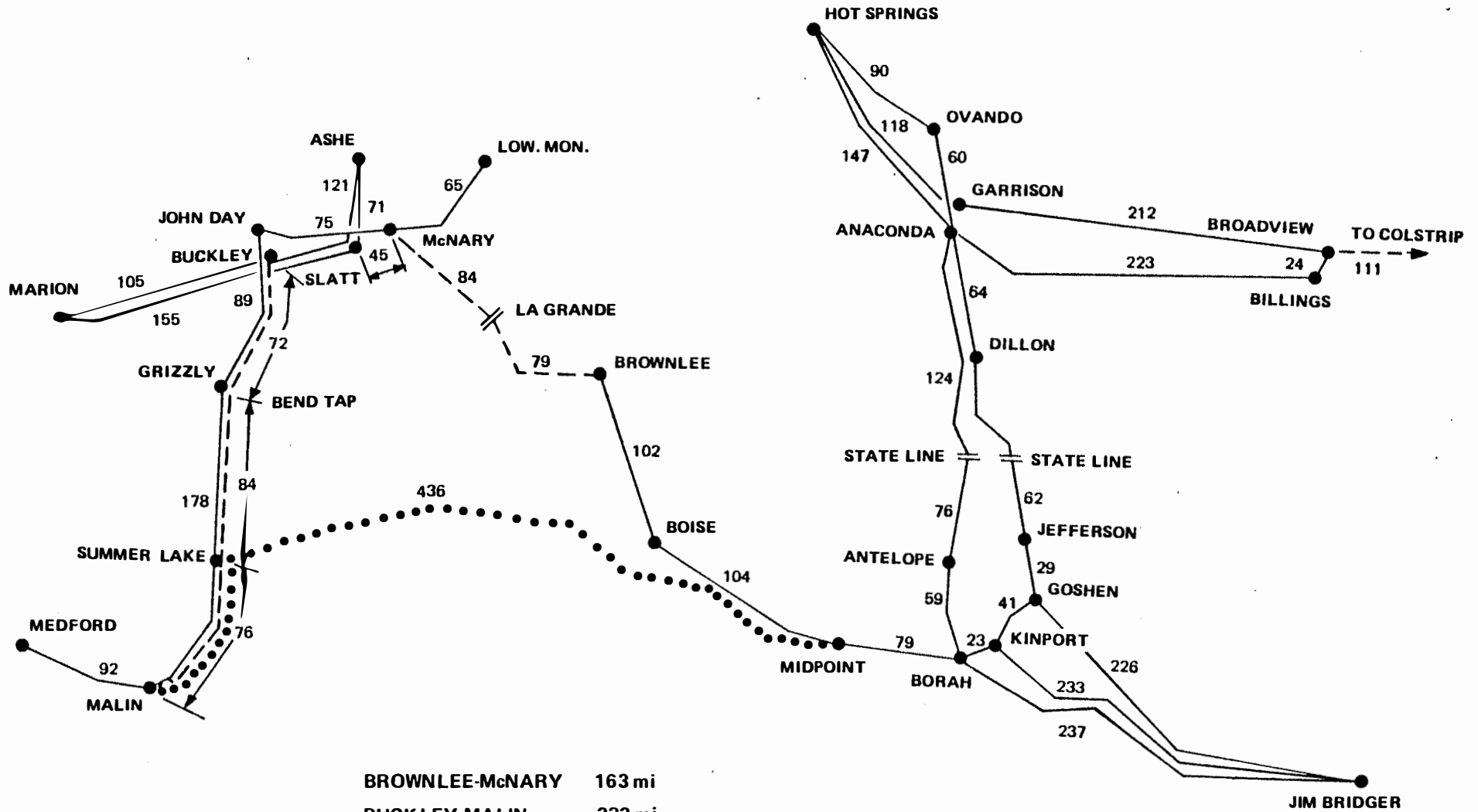
- TRANSMISSION FACILITIES APPROVED OR UNDER CONSTRUCTION BY FY 1980
- EXISTING TRANSMISSION SYSTEM LINE RATINGS ARE SHOWN IN KV
- DAM AND POWER PLANT UNDER CONSTRUCTION
- NON-FEDERAL DAM AND POWER PLANT



JANUARY 1979



BROWNLEE-McNARY/BUCKLEY-MALIN PROJECT
(TRANSMISSION LINE MILEAGES)



BROWNLEE-McNARY	163 mi
BUCKLEY-MALIN	232 mi
MIDPOINT-MALIN	436 mi



The Brownlee-Slatt line and the Buckley-Malin line have been in regional long-range transmission plans for a number of years. The Brownlee-McNary 500-kV line was proposed as early as 1969 as one means of providing transmission capability for transfer of Jim Bridger power from Idaho to the Northwest.

BPA has studied a number of transmission alternatives for transfer of Jim Bridger power to load centers in the Northwest both before and after the announcement of the Midpoint-Malin line by Pacific Power and Light. A number of these included the Brownlee-McNary line as such, or as part of the Brownlee-Slatt 500-kV line.

A third AC Intertie line (Buckley-Malin) has also been studied for a number of years. Among the uses of this line considered during these studies was that of service to southwest Oregon.

IPC has already upgraded its system between Wyoming and Midpoint, Idaho. The long-range plans published by IPC in June 1977 indicated that the capacity of the lines between Midpoint and Brownlee would be increased during the early eighties. Accordingly, BPA had planned for the Brownlee-McNary interconnection for that period. With the Midpoint-Malin line scheduled for energization in 1979, BPA did not propose an alternative to the PP&L line since the alternative could not be in service by that date, although several plans had been studied.

The situation changed when the Secretary of the Interior recommended an alternative route for the Midpoint-Malin line. This change added 50 miles to the line length and extended the energization date by at least two years. In the meantime, the need for additional transmission capacity from the west to southern Idaho became evident. The report of the Western System Coordinating Council dated January 1978 shows two 230-kV IPC lines between Midpoint and Brownlee upgraded to 345-kV by the end of 1981. Studies on the basis of a one-utility concept indicated that the Idaho system would then have the added transfer capacity to match the Brownlee-Slatt line. The "one-utility concept" assumes a fully-integrated transmission system, as though owned by a single entity, for maximum flexibility of operation and minimum costs.

When the Oregon State Attorney General's Office wrote to BPA on January 27, 1978, requesting whether there were alternatives to the Midpoint-Malin line, BPA stated that the preferred alternative would be a combination of two lines:

1. A 232-mile (371 km), 500-kV line from BPA's system in central Oregon (Buckley) to its Malin Substation, and
2. A 208-mile (333 km), 500-kV line from IPC's Brownlee Substation to BPA's Slatt Substation.

This was the basis for BPA's Draft Facility Planning Supplement (DFPS). Detailed studies however, indicated that if the preferred alternatives were

selected, the 44-mile (70 km) segment between McNary and Slatt could be delayed until needed for the integration of the second powerhouse at McNary.

Since the upgrading of the IPC system between Midpoint and Brownlee was needed in any case for reasons other than the system requirements for this project, the BPA proposal would have involved fewer miles of line than the Midpoint-Malin line. The Buckley-Malin and Brownlee-McNary lines would not only preempt the transmission objectives of the Midpoint-Malin line but would also provide the needed transmission capacity from the Northwest to southern Idaho. They would also use existing corridors, thus minimizing environmental impacts. The alternative to the Brownlee-Slatt line was a Brownlee-Grizzly line. The alternatives presented in the DFPS consisted of two corridors for each of these lines. The Buckley-Malin line was common to all the plans.

Subsequent to BPA's issuance of the DFPS for Southwest Oregon Service, BPA was informed that the upgrading of IPC facilities between Midpoint and Brownlee would be delayed. In addition, the States of Oregon and Idaho announced their approval of the construction of PP&L's Midpoint-Malin line. PP&L then announced plans to proceed with construction of the line on an accelerated schedule with a planned energization date of October, 1981.

Accordingly, BPA modified its proposal to accommodate these developments. BPA's current proposal is coordinated with the Midpoint-Malin line. This line will be a major scheduling path for service to the company's customers in southwestern Oregon. BPA facilities will provide backup to that region as well as firming up the Intertie, provide for other transactions and system needs in central and southern Oregon, and together with the Summer Lake-Midpoint section, will provide the capacity to southern Idaho as indicated under system requirements. Again, the major difference between BPA's earlier proposal and the current one is that fewer miles of BPA transmission line will be required for the immediate future.

Discussion of System Requirements

Full utilization of electrical generation capabilities is promoted by strong interconnections between regions of load diversity. The maximum use of electric energy occurs in the winter for areas west of the Cascades. In the eastern area, electric energy usage peaks in July and August because of the demands caused by irrigation and air conditioning. Some of the summer loads in Idaho and Utah can be served from Northwest resources. Some of the Wyoming generation will supply base load energy requirements in the Northwest throughout the year with the largest amounts during the winter season.

In carrying out its mission, BPA aims to optimize future Northwest transmission system development on the basis of economics, reliability, environmental impacts, and a well-integrated transmission system for all users. The planning of transmission lines which interconnect power systems requires inter-utility coordination to properly upgrade the facilities of adjoining systems.

Load Estimating Methodology

Electric power needs are constantly reviewed because of changes in population patterns and in industrial and commercial development. BPA, along with other regional entities, meets its utility responsibility by periodically reviewing expected loads, availability of resources, and transmission requirements. The methodology used by BPA is described below.

BPA cooperates in the compilation and publication of the annual West Group Area forecast (the Black Book) and the Long Range Projection of Power Loads and Resources for Thermal Planning (the Blue Book) published by the Pacific Northwest Utilities Conference Committee (PNUCC). BPA also prepares or assists in the preparation of load forecasts for the regions's nongenerating public utilities, Federal agencies, and BPA direct-service industrial customers. The summation of these individual load forecasts constitutes the Federal System load in the Pacific Northwest. Investor-owned utilities and public agencies with generation independently prepare load estimates for their respective service areas. The total of the Federal System load and these individual utility estimates constitutes the regional load forecast which appears in both the West Group Area Forecast and the Long-Range Projection of Power Loads and Resources mentioned above. Against this forecast is shown a list of both hydro and thermal generating resources, their peaking capability and contract year energy which will be available to meet these loads. The difference between the loads and the peaking and energy capability of these resources represents this region's expected surplus or deficit after provision for reserves. The comparison of loads and resources in the current Long-Range Projection of Loads and Resources predicts energy deficits for each year of the next 20 years assuming critical water conditions.

Recently, the PNUCC has employed a modified version of an econometric model developed by the National Economic Research Associates (NERA) to test the reasonableness of the West Group Area loads as reported in the West Group Forecast of Power Loads and Resources. The 1978 econometric model supports the forecast produced by the PNUCC and indicates an average annual growth rate of 4.4 percent over the next 10 years in the West Group Area.

The PNUCC model, as with any econometric model, attempts to quantify relationships between electrical energy sales and various causal factors. These relationships are developed through statistical analysis of historical data. The model has the ability to explicitly include the effects of prices and income, and to accept forecasts of demographic and economic factors such as population and employment, thus providing some consistency between regional forecasts of the factors affecting electric sales and the electric sales forecasts. The model's results are dependent on forecasts of population, family income, employment, prices of oil, gas and electricity, etc. The accuracy of projected electric sales can be no better than the forecasts of these factors. Additionally, the model assumes that people's responses to economic conditions will be the same in the future as they have been in the past and that no changes in technology, governmental regulation, or international politics will occur to upset the validity of the model.

The role of BPA, investor-owned utilities, public utilities, and the PNUCC in developing the West Group area forecast is discussed more thoroughly in Chapter IV, Part 1 of BPA's Draft Role EIS. In addition, the econometric model presently being utilized to develop the long-range forecasts and the assumptions contained in that model are set out more specifically in "Econometric Model Electric Sales Forecast for the West Group Area" prepared by the PNUCC, Task Force 6, February, 1978.

The econometric model has the ability to analyze input data and predict energy consumption change in response to varying individual parameters contained in the model. However, since the model must utilize forecasted values for some of these parameters, which are themselves based on trends, the output will be valid to the extent that demographic and other trend data are accurate.

The above methodology was utilized in developing estimates of BPA's southern Idaho area loads as well as other loads which would be served in part by transfer over the interconnections between the Northwest and Idaho.

System Requirements - Southern Idaho

Currently, the BPA transmission requirements into southern Idaho are met by wheeling over the Idaho Power Company (IPC) system. The major interconnection point for BPA to deliver power into IPC is at LaGrande on the 230-kV line from McNary to Brownlee. The scheduling capacity over this path is limited to 300 MW. Other lower-voltage facilities provide an additional 50 MW for a total of 350 MW scheduling capacity in either direction.

BPA customers in southern Idaho are listed below. BPA loads in southern Idaho are characterized by a composite summer peak. Irrigation loads contribute largely to the higher demands in the summer. These occur primarily in the months of May through September. It is expected that irrigation loads will continue to increase in the future due to the conversion of gravity flow irrigation to the use of pressurized sprinkler systems. Air conditioning load comprises a small percentage of the total load served by BPA in the area.

BPA Customers in Southern Idaho

<u>Municipalities</u>	<u>Cooperatives</u>	<u>Others</u>
Albion	East End Electric Co.	U.S. Bureau of Reclamation
Burley	Fall River Electric Co.	
Declo	Farmers Electric Co.	
Heyburn	Lost River Electric Co-op	
Idaho Falls	Lower Valley P&L	
Minidoka	Prairie Power Co-op	
Rupert	Raft River Electric Co-op	
	Riverside Electric Co.	
	Rural Electric Co.	
	Salmon River Co-op	
	South Side Electric	
	Unity Light & Power	
	Wells Electric Co-op	

The southern Idaho area is a rapidly growing region. It is expected there will be an increase in the number of residences using electric space heating. This will add to the winter load demands. There are also potential recreational loads in the area, such as ski resorts and summer homes. Since the area is rich in minerals, it is expected there may be significant mining loads in the future.

BPA also serves a small amount of industrial loads in southern Idaho, of which potato processing plants are typical.

Possible BPA power transfers to Idaho during summer and winter conditions for the period 1980 through 1986 are shown below. BPA loads shown for southern Idaho are representative of August and January peak loads. Some of the southern Idaho loads will be served by Federal hydro generation in that area. The deficit will be made up by the transfer of power from BPA's main system to the Idaho Power Company at the LaGrande interconnection up to the limits of that interconnection and the lower-voltage facilities previously referred to. IPC would then wheel the power to BPA's southern Idaho loads.

BPA Transfers to Idaho (Summer)
 (in Megawatts)

	1979	1980	1981	1982	1983	1984	1985
BPA loads in southern Idaho (Note 1)	416	441	468	494	527	571	625
Federal generation in Southern Idaho (Note 2)	93	93	93	93	93	93	93
Deficiency in southern Idaho	323	348	375	401	434	478	523
Transfers to Harney (Note 3)	---	---	34	35	37	39	41
Transfer to IPC from Boardman (Note 4)	---	---	290	290	290	290	290
Net transfer to Idaho	323	348	699	726	761	807	863
BPA scheduling capacity to Idaho (Note 5)	350	350	350	350	350	350	350
BPA additional capacity requirements	---	---	349	376	411	457	513

- Notes:
1. 1979 BPA load estimates (summer peak loads)
 2. Generation is 93 MW under critical hydro conditions & 181 MW for average hydro.
 3. Transfer made through IPC and Sierra Pacific Systems.
 4. Requirement indicated in IPC Long-Range System Plans (1977-1987) dated 6/77.
 5. Scheduling capacity includes 300 MW in the existing McNary-Brownlee 230-kV line and 50 MW in the Harney/Hines interconnection.

BPA Transfers to Idaho (Summer)
 (in Megawatts)

	1980	1981	1982	1983	1984	1985	1986
BPA loads in southern Idaho (Note 1)	339	368	395	425	458	493	533
Federal generation in southern Idaho (Note 2)	43	43	43	43	43	43	43
Deficiency in southern Idaho	296	325	352	382	415	450	490
Transfers to Harney (Note 3)	---	---	4.5	4.7	4.9	5.1	5.3
Transfer to IPC from Boardman (Note 4)	---	---	---	---	---	---	---
Net Transfer to Idaho	296	325	357	387	420	455	495
BPA scheduling capacity to Idaho (Note 5)	350	350	350	350	350	350	350
BPA additional capacity Requirements	---	---	7	37	70	105	145

- Notes:
1. 1979 BPA load estimates (summer peak loads).
 2. Generation is 43 MW under critical hydro conditions and 84 MW for average hydro.
 3. Transfer made through IPC and Sierra Pacific Systems.
 4. Assumes IPC takes all of the energy in the summer.
 5. Scheduling capacity includes 300 MW in the existing McNary-Brownlee 230-kV line and 50 MW in the Harney/Hines interconnection.

Beginning in 1981 the transfer of Boardman power to IPC and the transfer of power through IPC and Sierra Pacific systems to serve BPA's Harney area loads will add to the total transfer requirements to Idaho. Maximum power transfer will occur in the summer since both the southern Idaho and Harney area are summer peaking. Furthermore, it is planned that IPC would take all of the energy from its share of the Boardman Coal Plant during the summer months.

The 500 MW Boardman Coal Plant, under construction by Portland General Electric Company (PGE) is jointly owned by PGE (80 percent), IPC (10 percent), and Pacific Northwest Generating Company (PNGC) (10 percent). PNGC is a consortium of rural cooperatives located in Oregon. The plant, located near Boardman, Oregon, is expected to be on line in March, 1980.

PGE's share of the power from the Boardman plant will be scheduled to the company's load area over the Slatt-Marion line which is a part of the Ashe-Willamette Valley project, a FY 1975 Budget Item on which an EIS has been written.

Idaho Power Company plans to have its annual share of the energy delivered during the five summer months. BPA may have to provide the firm capacity of 290 MW to wheel the power from Boardman to the system of the Idaho Power Company.

Harney Electric Cooperative, which has its system in central Oregon and northern Nevada, is a preference customer of BPA. It is connected to the BPA system by a long 115-kV line from Redmond, Oregon. The northern part of the Harney load area can also be supplied through the IPC system via an interconnection in the Burns, Oregon area. Since Harney's growing loads are primarily in the southern part of its service area, BPA has arranged to provide a power source to the utility from the Winnemucca Substation of the Sierra Pacific Power Company (SPPC). Beginning in 1981, BPA will transfer power to SPPC through the IPC system for service to Harney. Maximum power transfer will occur in the summer, since this is the peak load period in southern Idaho and the Harney area.

With a scheduling capacity available to BPA of 350 MW between the Northwest and Idaho, additional transmission capacity to Idaho will be needed in the early 1980's to accommodate all of the transfers. The requirements will increase sharply with the addition of the Boardman transfer in 1981. Some accommodation in the form of exchange with east-west schedules of power may be made until such time as the proposed Brownlee-McNary 500-kV line is completed, but only on a non-firm basis. There will be no guarantee that the west-east schedules can be made in total without adequate transmission capability from the west to the east.

Indications are that the requirements are somewhat less in the winter due to the lower load demands and the assumption that IPC will not be receiving any energy from Boardman in the winter.

System Requirements - Southern Oregon

The transmission requirements into the southern Oregon service area are shown in the accompanying chart. The requirements consist of the PP&L and BPA January peak loads in the southern Oregon-northern California area reduced by the available local resources. The BPA loads in the area are served by transfers over the PP&L system since BPA has no transmission facilities in the area. The annual peak load for this area occurs during the winter and generally during the month of January. The larger loads of the area consist of service to the cities of Medford, Klamath Falls, Grants Pass, and Roseburg, and the Hanna Nickel Smelting Company at Hanna. The resources consist of small hydro plants on the North Umpqua, Rogue, and Klamath Rivers.

SOUTHERN OREGON REQUIREMENTS
 January Peak Loads

	1980	1981	1982	1983	1984	1985	1986	1987
BPA Loads <u>1/</u>	150	150	155	150	160	165	170	175
PP&L Loads <u>2/</u>	1100	1160	1220	1290	1360	1435	1515	1595
TOTAL	1250	1310	1375	1450	1520	1600	1685	1770
Peak Resources <u>3/</u>	370	370	370	370	370	370	370	370
Net Requirement	880	940	1005	1080	1150	1230	1315	1400

1/ 1978 BPA load estimates

2/ 1977 PP&L load estimates

3/ Includes PP&L and Federal area resources

Note: While the above loads have not been updated, analysis of the data in view of current trends indicates they are reasonable.

The transmission system into PP&L's southern Oregon service area currently consists of three 230-kV lines from the main grid transmission system to the north. There are two lines owned by PP&L from the Eugene area into southern Oregon via Roseburg. The other 230-kV line is from Redmond to Klamath Falls with part of the line owned by BPA and part by PP&L. There is also an interconnection with the PNW-PSW Intertie at Malin which is available for emergency conditions. However, this interconnection is of limited capacity and its use reduces the transfer capability of the Intertie to the Pacific Southwest.

The existing transmission system is inadequate to provide dependable service for the projected peak requirement of southern Oregon. With loss of one of the 230-kV lines into the area, the remaining system would not be able to serve the total peak load requirement on a reliable basis. Some loss of service could occur. In later years, when the deficit would be larger, the situation would be more severe, with more extensive brownouts or blackouts occurring. The completion of PP&L's under-construction 500-kV transmission line between Malin and Medford, currently scheduled for the end of 1979, will provide an additional transmission path for reliable service to southern Oregon. However, this will decrease the capability of the Intertie to transfer power to the Pacific Southwest until the remainder of the proposal is completed.

PP&L has recently received approval from the Public Utility Commissions in Idaho and Oregon for construction of the 500-kV Midpoint-Malin line. This line serves PP&L's needs in that it provides a transmission path for a portion of their Wyoming power to their southwest Oregon load area. Since this line connects to PP&L facilities at Malin, it will result in placing a burden on the AC Intertie system under certain operating conditions (loss of the Midpoint-Malin line during heavy Intertie loadings) which would in turn limit transactions for which the Intertie system was designed and built.

By itself the Midpoint-Malin line provides no west-to-east transfer capability since such transfers would cause additional loading of the AC Intertie, thereby reducing its transfer capability for southward schedules. Since by far the majority of Intertie transfers are to the south, reinforcement of the Intertie system is necessary to allow west-east schedules over the Malin-Midpoint line. The Buckley-Summer Lake line would provide this reinforcement.

Pacific Northwest-Pacific Southwest Intertie

The Pacific Northwest-Pacific Southwest Intertie consists of three major transmission lines:

1. Two 500-kV AC lines from John Day on the Columbia River in Oregon through California to the Los Angeles area. These lines have a scheduling capability of 2500 MW in a southward direction and 2000 MW in a northward direction.
2. One 800-kV (+400-kV) DC line rated 1440 MW with the capability of transferring full power in either direction.

These lines are used for power and energy sales and exchanges between the Pacific Northwest (PNW) and the Pacific Southwest (PSW). A large amount of surplus secondary energy has been marketed in the PSW to displace costly fossil-fuel (oil and gas) generation at great benefit to both regions. It should be emphasized that the only power and energy from Federal hydro projects which can be sold to PSW utilities is that for which there is no market in the PNW. In other words, it represents energy which would otherwise be wasted in spills at Federal hydro projects.

The Intertie has provided and will continue to provide a number of benefits to both regions. In addition to substantial savings in oil and natural gas for power generation in California, emergency transfers from California to the PNW when PNW resources were overtaxed due to extremely high load demands, together with reduced resource capability because of low water conditions, enabled the PNW to serve all firm loads. This mutual assistance is one of the more beneficial attributes of the Intertie. Another use which will become more valuable in future years is that of diversity capacity exchanges. The PNW load pattern exhibits a winter peak while the PSW has its peak load occurring in the summer. Substantial cost savings can be effected by exchanging peaking capacity, with power flowing to the region experiencing its peak load season. This would allow a reduction of peaking capacity with attendant substantial cost reductions in both regions.

System Planning Considerations

With construction of PP&L's Midpoint-Malin line, BPA's plan will consist of building a 156 mile (250 km) 500-kV line from Buckley near Maupin, Oregon, to the intersection with the Midpoint-Malin line near Summer Lake, with a switching station at this location. These facilities are being planned for a fall 1982 energization date. If the Midpoint-Malin line is delayed beyond the 1982 date, BPA would build an additional 76 miles (122 km) extending the line from Summer Lake to Malin.

Energy interchange, peak capacity interchange and peak and energy sales optimize the operation of the power system by minimizing the amount of reserve facilities each entity has to maintain for the security of its system. In all these transactions, the kilowatt-hours used in transferring the peak capacity must be returned or compensated for according to relevant contracts. During emergency outages and other unforeseen conditions, it is of great value to have strong transmission facilities for the transactions involving interchanges and load shaping.

Most of the newer thermal power plants have capacities in the order of 1000+ megawatts to take advantage of the economics associated with larger units. However, because of their size and complexity, relatively large amounts of reserve generation are required to maintain service in the event one or more of these large units is out of service due to unforeseen circumstances. With adequate interconnections these reserves can be shared and thus reduced in total.

Modern power transmission is based on the principle of integrated networks. In such a system, all generating plants are interconnected. It could be misleading to assume that any non-radial line would transmit power from a given plant to a specific load. Typically a given block of power will flow through the interconnected network, over many branches, but primarily over those of lowest impedance to power flow. These would be, in general, the higher-voltage, higher-capacity lines. A service area would receive most of its power from the nearest plant, irrespective of ownership, except under unusual circumstances.

To minimize the complexities introduced by multiple ownership, it would be appropriate to focus on the total loads and total resources in the East Group and West Group of the Pacific Northwest Utilities Conference Committee (PNUCC) region and how service to these loads is provided and coordinated.

Proposed and under-construction thermal generation additions are listed below. Hydro electric generation additions which will supply primarily peaking capability are also included. The developing load pattern which these units will serve together with the new resources themselves will have a direct influence on decisions relating to transmission system additions.

Generating Plants Proposed or Under Construction ^{1/}

A. Thermal

<u>Project</u>	<u>Capacity (MW)</u>	<u>Scheduled Operation Date</u>	
Jim Bridger #4	500	Dec.	1979
Boardman Coal	530	July	1980
WNP #2	1100	Sep.	1981
Colstrip #3	420	July	1983
WNP #1	1250	Dec.	1983
Colstrip #4	420	May	1984
WNP #3	1240	Dec.	1984
WNP #4	1250	June	1985
WNP #5	1240	June	1986
Skagit #1	1288	Sep.	1986
Pebble Springs #1	1260	March	1987
Skagit #2	1288	Sep.	1988
Pebble Springs #2	1260	Apr.	1989

B. Hydro-Electric Additions

Grand Coulee 3rd Powerplant	700	July	1979
Rock Island	51	Aug.	1979
Bonneville 2nd Powerplant	522	July	1982
High Ross	251	1983 -	1984
Libby	420	Nov.	1983
Cougar	35	Sep.	1985
Strube	4.5	Sep.	1985

^{1/} From the Long-Range Projection of Power Loads and Resources for
 for Thermal Planning (Blue Book) dated April, 1979.

The facilities proposed by BPA are compatible with BPA's concept of multipurpose transmission lines to improve the flexibility, reliability, and strength of the Northwest Power Grid with a minimum of environmental and economic effects. While both lines in BPA's proposal will be required, the timing of the Brownlee-McNary line will be dependent upon the ability of PP&L to meet the scheduled in-service date of the Midpoint-Malin line and the timing of system reinforcements in Idaho. The inability to upgrade the IPC facilities by 1981 requires the construction of the Midpoint-Malin line to move east-west energy in the require time frame, and the addition of the Buckley-Summer Lake line to allow west-east transfers over the Midpoint-Malin line on a firm basis.

PROPOSED PLAN OF SERVICE

If PP&L's Midpoint-Malin line is completed as scheduled, BPA would construct a line from Buckley to where PP&L's line meets the Intertie. At this point near Summer Lake, BPA will construct a substation with facilities similar to Buckley. This station will be required to integrate the Midpoint-Malin line with the Buckley-Summer Lake line which will in turn provide backup for southwest Oregon loads. BPA's line would be about 76 miles (122 km) shorter under this option (156 miles (250 km) long) since PP&L's Summer Lake-Malin segment will already have been constructed. If PP&L's Midpoint-Malin line is delayed beyond 1982, BPA would construct the full 232 miles (371 km) of line between Buckley and Malin. Overall environmental impacts would be the same under either option.

PP&L has recently received approval from the Public Utility Commissions in Idaho and in Oregon for construction of the Midpoint-Malin line. In addition, Idaho Power Company has delayed its transmission system expansion program indicating a need for the Midpoint-Malin line in addition to the proposed BPA facilities. Approval across BLM land is still pending subject to agreement between PP&L and BPA. This agreement is necessary in order to protect the Federal power marketing interests in the Pacific Northwest.

The proposed Buckley Substation near Maupin is located at the crossing of the Ashe-Slatt-Marion lines and the AC lines of the Pacific Northwest-Pacific Southwest Intertie. The proposed Summer Lake Substation near Summer Lake, Oregon, is located approximately 76 (122 km) miles north of Malin, where PP&L's Midpoint-Malin line meets the Intertie. Both substations will contain terminal facilities such as power circuit breakers and shunt reactors. Figure 1 shows the various plans of service considered for the Brownlee-McNary and Buckley-Malin lines as well as PP&L's proposed Midpoint-Malin line.

The Buckley-Summer Lake-Malin line will parallel the existing AC Intertie lines. The Buckley-Summer Lake section may have series compensation in the future, in which case it will be located at existing compensation stations. The Buckley-Summer Lake line, in conjunction with the Midpoint-Summer Lake-Malin line, will increase the west-to-east transmission capability between the Northwest and Idaho. On an interim basis, BPA could serve its southern Idaho loads and the added Harney Electric Cooperative loads through

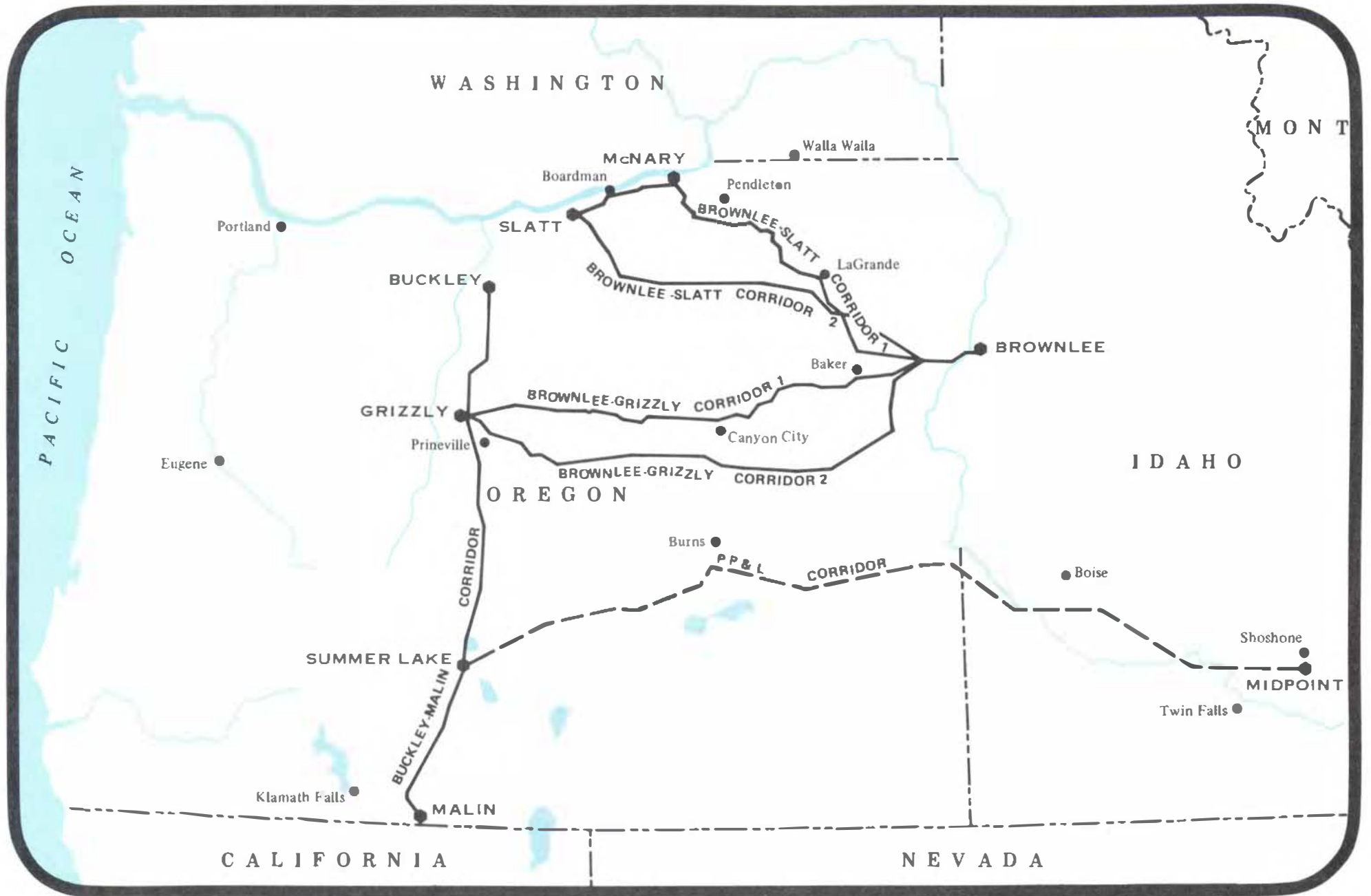


FIGURE 1
 KEY MAP
 BROWNLEE-SLATT/BROWNLEE-GRIZZLY/BUCKLEY-MALIN
 79-5



the mid 1980's over this path thus delaying the immediate need for the Brownlee-McNary line.

The Buckley-Summer Lake line will reduce system losses substantially (49 MW in summer and 9 MW in winter). The loss reduction on the BPA system represents an annual saving valued at \$1,340,000 and is equivalent to a saving of 170,000 barrels of oil per year.

The Buckley-Summer Lake line will reduce the incidence of curtailment of Intertie loading by providing backup to the existing Intertie as well as backup for service to loads in southwestern Oregon.

The Brownlee-McNary line is now being planned as a future budget item with a tentative energization date of 1985. The McNary-Slatt line will be deferred until required to integrate additional generation at McNary.

ALTERNATIVE PLANS OF SERVICE

The first four alternatives include essentially two basic plans of service that will meet system requirements while supplying power to southwest Oregon. These corridor options (Figs. 2 and 3) for the westward lines from Brownlee are compared for electrical performance, environmental impacts, and relative costs. The Buckley-Malin segment is common in the first four alternatives. Any of these alternatives as well as the proposed plan would require additional facilities between McNary and Slatt Substations when the second powerhouse at McNary is integrated. A likely method of incorporating the second powerhouse at McNary would be to replace one of the existing 230-kV lines between McNary and Slatt with a double circuit 500-kV line.

ALTERNATIVES CONSIDERED

PLAN A - OPTION 1

This plan of service is a modification of Plan A, Option 1 described as BPA's proposal in the Draft Facility Planning Supplement. It consists of a 500-kV line from Idaho Power Company's Brownlee Substation in Idaho to BPA's McNary Substation in Oregon and a 500-kV line from Buckley (near Maupin, Oregon) to Malin, Oregon. The timing of the Brownlee-McNary line will be coordinated with Idaho Power Company's plans to upgrade the company's lines east of the company's Brownlee Substation. Detailed system studies show that existing lines between McNary and Slatt have sufficient capacity to handle transmission requirements between Brownlee and the BPA system. Consequently, new construction from McNary to Slatt is not necessary at this time. A McNary-Slatt line will be required when the second powerhouse at McNary is constructed regardless of the plan selected for this project.

This plan includes a transformer bank at Brownlee and terminal facilities such as power circuit breakers and reactors at Brownlee, McNary, Buckley, and Malin. There is also the possible need for future series compensation stations in these lines.

Brownlee-Slatt/Buckley-Malin
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Brownlee Substation is connected to the hydroelectric generation on the Middle Snake River and also to the coal-fired thermal generation in Wyoming through Idaho Power Company's transmission system. BPA has a major substation at McNary. Power received at McNary would be transmitted to load through the interconnected transmission system. Some of this power would go to Slatt and then to Buckley for further transfer to load centers via Buckley-Marion and Buckley-Malin lines.

The proposed Buckley Substation near Maupin is located at the crossing of the Ashe-Slatt-Marion lines and the Pacific Northwest-Pacific Southwest Intertie. The Buckley-Malin line will provide another source of power to southwest Oregon with a minimum of new line construction.

The Brownlee-McNary line will be approximately 163 miles (261 km) long. The distance from Buckley to Malin is 232 miles (371 km).

These lines will follow existing corridors. It is possible that the Idaho Power Company will assume ownership of the line between Brownlee Dam and LaGrande, Oregon.

PLAN A - OPTION 2

Brownlee-Slatt Corridor No. 2

Brownlee-Slatt Corridor 2 provides an alternative location for the proposed plan of service. This 186 mile (298 km) corridor location can be used to transfer power from Brownlee Substation to Slatt Substation. The disadvantage of this alternative is that 166 miles (266 km) of new corridor are required and it requires additional transmission facilities to integrate power from the proposed second powerhouse at McNary. This alternative corridor would require an entirely new right-of-way except for the initial 20 miles (32 km) which would parallel IPC's 230-kV line. The new corridor then deviates northwest along the foothills of the Wallowa Mountains and crosses the upper Powder River Valley. Heading west, it crosses the Blue Mountains south of LaGrande, continues to a point south of Heppner, and turns northwest toward Slatt Substation. From the Slatt Substation, power transfer to southwestern Oregon would be accomplished by utilizing existing lines to the Buckley Substation and then transferring power over the Buckley-Malin line.

PLAN B - OPTION 1

Brownlee-Grizzly Corridor No. 1

The Brownlee-Grizzly plan of service involves construction of a 216-mile (346 km) 500-kV single-circuit transmission line from Brownlee Substation to Grizzly Substation. This plan is not as effective as Plan A for the transfer of power from west to east and power losses would be higher.

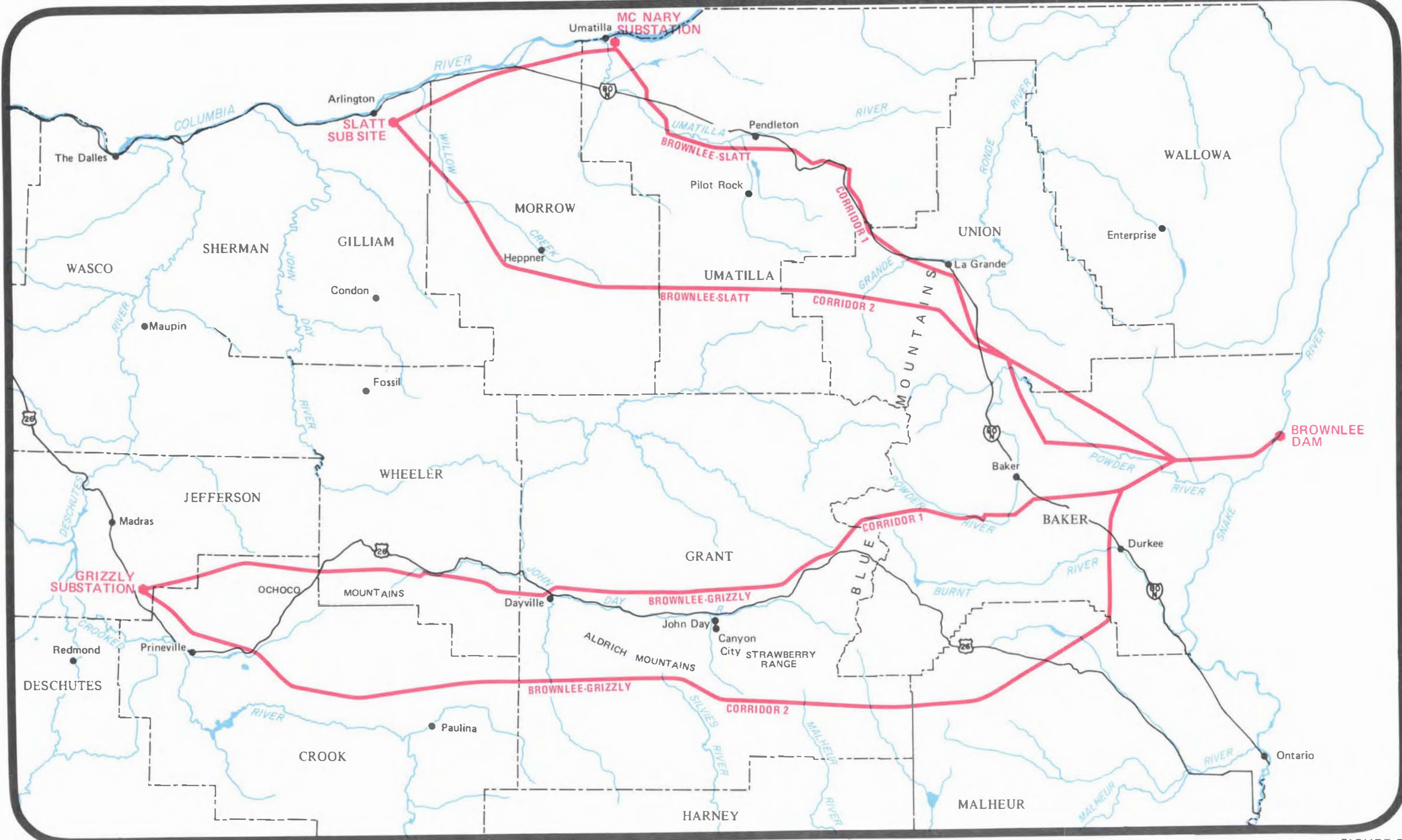


FIGURE 2
 PLANNING STUDY AREA
 BROWNLEE-SLATT/BROWNLEE-GRIZZLY
 79-5



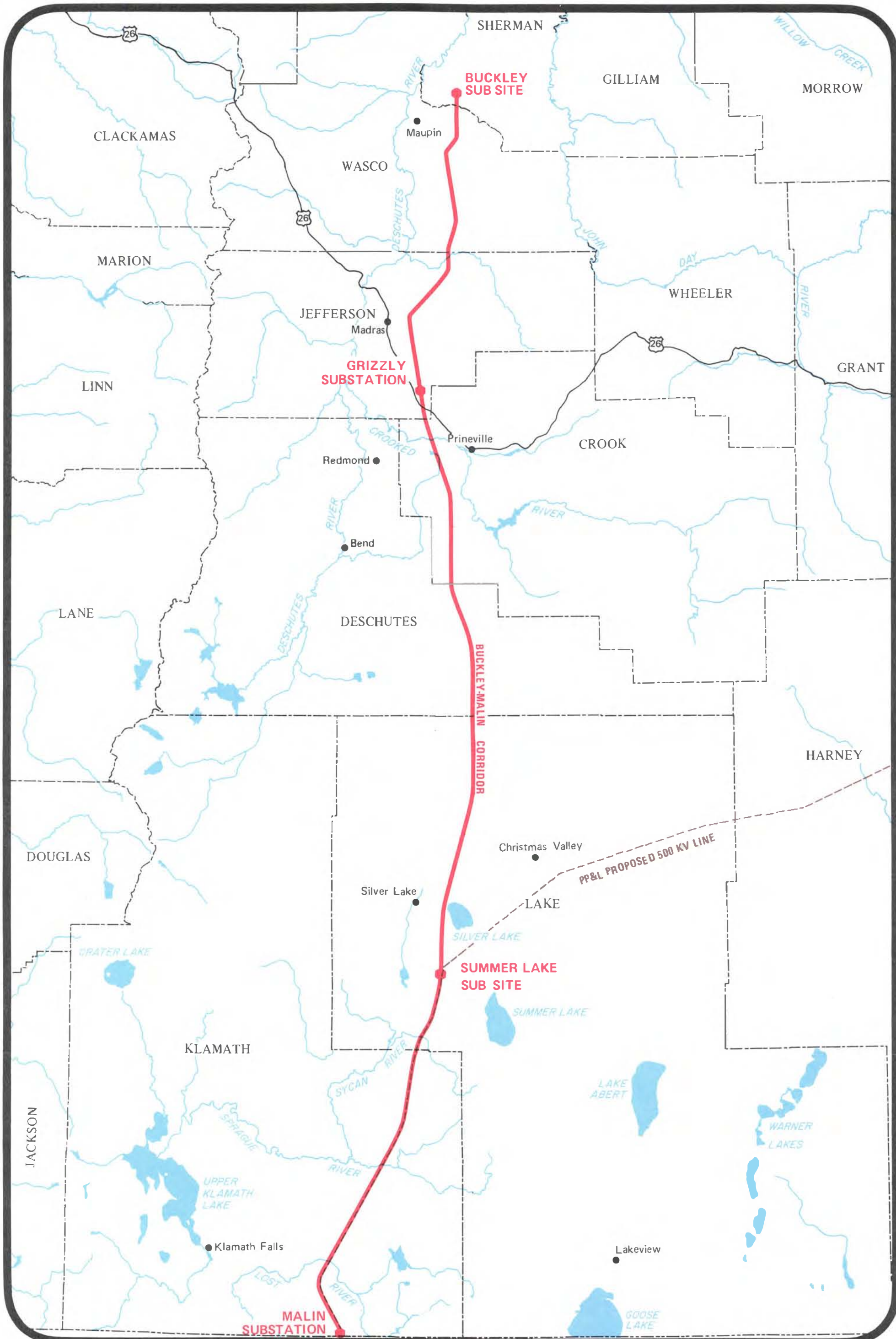


FIGURE 3
 PLANNING STUDY AREA
 BUCKLEY-MALIN
 79-5



Terminal facilities would be required at Grizzly as well as a transformer at Brownlee. From Brownlee Dam to the Powder River, the Brownlee-Grizzly Corridor 1 would parallel an IPC 230-kV line. Near the Powder River this alternative turns southwest on new right-of-way until it intercepts an IPC H-frame 138-kV line. This IPC line could be paralleled to a point near John Day. Here the new transmission corridor would traverse the north slopes of the John Day Valley, crossing to the south side of the valley near Dayville. Continuing west, the corridor passes through the Ochoco Mountains, then proceeds south of Mitchell and north of Prineville to the Grizzly Substation. From Grizzly Substation power would flow over the existing John Day-Grizzly line and the new Buckley-Malin line to southwestern Oregon. As with the Brownlee-McNary plan of service, the Buckley-Malin and the PP&L Malin-Medford lines would both be integral parts of this plan.

The disadvantage of this alternative is that existing facilities are paralleled for only a small portion of its length and it requires additional transmission facilities to integrate power from the proposed second powerhouse at McNary.

PLAN B - OPTION 2

Brownlee-Grizzly Corridor 2

An alternative corridor location for the Brownlee-Grizzly plan option involves a 235-mile (376 km) 500-kV single-circuit line from Brownlee to Grizzly via a route south of the John Day Valley. From Brownlee Dam this corridor would parallel IPC's 230-kV line to the Powder River Basin. The alternative would then turn south on new right-of-way crossing I-80N north of Durkee. It continues southwest past Pedro Mountain, then turns west traversing the southern foothills of the Strawberry, Aldrich, and Ochoco Mountains. The corridor passes north of Prineville to the Grizzly Substation where it would transfer power to southwestern Oregon in the same manner as the previous Brownlee-Grizzly plan.

The disadvantage of this alternative is that existing facilities are paralleled for even a lesser portion of its length than Option 1, and it requires additional transmission facilities to integrate power from the proposed second powerhouse at McNary.

NO ACTION

If none of the facilities described in this Facility Planning Supplement are constructed, the electric utilities in the affected areas, primarily PP&L and BPA, will not be able to supply their load adequately. The local power deficits indicated under "System Requirements" may result in brownouts or blackouts under certain system outage conditions. The lack of sufficient transmission capacity to deliver power to these areas will prevent BPA from meeting some of its contractual commitments. BPA would be unable to serve its southern Idaho loads without purchase of power either within or adjacent to that region. No such power source (surplus to other utilities' needs) appears to be available.

Brownlee-Slatt/Buckley-Malin
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PP&L will not be able to serve its southern Oregon loads reliably. The firm power transmission capacity presently available to supply southern Oregon is inadequate. If one of the three existing 230-kV lines is out for maintenance or repair, there is a constant danger of loss of electrical service to southern Oregon. Since there is already insufficient generation in the area, it is not possible to purchase locally generated power at any cost.

Assuming that the Midpoint-Malin-Medford line is constructed as seems likely, the southern Oregon loads will be served adequately as long as the line is interconnected at Malin. However, because of this interconnection, an outage of the Midpoint-Malin section would result in a reduction of Intertie transfer capacity, since the Intertie would then be used to serve southern Oregon loads. This would have to be resolved with the Intertie's participants. At the least, some reparation to these entities would have to be made by PP&L if curtailment of Intertie transactions were to occur. Construction of the Buckley-Summer Lake line would maintain Intertie transfer capability while providing backup to southern Oregon service as well as providing for future service to BPA central Oregon loads.

PLAN OF SERVICE DECISION

Assuming that PP&L's Midpoint-Malin line will be constructed by 1981 as planned, BPA proposes to build a line from Buckley to Summer Lake and there to interconnect with PP&L's line. The Buckley-Summer Lake line and related facilities will be coordinated with PP&L's proposed facilities. This plan satisfies the normal decision factors of economics, system planning considerations, minimizing environmental impacts, and is in accordance with established BPA policies. If the PP&L line should be delayed beyond 1982, BPA will extend its Buckley-Summer Lake line all the way to Malin.

Since Idaho Power Company has delayed plans to upgrade its facilities between Midpoint and Brownlee, BPA has deferred the Brownlee-McNary line to 1985.

DESCRIPTION OF THE ENVIRONMENT

PLANNING STUDY AREA

The planning study area for this project is divided into a Brownlee-Slatt/Brownlee-Grizzly corridor study area (Fig. 2) and a Buckley-Malin corridor study area (Fig. 3). Each corridor study area encompasses all resources of significance which could influence the planning and location of proposed transmission facilities.

GEOGRAPHY

The planning study area contains parts of 14 central and eastern Oregon counties. Towns in the northeastern portion of the study area, including Arlington, Pendleton, LaGrande, and Baker are connected by Interstate 80N; U.S. Highway 26 links Madras, Prineville, and John Day in the central section.

Topography varies from the rugged Blue Mountains to the relatively flat plateaus and plains south of the Columbia River. Basin and range country is typical in southern Oregon. Elevations range from about 300 feet (90 m) above sea level along the Columbia River to over 9300 feet (2835 m) in the Strawberry Range. Other significant physical features include Silver Lake, and the Snake, John Day, Grande Ronde, and Crooked Rivers.

Sagebrush, juniper, and some pine and fir forests constitute most of the vegetation in the study area. Primary land uses as depicted on figures 4 and 5, include irrigated and dryland farming in the northern plateaus and in river valleys; timber production and recreation in mountainous regions; and livestock grazing on open range. The Forest Service and the Bureau of Land Management administer large tracts of Federal land. The U.S. Fish and Wildlife Service and several state agencies also manage land in the study area. Tribes of the Umatilla Indian Reservation own land east of Pendleton. Land ownership for the study area is shown on figures 6 and 7.

CLIMATE

The climate of the planning study area is influenced by the Cascade mountains which reduce the moderating effects of the warm, moist, Pacific air masses. The resulting climate east of the Cascades is more continental, with less precipitation and greater temperature variation.

Temperatures vary with elevation more than with latitude, particularly in summer. Table 1 shows mean temperatures for selected stations; extremes have ranged from a high of 115°F (46°C) at Arlington to a low of -34°F (-37°C) at LaGrande. Areas at higher elevations have correspondingly lower temperatures.

Precipitation amounts generally are low. Most rain falls during the winter months, but a secondary maximum occurs in May. Normally, higher elevations receive greater precipitation; up to 50 inches (127 cm) annually in the Blue mountains.

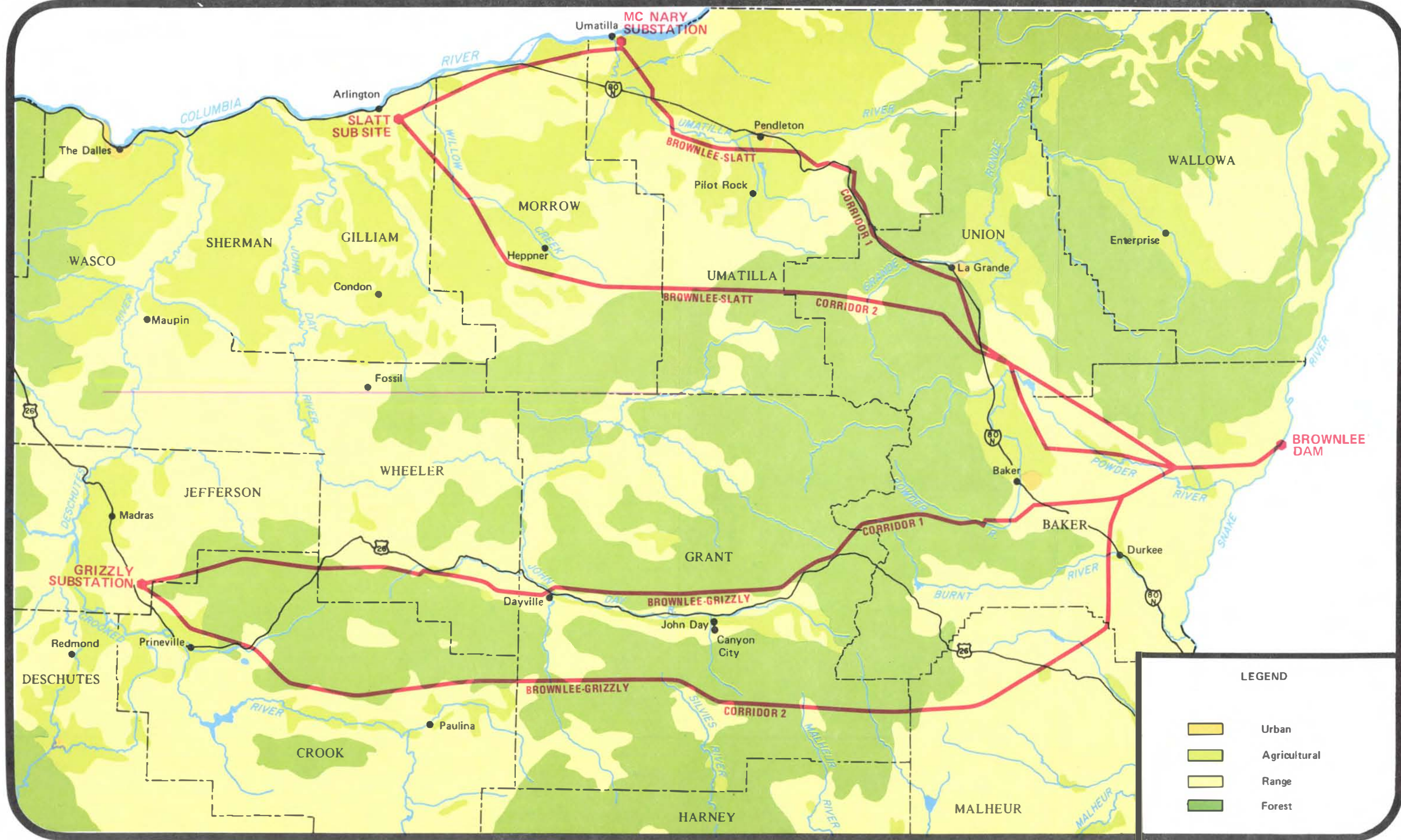
Brownlee-Slatt/Buckley-Malin
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Table 1 - Representative Climatological Data

Characteristic	Arlington	LaGrande	Grizzly
<u>Elevation</u>	350' (107 m)	2700' (823 m)	3600' (1097 m)
Average Max/Min Jan. Temp.	39/25°F (4/-4°C)	38/23°F (3/-5°C)	38/20°F (3/-7°C)
Average Max/Min July Temp.	91/61°F (51/34°C)	87/54°F (48/30°C)	82/44°F (46/24°C)
Average Jan. Precipitation	1.44 in. (3.7 cm)	1.99 in. (5.1 cm)	1.60 in. (4.1 cm)
Average July Precipitation	.14 in. (0.4 cm)	.53 in. (1.4 cm)	.40 in. (1.1 cm)
Average Annual Precipitation	9.04 in. (23.0 cm)	20.33 in. (51.7 cm)	13.85 in. (35.2 cm)
Average Annual Snowfall	10.7 in. (27.2 cm)	34.6 in. (87.9 cm)	30.9 in. (78.5 cm)
Latest Spring/Earliest Fall Freeze	4/22 - 10/21	5/11 - 9/30	6/18 - 8/09

Sources: Meteorology Committee, PNWRBC 1969. Climatological Handbook,
 Volumes I & II

Stones, Gilbert L. 1967. Climate of the States: Oregon. U.S. Dept.
 of Commerce, Environmental Data Service



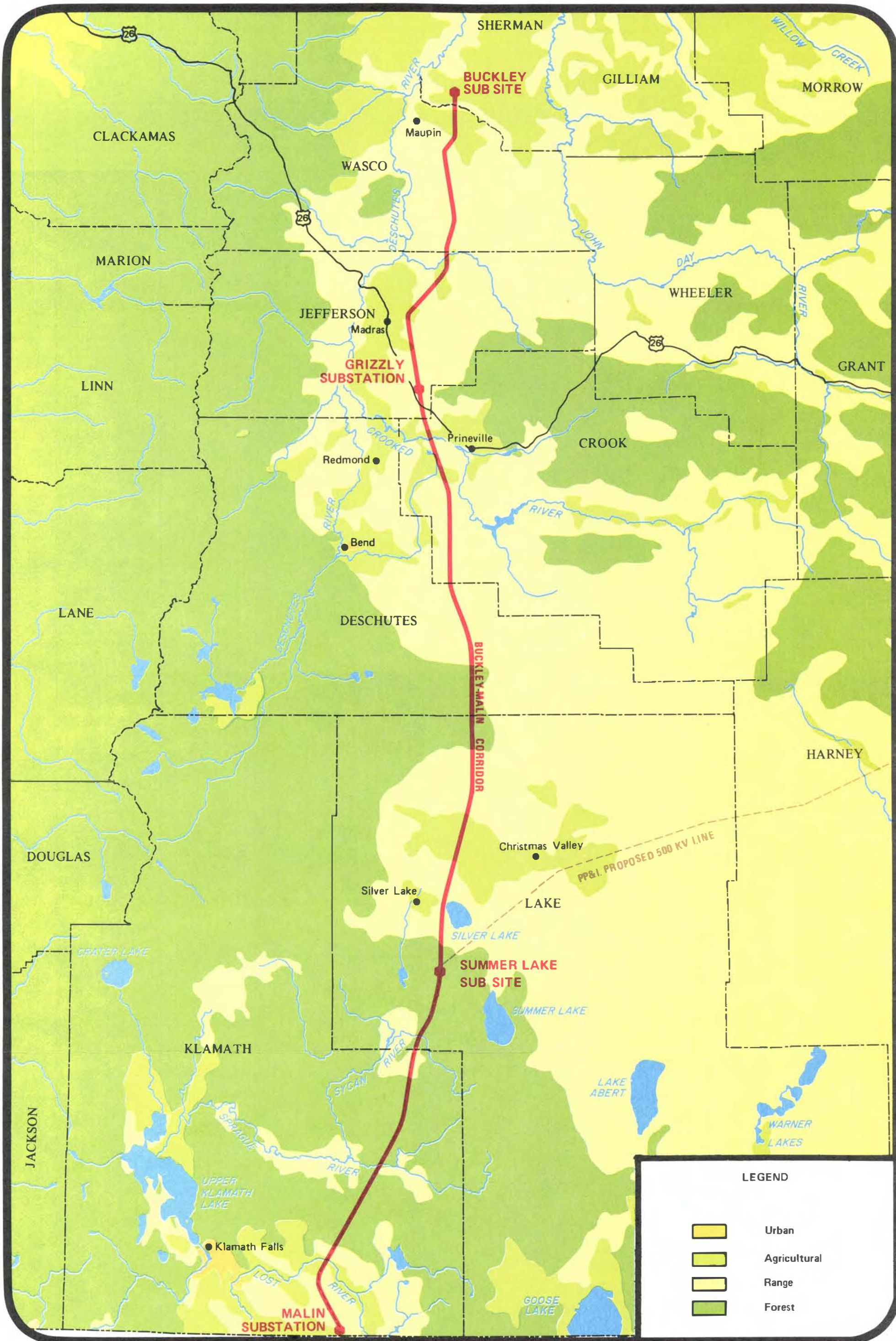
LEGEND

- Urban
- Agricultural
- Range
- Forest



FIGURE 4
 LAND USE MAP
 BROWNLEE-SLATT/BROWNLEE-GRIZZLY
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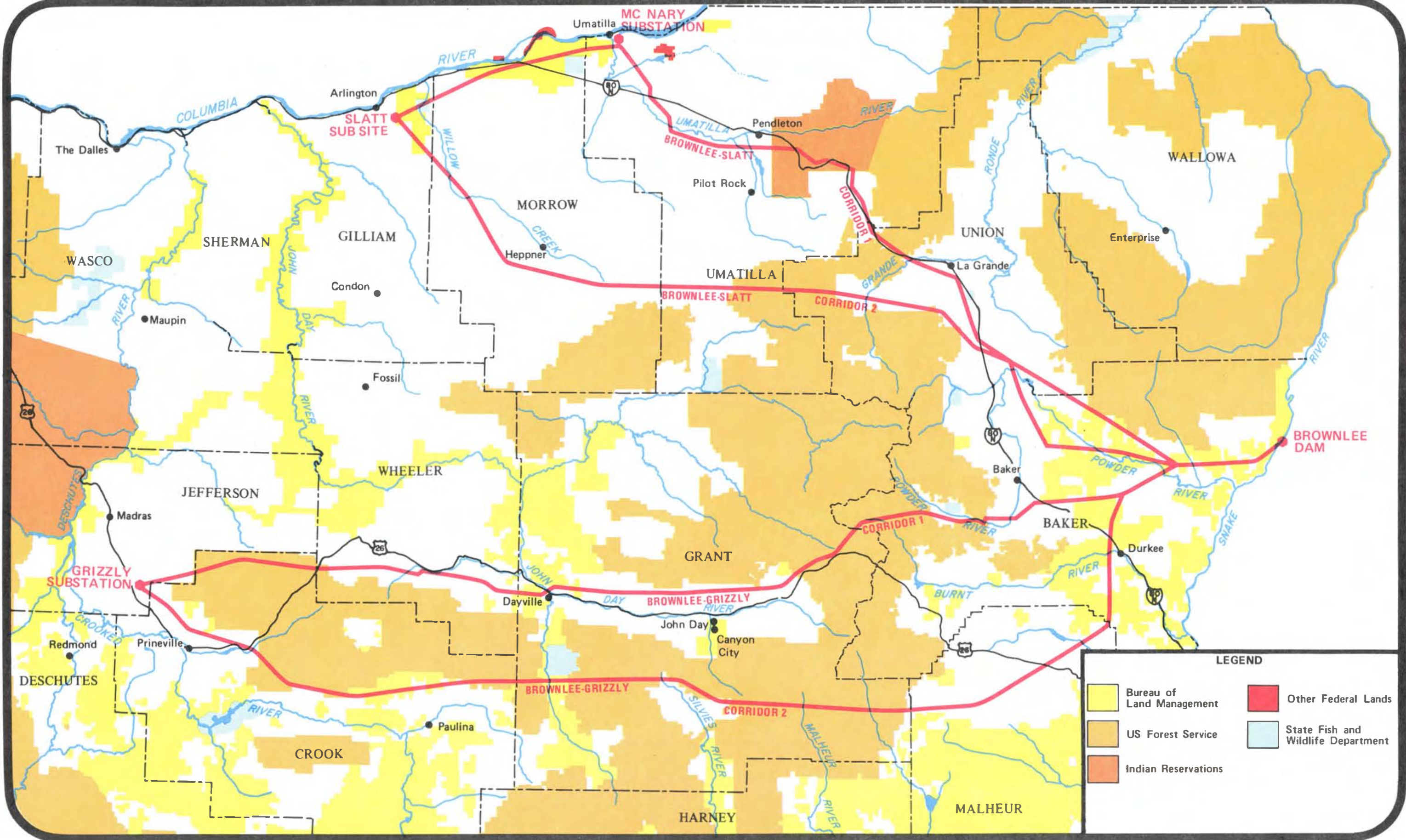
LEGEND

	Urban
	Agricultural
	Range
	Forest



FIGURE 5
LAND USE MAP
BUCKLEY-MALIN
79-5





LEGEND






 Bureau of Land Management	 Other Federal Lands
 US Forest Service	 State Fish and Wildlife Department
 Indian Reservations	

FIGURE 6
LAND OWNERSHIP
BROWNLEE-SLATT/BROWNLEE-GRIZZLY
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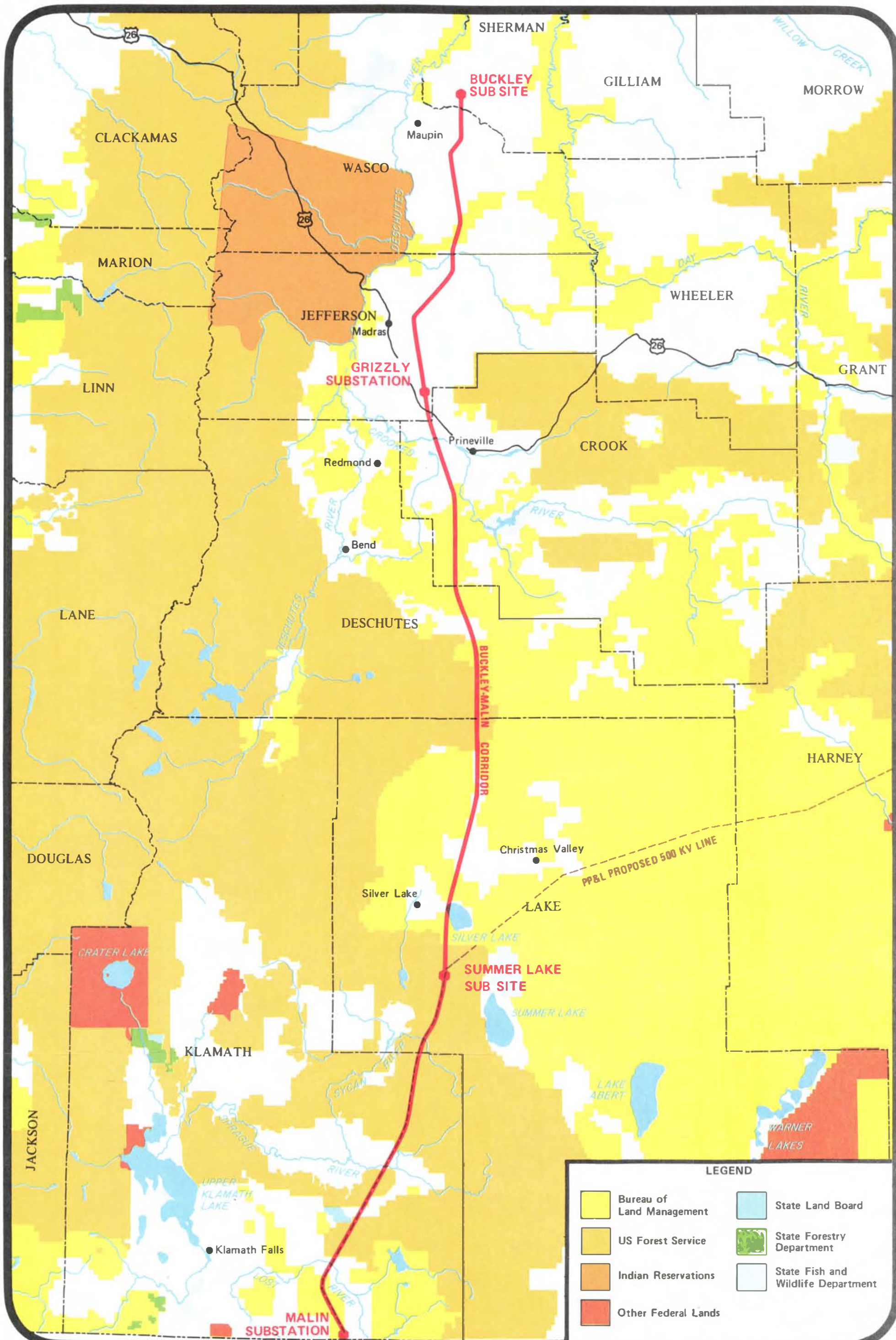


FIGURE 7
LAND OWNERSHIP
BUCKLEY-MALIN
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Snowfall extremes have varied from a maximum of 80 inches (203 cm) a year at LaGrande, to a minimum of 5 inches (13 cm) at Grizzly and a trace at Arlington. At higher elevations in the Blue Mountains annual snowfall is between 150 and 300 inches (380-760 cm).

The area experiences thunderstorms primarily in late spring and summer. These storms occur most frequently in mountainous areas.

The mountains also are where most of the severe icing conditions occur. Structural design changes are necessary when heavy icing loads (buildups of solid radial ice around wires) are anticipated. Most of the study area has the potential for experiencing heavy ice loading at least once every 25 years. Areas with the highest potential are the Blue, Aldrich, and Ochoco mountains and a section of the study area around Silver Lake.

Winds of damaging force, another structural design factor, rarely occur in the study area.

NATURAL RESOURCES

The following sections describe natural resources present, their geographic location, and distribution within the planning study area. Man's use of natural resources will be presented under the section, "Resource Use and Socioeconomic Resources".

ATMOSPHERE

Air quality throughout the facility planning area is generally quite good. Umatilla, Pendleton, LaGrande, and Baker are the major year-round point sources of urban air pollution in eastern Oregon. The Dalles, Bend, and Klamath Falls constitute major sources of urban air pollution in central Oregon. Several mineral and wood-processing operations are scattered throughout central and eastern Oregon. Pollutants from these sources are normally quite localized. The most conspicuous area sources of particulate matter are field/slash burning, agricultural activities, unpaved roads, dry lake beds, and soil dust from barren fields.

Eastern and central Oregon are under the jurisdiction of the State Department of Environmental Quality (DEQ) which has established monitoring stations at Baker, LaGrande, Pendleton, The Dalles, Bend and Klamath Falls.

GEOLOGY, SOILS AND MINERALS

The project study areas encompass four physiographic provinces. These include the Deschutes-Umatilla portion of the Columbia Plateau, the Blue Mountains, the High Lava Plain, and the Basin and Range Provinces. Because of the complex nature of the Blue Mountains which have undergone faulting, regional uplift, and glacial modification, the study areas were divided into landforms for purposes of discussion. Figures 8 and 9 identify and locate each landform. General topographic, geologic, soil, and physical descriptions of

each landform are summarized in Table 2. Several mining districts are located throughout the study area. In the past they have produced gold, silver, copper, chromium, cobalt, and mercury. Most of these districts are located in the Blue Mountains northeast of Baker or in the Strawberry Mountains southeast of Canyon City. Other districts are in the Southern Foothills and Valley landforms south of Baker and in the Forested Moderately Rugged Blue Mountains northeast of Prineville.

Seismic activity in the study area has been low. Epicenters near Pendleton, LaGrande, and Baker have produced earthquakes with magnitudes less than 3.7 on the Richter Scale. A few earthquakes with magnitudes up to 5.0 have occurred near Walla Walla and Klamath Falls. If an earthquake having a magnitude of 5.0 on the Richter Scale occurred, shock waves with intensities up to VI on the Modified Mercalli Scale^{1/} could occur in the vicinities of Umatilla/Pendleton and Klamath Falls. Elsewhere in the study area an earthquake of such magnitude could produce shock waves with intensities up to IV on the Modified Mercalli Scale. Earthquakes of this intensity normally have no effect on transmission lines or towers.

HYDROLOGY

Parts of ten major drainage basins are within the study area. They are the Snake, Grande Ronde, Umatilla, Powder, John Day, Malheur, Malheur Lake, Deschutes, Goose and Summer Lakes, and Klamath basins.

Generally, peak stream flows occur during the spring. Runoff is mostly from snowmelt. Regional hydrographs indicate a typical variation of 40 percent to 50 percent between maximum and minimum mean annual flows. The majority of streams drain into the Columbia River system. However, the Malheur Lake and Goose and Summer Lakes are closed basins with internal drainage. The Klamath Basin drains south and west to the Pacific Ocean. Table 2 in the Geology/Soils section indicates drainage patterns.

^{1/} Qualitative description of earthquake intensity on the Modified Mercalli Scale:

IV. During the day felt indoors by many, outdoors by few. At night some awaken. Rattles dishes, windows, doors, walls; makes cracking sounds. Sensation like heavy truck striking building; standing motor cars rock noticeably.

VI. Felt by all. Some heavy furniture moves; a few instances of falling plaster or damaged chimneys. Damage slight.

Table 2 - Physical Descriptions of Landforms

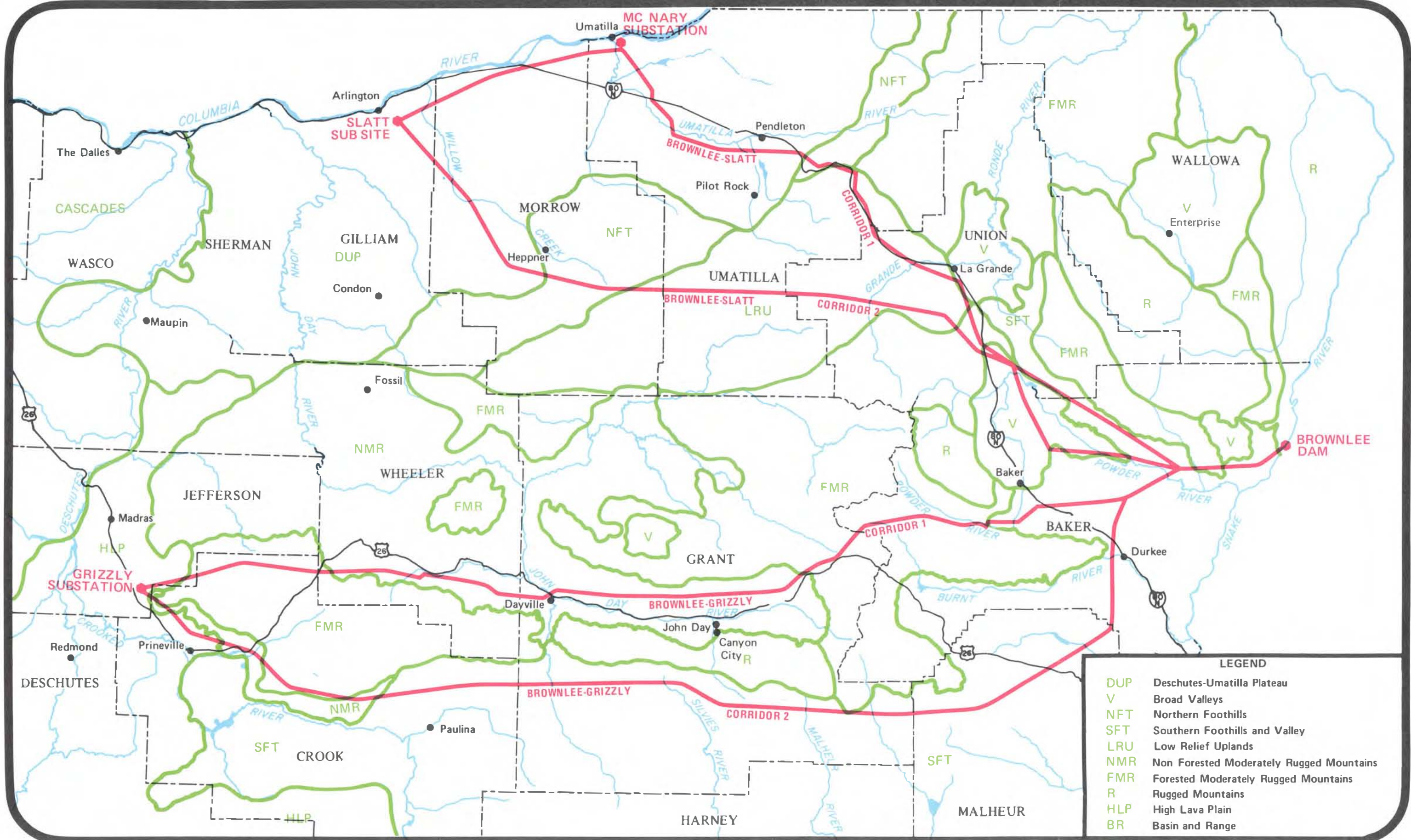
Landform	TOPOGRAPHY		CLIMATE	GEOLOGY	SOIL	DRAINAGE	LOCATION FACTORS
	Elevation Range Ft.	Slope Range %	Average Annual Precipitation In.	Generalized Groups	Texture	Patterns Stream Basins	Restrictions Hazards
Deschutes Umatilla Plateau	300 (92m) to 4,000 (1220m)	0 to 15	Less Than 12 (30cm)	Unconsolidated Deposits Tuffaceous Rocks Extrusive Igneous Rocks	Coarse Sand Sandy Loam Silt Loam	Major Rivers Intrenched Dendritic Umatilla River Columbia Rivers	Locally High Wind Erosion Potential Low Water Erosion Potential
Broad Valleys	2,700 (823m) to 3,500 (1067m)	0 to 8	12 to 24 (30 to 60cm)	Unconsolidated Deposits Tuffaceous Rocks Extrusive Igneous Rocks Intrusive Igneous Rocks Localized Metamorphism	Gravelly Loam Fine Sandy Loam Silt Loam Clay	Dendritic Powder River Grande Ronde River	Low Water Erosion Potential
Northern Foothills	2,400 (732m) to 5,400 (1646m)	10 to 45 Dominate 15	Less Than 12 to 24 (30 to 60cm)	Extrusive Igneous Rocks	Silty Clay Loam Locally Stony	Dendritic Willow Creek John Day River Umatilla River	Low to Moderate Water Erosion Potential Moderate Road Construction Required
Southern Foothills and Valleys	3,000 (915m) to 7,100 (2164m)	0 to 45 Dominate 20	Less Than 12 to 24 (30 to 60cm)	Unconsolidated Deposits Tuffaceous Rocks Sedimentary Rocks Extrusive Igneous Rocks Intrusive Igneous Rocks Metamorphic Rocks	Loam Silt Loam Clay Loam Clay All Locally Stony	Dendritic to Parallel John Day River Crooked River Malheur Basin	Low to Moderate Required Water Erosion Potential Local Unstable Areas Local Revegetation Problems Moderate Road Construction Required
Low Relief Uplands	3,500 (1067m) to 5,500 (1676m)	0 to 30 Dominate 10	12 to 24 (30 to 60cm)	Unconsolidated Deposits Extrusive Igneous Rocks	Silt Loam Clay Loam Both Locally Stony	Dendritic John Day River Grande Ronde River	Low to Moderate Water Erosion Potential Minimal Road Construction Required



Table 2 - Physical Descriptions of Landforms

Landform	TOPOGRAPHY		CLIMATE	GEOLOGY	SOIL	DRAINAGE	LOCATION FACTORS
	Elevation Range Ft.	Slope Range %	Average Annual Precipitation In.	Generalized Groups	Texture	Patterns Stream Basins	Restrictions Hazards
Non-forested Moderately Rugged Mountains	2,000 (610m) to 5,600 (1707m)	0 to 45 Dominate 20	Less Than 12 to 24 (30 to 60cm)	Unconsolidated Deposits Landslide Deposits Tuffaceous Rocks Sedimentary Rocks Extrusive Igneous Rocks Intrusive Igneous Rocks Metamorphic Rocks	Loam Silt Loam Clay Loam Silty Clay Clay All Locally Stony	Dendritic John Day River Crooked River	Low to Moderate Water Erosion Potential Local Unstable Areas Moderate Road Construction Required
Forested Moderately Rugged Mountains	4,000 (1220m) to 8,000 (2438m)	0 to 55 Dominate 25	Less Than 12 to 48 (30 to 120cm)	Unconsolidated Deposits Landslide Deposits Tuffaceous Rocks Sedimentary Rocks Extrusive Igneous Rocks Intrusive Igneous Rocks Metamorphic Rocks	Silt Loam Silty Clay Loam Clay Loam Clay All Locally Stony	Dendritic John Day River Crooked River Burnt River	Moderate to High Water Erosion Potential Locally Steep Slopes Local Unstable Areas Moderate Road Construction Required
Rugged Mountains	4,000 (1220m) to 9,300 (2835m)	20 to 68 Dominate 45	12 to 48 (30 to 120cm)	Unconsolidated Deposits Sedimentary Rocks Extrusive Igneous Rocks Intrusive Igneous Rocks Metamorphic Rocks	Silt Loam Silty Clay Loam Clay Loam Clay All Locally Stony	Glacial Valleys John Day River Powder River	Moderate to High Water Erosion Potential Steep Slopes Ruggedness Severe Road Construction Requirements
High Lava Plain	3,100 (945m) to 5,200 (1585m)	0 to 20 Dominate 5	Less Than 12 (30cm)	Unconsolidated Deposits Tuffaceous Rocks Extrusive Igneous Rocks	Very Coarse Sand Loamy Sand Loam Locally Stony	Minimal Surface Drainage To Playas	Low Water Erosion Potential Locally High Wind Erosion Potential
Basin and Range	4,400 (1341m) to 5,800 (1768m)	0 to 40 Dominate 15	Less Than 12 (30cm)	Unconsolidated Deposits Tuffaceous Rocks Extrusive Igneous Rocks	Fine Sandy Loam Loamy Sand Clay Locally Stony	Internal Basin Drainage	Low Water Erosion Potential



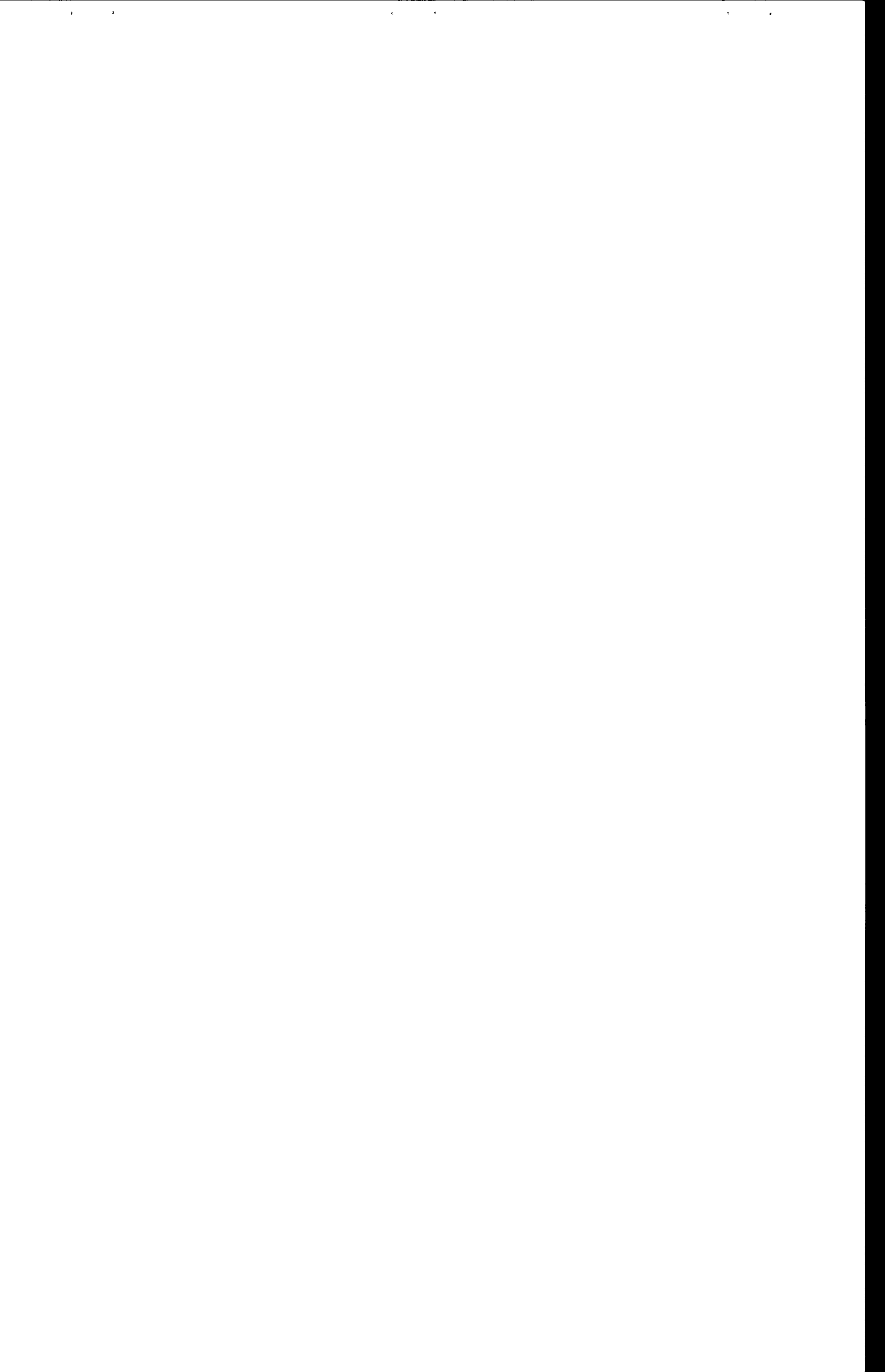


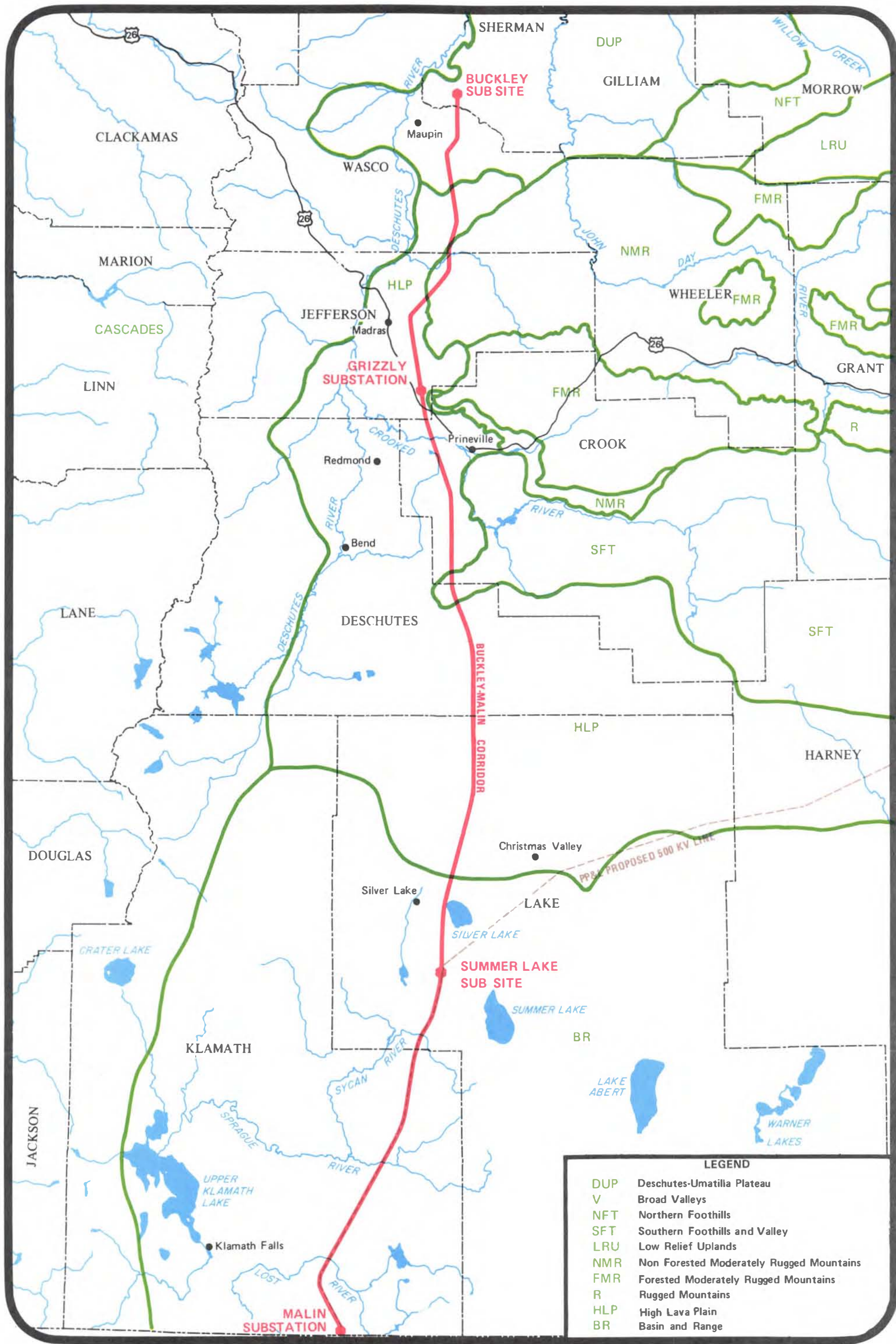
LEGEND

DUP	Deschutes-Umatilla Plateau
V	Broad Valleys
NFT	Northern Foothills
SFT	Southern Foothills and Valley
LRU	Low Relief Uplands
NMR	Non Forested Moderately Rugged Mountains
FMR	Forested Moderately Rugged Mountains
R	Rugged Mountains
HLP	High Lava Plain
BR	Basin and Range



FIGURE 8
 LAND FORM MAP
 BROWNLEE-SLATT/BROWNLEE-GRIZZLY
 79-5





LEGEND

DUP	Deschutes-Umatilla Plateau
V	Broad Valleys
NFT	Northern Foothills
SFT	Southern Foothills and Valley
LRU	Low Relief Uplands
NMR	Non Forested Moderately Rugged Mountains
FMR	Forested Moderately Rugged Mountains
R	Rugged Mountains
HLP	High Lava Plain
BR	Basin and Range

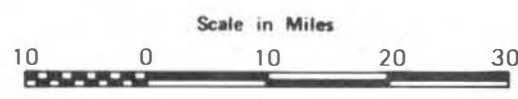
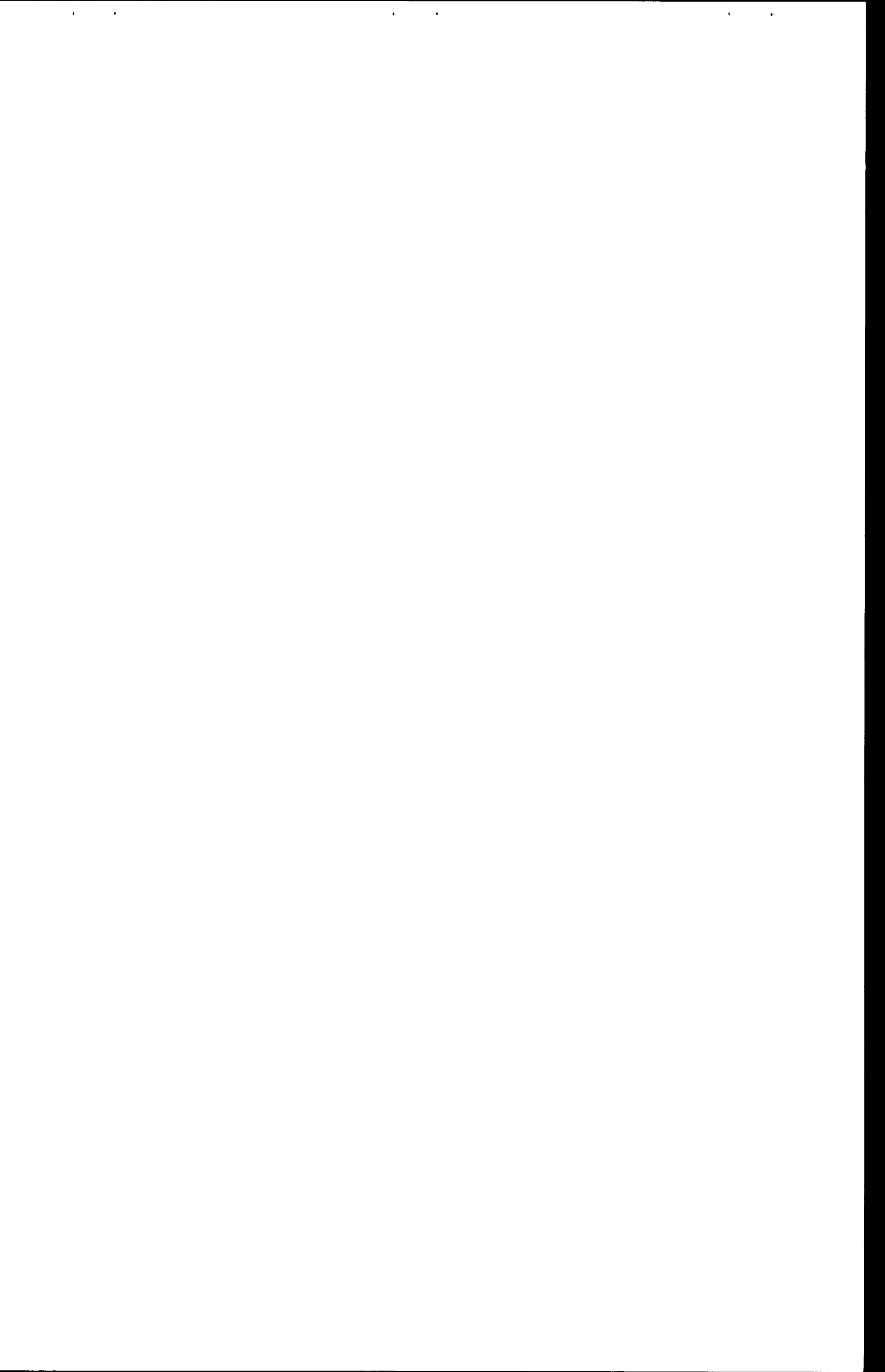


FIGURE 9
LAND FORM MAP
BUCKLEY-MALIN
79-5



A number of wetlands occur throughout the study area. Typically they are floodprone lands adjoining low gradient stream sections and small marshes or seasonally wet meadows. The latter are found primarily in the Goose and Summer Lakes and the Klamath Basin.

Sediment yield varies considerably in the study area. Generalized estimates of erosion potential and sediment yield range from less than 200 tons (181 mt) per square mile per year to 2000 (1814 mt) tons per square mile per year (Department of Environmental Quality 1978). One area of very high sediment yield potential (1000-2000 tons (907-1814 mt) per square mile per year) occurs in the Umatilla Plateau, another is in the Wallowa Mountains. Areas with high sediment yield potential (400-1000 tons (363-907 mt) per acre per year) are found in the Blue and Ochoco Mountains, part of the John Day Basin, and much of the Umatilla Basin. The predominant part of the study area consists of land with low to moderate erosion potential and sediment yield levels (less than 200-400 tons (181-363 mt) per acre per year).

Table 3 - Major Probable 100-Year Floodplain Areas 1/

<u>STREAM</u>	<u>REACH/AREA</u>
Umatilla River	Stanfield to Meachum Creek
Willow Creek	Heppner Area
John Day River	Prairie City to Dayville
Crooked River	Paulina to Prineville Reservoir
	Prineville Area
Powder River	Baker to Mouth
Grande Ronde River	LaGrande to Elgin

1/ These are preliminary general determinations only; HUD base floodplain maps will be used to determine identified 100-year floodplains during location studies.

Pursuant to Executive Orders 11988 and 11990, and Department of Energy (DOE) Regulations at 10 CFR Part 1022, BPA has determined that its proposal would not effect any identified wetland areas. This determination is based upon reference to U.S. Fish and Wildlife Services National Wetlands Inventory, U.S. Geologic Survey maps, as well as BPA's own preliminary field and aerial photography investigations. However, BPA has determined that this project would, of necessity, cross identified 100-year floodplains. More specific information concerning impacts attributable to crossing the floodplains will be detailed in the location phase studies when more precise location of corridors will allow for projection of anticipated impacts.

Wherever possible BPA will avoid location of transmission facilities within floodplains and will work to minimize impacts whenever floodplains must necessarily be crossed. BPA will also avoid locating facilities within floodplains which may enable secondary actions that could significantly alter the character of the floodplain.

Water quality in the study area is generally good. It is influenced by a number of nonpoint problems such as streambank erosion and sedimentation. Water withdrawals, elevated water temperatures, and nuisance algae or aquatic plant growth contribute to periodic stream quality problems. Nonpoint source stream quality problems occur from these various causes at a number of locations in the study area. The Umatilla Basin, Malheur River Basin, and Crooked River part of the Deschutes Basin exhibit several of these problems (Oregon Department of Environmental Quality, 1978).

Lands susceptible to flooding are found on sections of the Powder, Burnt, Grande Ronde, Umatilla, and John Day Rivers (C-NP 1971). Typically these floodprone areas are in low gradient meandering stretches of streams. Table 3 details major 100-year floodplains within the study area.

BPA will make every effort to comply with all applicable State and/or local floodplain protection standards.

As per the Federal Water Pollution Control Act, fill material that may be deposited into streams constituting waters of the United States is expected to be of a minor nature allowable under the Act.

VEGETATION

The natural vegetation of Oregon exhibits a complex pattern reflecting diversity of climate, soils, relief, biotic interaction, incidence of fire, and evolutionary history. Areas of similar vegetation type can be grouped into zones. A zone, as used here, is the area within which a given species or group of species becomes dominant. Zones may occupy broad areas of relatively flat land, or may be fingerlike extensions into adjoining zones at different elevations. Two provinces, Forest and Shrub-Steppe, containing a total of six vegetation zones are found in the study area and are detailed below (Loy, 1976).

Forest Provinces

Grand Fir (Abies Grandis) Zone - This coniferous forest zone occurs largely to the east of the Cascades wherever moisture and temperature conditions are not extreme. This zone is mainly confined to the Blue, Strawberry, and Ochoco Mountains. Douglas-fir (pseudotsuga menziesii) is a prominent tree on warmer and drier sites. Western larch (Larix occidentalis) and lodgepole pine (pinus contorta) are fire-responsive pioneer plants that appear in early successional sequences.

Ponderosa Pine (Pinus ponderosa) Zone - This zone, the most drought-tolerant of the forest types in Oregon, occupies a broad belt in south central and eastern Oregon. The Ponderosa Pine Zone is affected by all alternative plans of service to some extent. Understory cover varies from dense to open mats of bitterbrush (Purshia tridentata) and ceanothus (Ceanothus velutinus) in central Oregon to meadows dominated by Idaho fescue (Festuca idahoensis) and bluebunch wheatgrass (Agropyron spicatum) further east.

Shrub-Steppe Province

Western Juniper (Juniperus occidentalis) Zone - The Western Juniper Zone is an open woodland, the northern representative of the Pinyon-Juniper Zone of the Great Basin region. Although found mainly along the Buckley-Malin Corridor, small pockets of juniper can be found in all transition zones between forest and shrub-steppe zones. It is dominated by big sagebrush (Artemisia tridentata) with a typical understory of Idaho fescue. Commonly juniper grows in open stands in this zone. This same tree also characterizes rimrock habitats in the sagebrush zone.

Big Sagebrush (Artemisia tridentata) Zone - Probably the most widespread vegetation type in Oregon is the shrub-steppe. Dominated by aromatic sagebrush, it includes several other subspecies of sage occupying distinctive habitats. The two most prominent communities with broad distribution are the big sagebrush/Idaho fescue and big sagebrush/bluebunch wheatgrass associations. On shallow stony soils low sagebrush (A. arbuscula) often replaces big sagebrush. Other shrubs include rabbit brush (Chrysothamnus spp.) and spiny hopsage (Grayia spinosa). This vegetative zone dominates most of the area not identified as forest or agricultural land (Figs. 4 and 5).

Steppe Zone - A distinctive pattern of drought tolerant grasslands mantles large areas of northern Oregon east of the Cascades. Since the grassland is favorable for dry farming, much of the original steppe has been altered. Naturally occurring steppe areas are now located mainly along the Brownlee-Slatt corridors. Dominant species include Idaho fescue, bluebunch wheatgrass, and Sandberg's bluegrass (Poa sandbergii), and a number of non-grassy herbs.

Desert Shrub Zone - This zone, occupying isolated pockets within the broader sagebrush zone, contains the most drought-tolerant vegetation type in Oregon. It frequently occupies playa or playa margins under saline conditions marked by salt crusts. Important shrubs, most of which are salt-tolerant, include shadscale (Atriplex confertifolia), salt sage (A. nuttallii), greasewood (Sarcobatus vermiculatus), and spiny hopsage. The Desert Shrub Zone is almost exclusively confined to the Buckley-Malin Corridor.

Every effort is taken by BPA to prevent or minimize adverse impacts to endangered and threatened plants, pursuant to the Endangered Species Act of 1973 (PL 93-205), and Oregon State Law "Wild Flowers", Chapter 564, 1963. BPA is also working with the U.S. Fish and Wildlife Service to explore appropriate mitigation measures where needed.

To date fifteen endangered and two threatened plants have been listed on the "U.S. List of Endangered and Threatened Wildlife and Plants" (Federal Register, August 11, 1977 and Federal Register, April 26, 1978). From the best information known to date, none of the 17 plants are in the study areas.

The Oregon Natural Heritage Office of the Nature Conservancy has identified 104 endangered and threatened plant sites (known and potential) in the study

areas. Further study and analysis of these sites will be described in the Facility Location Supplement. In conjunction with the U.S. Fish and Wildlife Service, BPA is actively involved in a critical habitat identification program to include literature search, herbaria search, and compilation of information from private sources.

WILDLIFE

The planning study areas include many different wildlife habitat types ranging from sand dunes to coniferous forests. The major habitat types that would be crossed include: agricultural, grassland, juniper/shrub, shrub/steppe, coniferous forest, and aquatic and/or riparian. The predominant habitat is the shrub/steppe and the least dominant type, the aquatic. The aquatic habitat includes streams, ponds, reservoirs, lakes, and springs.

Wildlife as defined in this report consists of fish, reptiles, amphibians, and wild birds and mammals. A listing of some representative species associated with each habitat type is given in Table 4.

The Brownlee-Slatt portion of the facility planning study area includes two administrative wildlife management areas. These consist of the Power City Wildlife Management Area approximately 2 miles (3.2 km) south of McNary Dam, and the Umatilla National Wildlife Refuge approximately 2 miles (3.2 km) north of Boardman, Oregon. The Power City Wildlife Management Area is owned by the Bureau of Land Management (BLM) and managed by the Oregon Department of Fish and Wildlife. The Umatilla National Wildlife Refuge is managed by the U.S. Fish and Wildlife Services (FWS). The Brownlee-Grizzly and Buckley-Malin corridors do not cross designated wildlife areas.

Two species protected under the Endangered Species Act of 1973 inhabit or migrate through the study area. These species are the American peregrine falcon (Falco peregrinus anatum), classified "endangered" which inhabits the area year round and the bald eagle (Haliaeetus leucocephalus), classified "threatened" in Oregon which winters in the area. In accordance with Section 7(c), as amended, 1978 of the Endangered Species Act of 1973 (16 USC Section 1531-1543), BPA will not undertake any action that would jeopardize the continued existence of these species. Consultation has been initiated with the U.S. Fish and Wildlife Service, Department of the Interior, to determine whether BPA actions will result in any impact to threatened or endangered species.

The Oregon Department of Fish and Wildlife has classified the following species which can be found in the study areas as "threatened": wolverine (Gulo gulo), western spotted frog (Rana pretioea), northern spotted owl (Strix occidentalis camina), western snowy plover (Charadrius alexandrinus nivosus), and the kit fox (Vulpes macrotis nevadensis).

Table 4 - Representative Species and Associated Habitats
Within the Facility Planning Study Area

<u>Group and Species</u>	<u>Agricultural</u>	<u>Major Grassland</u>	<u>Habitat Juniper/Shrub</u>	<u>Types Shrub/Steppe</u>	<u>Coniferous Forest</u>	<u>Aquatic</u>	<u>Riparian</u>
<u>Amphibians and Reptiles</u>							
Boreal Toad	X	X		X			
Great Basin Spade Foot Toad	X	X	X	X			X
Great Basin Fence Lizard	X	X	X				
Western Skunk	X	X					X
Great Basin Gopher Snake	X	X		X			
Western Yellow-Bellied Racer	X	X					
Northern Sagebrush Lizard			X	X			
Northern Sideblotched Lizard				X			
Pacific Tree Frog					X		X
Northern Pacific Rattlesnake			X		X		
Valley Garter Snake							X
<u>Birds</u>							
Red-Tailed Hawk	X	X	X		X		
Golden Eagle				X	X		
Turkey Vulture	X	X					
Canada Goose						X	X
Mallard						X	X
Ring-necked Pheasant	X	X					
Northern Spotted Owl					X		
Sage Grouse				X			
Redwinged-Blackbird							X
Sage Sparrow				X			
Chukar				X			
White-headed woodpecker					X		
<u>Mammals</u>							
Mule Deer			X	X	X		X
Rocky Mtn. Elk					X		
Pronghorn Antelope			X	X			
Black-tailed Jackrabbit	X	X		X			
Townsend's Groundsquirrel	X	X	X				
Black Bear					X		
Badger	X	X		X			
Coyote			X	X			
Muskrat							X
Bobcat			X		X		
Porcupine			X		X		
<u>Fish</u>							
<u>Anadromous</u>							
Chinook						X	
Coho						X	
Steelhead						X	
Sockeye						X	
Chum						X	
<u>Resident</u>							
Brook Trout						X	
Brown Trout						X	
Crappie						X	
Largemouth & Smallmouth Bass						X	
Rainbow Trout						X	
Brown Bullhead						X	



According to Forest Service sources, the study areas encompass key winter and summer ranges for elk, deer, and antelope. BLM and Forest Service literature indicates the largest concentrations of elk wintering areas affected are in the Brownlee-Grizzly portion of the study area and are associated primarily with forest habitat. Except for agricultural tracts deer winter ranges are found uniformly distributed over the entire study area. Although antelope can be found throughout the study area, the major populations are along the southern half of the Buckley-Malin corridor.

The heaviest waterfowl concentrations occur at Brownlee Reservoir, Thief Valley Reservoir, the Power City Wildlife Management Area, the Umatilla National Wildlife Refuge, and the area adjacent to and between Summer and Silver Lakes.

Rivers mentioned in the Hydrology section are major habitat areas for anadromous and resident fishery resources.

RESOURCE USE AND SOCIOECONOMIC RESOURCES

The following sections relate man's use of the natural resources previously described.

DEMOGRAPHIC AND ECONOMICS

The corridor study areas cross 14 counties (not including about 2 miles of Sherman County), which in terms of land area comprise over half of the state. The population is only about 12 percent and housing is about 14 percent of the state totals (Table 5). The low population densities are indicative of the strong rural character of the area. According to State of Oregon figures, half of the counties lost population between 1960 and 1970 and the rest, except Deschutes County, were significantly below the state average in population growth. Between 1970 and 1975 only Gilliam County lost population among the 14 counties. Nine of the 14 were below the overall state average in population growth. Migration accounts for most of the population changes rather than births and deaths.

All of the counties show median family incomes below state income averages by approximately 15 percent. The principal industries are agriculture, livestock grazing, timber, and associated forest products. At least half of the counties have recently been experiencing an increase in recreational use.

AGRICULTURE

Approximately 25 percent of the land crossed by the various corridors can be classified as agricultural land. Most of that amount is along the Brownlee-Slatt Corridor 1 option.

The majority of farmland that would be affected is located in northeast and southern Oregon (Figs. 4 and 5). Much of the area from the Blue Mountains westward to the Slatt Substation is farmland. Additional agricultural land is

in the Prineville-Powell Butte and Malin-Klamath Falls regions which are adjacent to the Buckley-Malin portion of the proposal.

Most of the farmland within the study area is rather arid. Primary farm uses include dryland wheat and livestock grazing.

The study area also contains a few major irrigation development projects, such as those between Umatilla and the Slatt Substation, and also in the Klamath Basin. These areas exhibit a high concentration of irrigated land with reliable water supply and consequent high production levels. Such lands are capable of producing higher value crops than other farmlands within the study area. Near Umatilla and Klamath Falls the irrigation allows for the growth of a variety of crops. Potatoes, sugar beets, alfalfa, melons, and wheat are the most important. Other areas near Baker, LaGrande, Prineville, and Fort Rock have irrigation but the main use is for pasture and hay crops to supplement livestock feed.

Lands with suitable soils and/or irrigation available are often classified as prime and unique by the Soil Conservation Service. Although prime and unique farmland can be found in Baker, Union, Umatilla, Crook, and Klamath counties, the larger tracts are located near Umatilla. There are other lands, like some in Morrow County, which have the potential to be classified prime and unique if irrigation is made available.

FORESTRY

Commercial forest resources within the study areas generally occur inside national forest boundaries. Timber plays a key role in the economies of the counties in and around these forested areas.

Ponderosa pine is the primary commercial species. Other tree species of secondary commercial importance include lodgepole pine, white fir, and Douglas fir. Scattered stands of sugar pine, mountain hemlock, and Shasta red fir are found along the Buckley-Malin corridor. Western larch and subalpine fir occur along the Brownlee-Slatt and Brownlee-Grizzly corridors. Even-aged management utilizing shelterwood regeneration cuts is the most common timber management practice.

In terms of acres of timber, either climax stands of ponderosa pine or mixed pine and fir stands are the most common. Climax ponderosa pine stands often occur in widely spaced, park-like stands bordering nonforested semi-arid lower elevations. Denser mixed conifer and ponderosa pine communities become common at the middle elevations. Mixed conifer and lodgepole pine communities often become more predominant at higher elevations.

Site quality and volumes per acre are generally lower than the Douglas fir sub-region of the Cascade and Coast ranges. Because of this and the long haul distances to area mills, timber values are not always sufficient to pay for access development and timber management practices. Therefore nearly all commercial species are subject to stagnation caused by too many stems per

Table 5 - SOCIOECONOMIC DATA BY COUNTY

	Baker	Malheur	Union	Umatilla	Grant	Morrow	Gilliam	Wheeler	Wasco	Jefferson	Crook	Deschutes	Lake	Klamath	Total, All Counties	Total, State of Oregon
POPULATION																
Est. Pop., 1975	15,700	24,200	22,100	48,200	7,380	5,190	2,120	2,010	20,230	9,690	11,800	40,300	6,560	54,400	269,880	2,299,000
% Change, 1960-1970	-13.7	1.8	6.6	1.3	-9.4	6.5	-23.7	-32.1	-0.4	-8.3	5.9	31.8	-11.4	5.4	3.4	18.2
% Change, 1970-1975	5.2	4.4	14.1	7.3	5.5	16.2	-9.5	8.7	0.5	13.4	18.2	32.4	3.4	8.7	10.8	9.9
County % of State Total, 1975	0.7	1.1	1.0	2.1	0.3	0.2	0.1	0.1	0.9	0.4	0.5	1.8	0.3	2.4	11.9	---
% Change Due to Migration, 1975	96.0	-105.0	38.7	65.9	152.9	93.6	100.6	80.0	48.3	57.5	90.6	32.7	61.8	53.2	61.9	0.9
Pop. Density # persons/ sq. mi.	5.1	2.4	19.9	14.9	1.6	2.5	0.6	1.2	8.5	5.4	4.0	13.2	0.8	8.8	5.1	23.7
County Land Area as % of State	3.2	10.2	3.1	3.3	4.7	2.1	1.3	1.8	2.5	1.9	3.1	3.2	8.6	6.3	54.3	---
HOUSING																
% of State Total Dwelling Units	0.4	1.6	0.7	3.0	0.1	0.6	0.2	0.1	0.8	0.7	0.4	2.0	0.3	2.8	13.7	---
EDUCATION																
% of Adults Who Did Not Finish High School (1970)	27.3	24.0	22.2	24.1	26.5	22.3	16.2	28.2	24.8	17.0	26.4	22.0	24.9	21.7	23.4	22.1
ECONOMIC																
Median Family Income, 1975	\$10,853	\$10,628	\$10,929	\$11,329	\$10,922	\$12,479	\$11,938	\$10,023	\$12,528	\$12,396	\$12,430	\$12,732	\$11,842	\$12,109	\$11,653	\$13,411
% Difference in Median Income Between County and State, 1975	-23.6	26.2	22.7	18.4	-22.8	7.5	-12.3	-33.8	-7.0	-8.2	-7.9	-5.3	-13.2	-10.7	-15.1	---
% of Population Poor (1970)	16.5	19.8	10.7	12.7	12.8	11.5	8.5	10.9	10.6	14.7	10.9	11.8	15.0	12.1	---	11.2
Principal Industries	mining	agric.	agric.	agric.	live-	agric.	agric.	agric.	agric.	agric.	Forest	Lumber	Live-	agric.	---	---
	live-	stock	Educa-	lumber	lumber	live-	live-	live-	lumber	lumber	Prod.	agric.	stock	live-	---	---
	stock	Food-	tion	Food-	Recr.	stock	stock	stock	manfg	manfg	agric.	stock	lumber	lumber	---	---
	lumber	proc.		manfg.		lumber		lumber	elec.	elec.	recr.	recr.	mining	recr.		
		recr.				recr.			power	trans.		agric.	recr.			



acre. Stagnation creates ideal conditions for insect and disease epidemics and disastrous fires. Thousands of acres of stagnated lodgepole pine are in or near the planning study area. The current pine beetle epidemic has severely disrupted the flow of wood products from area forests, especially along the Brownlee-Slatt and Brownlee-Grizzly corridor study areas. Large salvage cuts are underway along these corridors.

URBAN AND RESIDENTIAL

Urbanized land uses comprise only a small portion of the project study area. The major concentrations occur at Baker, LaGrande, Umatilla, Pendleton, and Boardman. Other concentrations near the study corridors are at Prineville and John Day. With the exception of these areas, urbanized land uses are mainly associated with farms and ranches found infrequently throughout the study areas.

Near Umatilla and LaGrande the existing lines pass a full range of urban land uses including residential, commercial and industrial. Lines near Pendleton approach but do not cross any concentrations of urbanized land. At Boardman, the town's urban areas have expanded on each side of previously existing transmission lines.

Each county within the project study area was contacted to determine the status of zoning or planning in the county. Copies of applicable zoning ordinances and comprehensive plans were received from most of the counties. A thorough review of those documents revealed that the plan options affect mainly lands zoned for "exclusive farm use" or "general rural". In summation, the zoning allows for transmission line construction which is compatible with county plans. Most county plans call for minimizing adverse effects created by transmission line construction and many require that county permits be granted prior to construction.

BPA's proposal will be consistent with all applicable land use plans in accordance with OMB Circular A-95, revised January 2, 1976.

Transportation routes in the study area are shown on Figures 2 and 3. Between LaGrande and Pendleton BPA's existing transmission line parallels Interstate Highway 80N for about 5 miles. In this congested area the existing line parallels a gas pipeline owned by Northwest Pipeline Corporation. The company plans to construct an additional pipeline parallel to the existing one.

BPA's McNary-Roundup transmission line passes through the suburban areas of Umatilla and is within 2000 feet of the end of the runway at Hermiston Airport. A new parallel runway has been constructed and plans are underway to lengthen it toward the BPA transmission line.

ESTHETICS

The esthetic setting of Central and Northeastern Oregon is one of rich, varied, and relatively undisturbed landscapes. Extensive areas of forest,

agriculture, and desert land, containing many unique geological and botanical features, are found within the study area.

Several highly scenic rivers flow through the region including the Deschutes, John Day, Powder, Snake, and Grande Ronde.

Because of the rich and diverse landscape any unnatural disruptions may adversely affect enjoyment of scenic resources.

Generalized maps (Figs. 10 and 11) are presented to show major scenic subregions. These subregions were delineated based on similarities in landforms, vegetative cover, and/or human activity patterns, and are discussed in the following paragraphs. Each of these subregions contain many localized areas of high, moderate, or low scenic quality that are not extensive enough to be addressed at this scale.

Esthetics-Brownlee-Slatt and Brownlee-Grizzly Corridor Study Areas

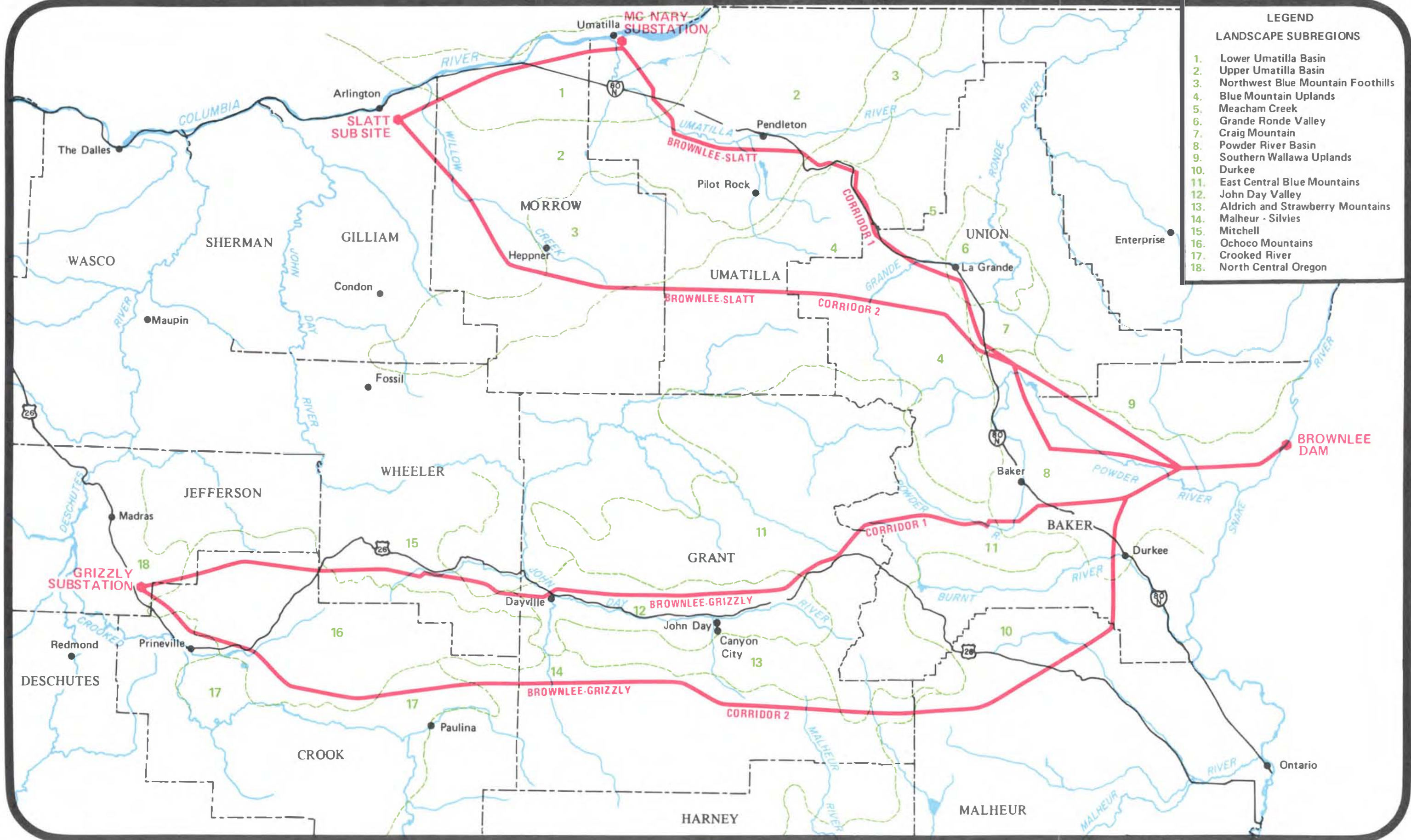
1. Lower Umatilla Basin - This subregion is an area of relatively flat terrain in north-central Oregon near the Columbia River. It is characterized by the presence of center-pivot irrigation systems that have transformed scrubland into an important agricultural center. Contrasting color and patterns of the irrigated fields enhance its visual quality. Scenic quality is low to moderate.

2. Upper Umatilla Basin - The Basin is characterized by vast rolling wheatfields with some isolated irrigation. Vertical basalt walls and irrigated valleys along the Umatilla river and Willow Creek Valley are highly scenic. Visual quality throughout the basin is moderate with areas of high scenic quality found in the major drainages.

3. Northwest Blue Mountain Foothills - These moderately undulating slopes form a transition from the rolling wheatlands at lower elevations to the forested Blue Mountain uplands. Most drainages are lined with trees. Scenic quality is moderate.

4. Blue Mountain Uplands - This area north and west of LaGrande is characterized by forested low relief uplands with interspersed large meadows and occasional steep canyons. The recent insect infestation and subsequent salvage logging operations have altered the visual quality in many areas. However, overall scenic quality remains moderate to high.

5. Meacham Creek - This subregion forms a transition zone between the gentle Blue Mountain uplands and the steeper more rugged northern Blue Mountains. The area is drained by Meadow Creek which cuts a deep, steep canyon. Vegetation is the similar to the Blue Mountain Uplands described above. Scenic quality is moderate to high.



- LEGEND**
LANDSCAPE SUBREGIONS
1. Lower Umatilla Basin
 2. Upper Umatilla Basin
 3. Northwest Blue Mountain Foothills
 4. Blue Mountain Uplands
 5. Meacham Creek
 6. Grande Ronde Valley
 7. Craig Mountain
 8. Powder River Basin
 9. Southern Wallawa Uplands
 10. Durkee
 11. East Central Blue Mountains
 12. John Day Valley
 13. Aldrich and Strawberry Mountains
 14. Malheur - Silvies
 15. Mitchell
 16. Ochoco Mountains
 17. Crooked River
 18. North Central Oregon

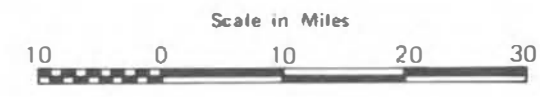
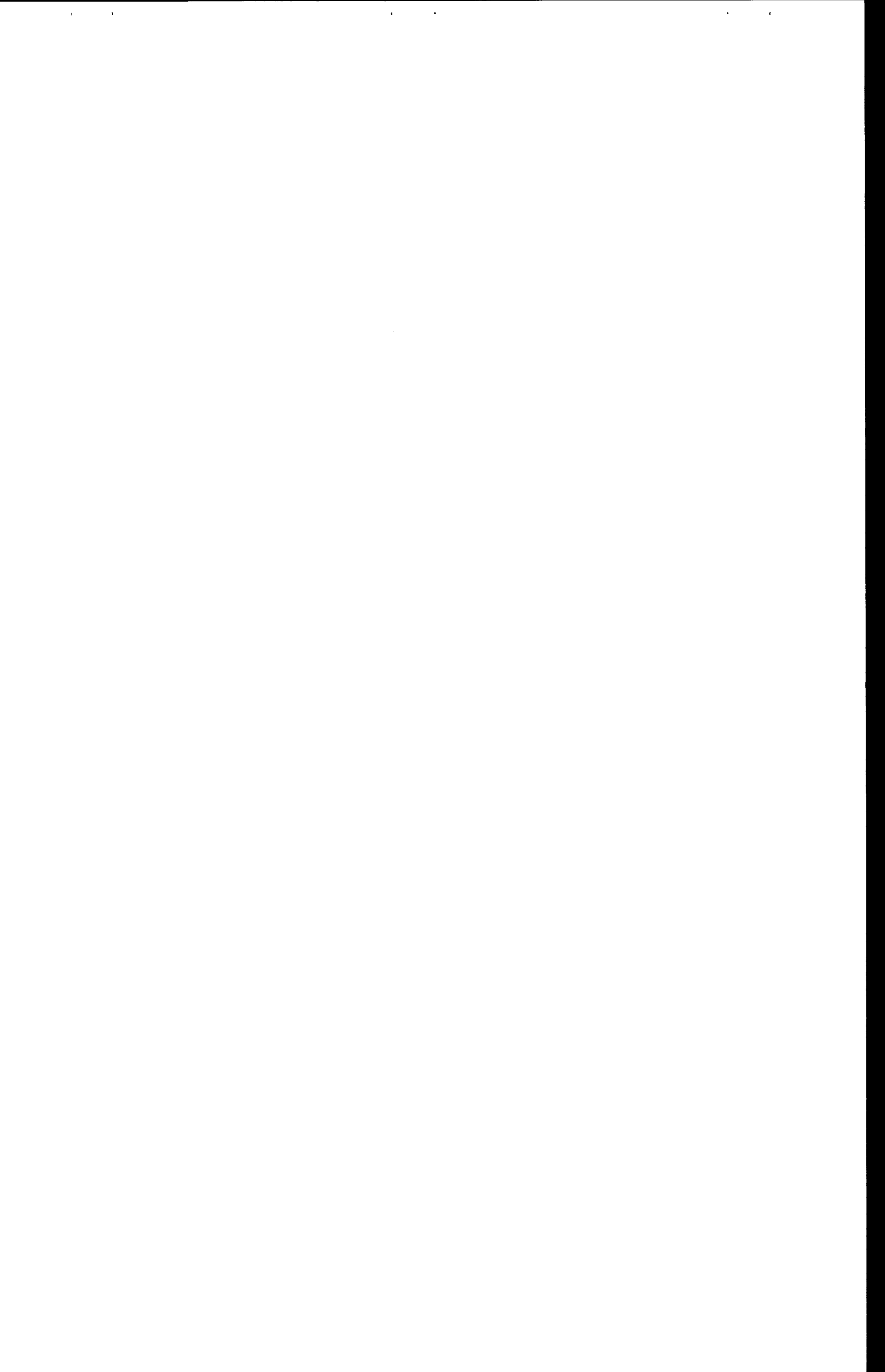
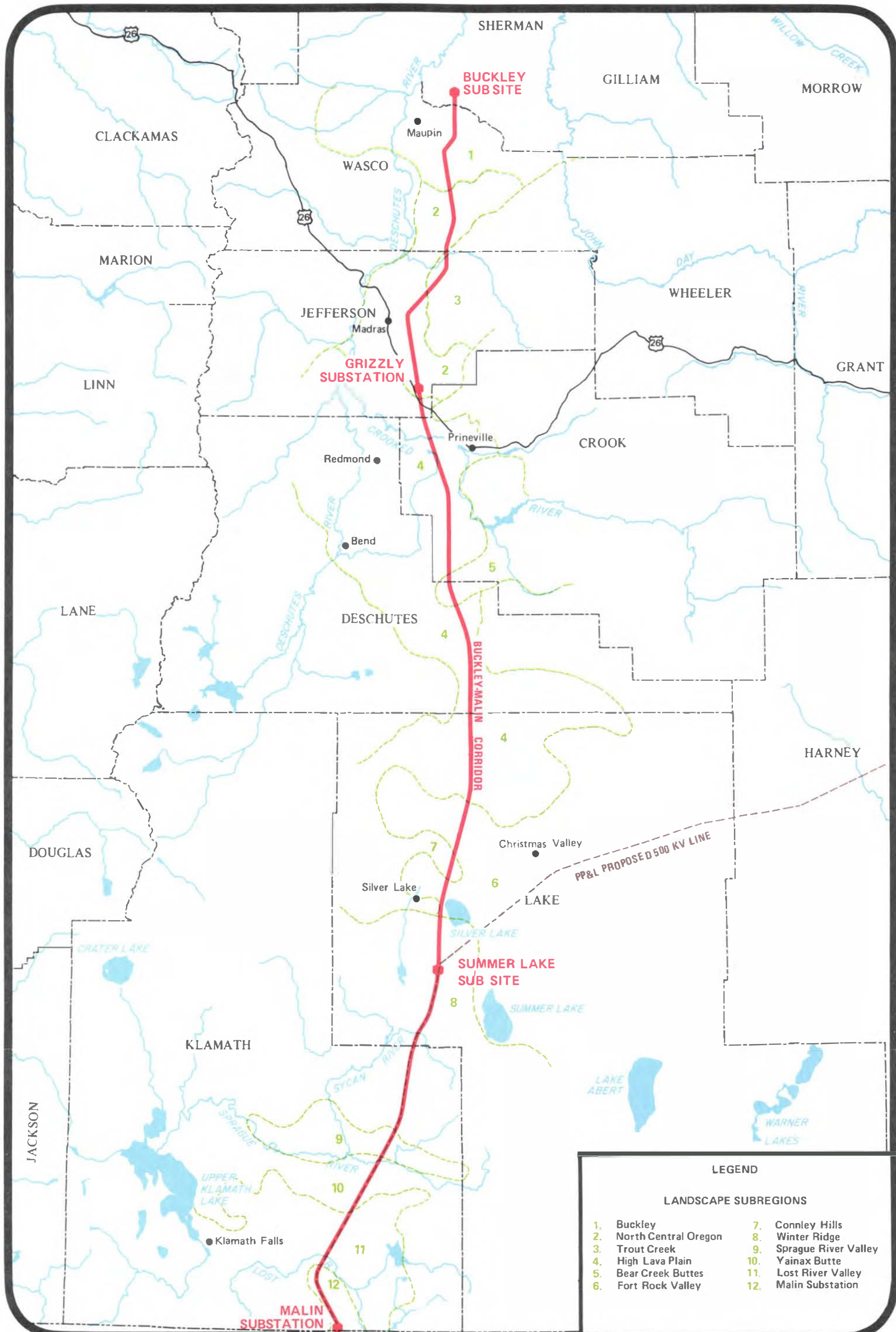


FIGURE 10
 VISUAL SUBREGIONS
 BROWNLEE-SLATT/BROWNLEE-GRIZZLY
 79-5





LEGEND

LANDSCAPE SUBREGIONS

1. Buckley	7. Connley Hills
2. North Central Oregon	8. Winter Ridge
3. Trout Creek	9. Sprague River Valley
4. High Lava Plain	10. Yainax Butte
5. Bear Creek Buttes	11. Lost River Valley
6. Fort Rock Valley	12. Malin Substation

FIGURE 11
VISUAL SUBREGIONS
BUCKLEY-MALIN
79-5



6. Grande Ronde Valley - This valley is a large basin bounded on the west by the Blue Mountains and on the east by the Wallowa Mountains. It is an area of high scenic beauty. Most native vegetation within the valley has been replaced by cropland. Scenic quality ranges from moderate to high.
7. Craig Mountain - This low mountainous area is an extension of the Blue Mountains and joins with the Wallowa Mountains to separate the Grande Ronde and Powder River basins. It is characterized by steep, rounded grass covered slopes. Scenic quality is moderate.
8. Powder River Basin - This subregion is characterized by grass-shrub valleys and uplands. Scenic quality is low to moderate, with portions of the Powder Basin and the Snake River Canyon rated high.
9. Southern Wallowa Uplands - This area forms a transition zone between the lower grass covered uplands and the steeper more rugged upper slopes of the Wallowas. It is characterized by moderate to moderately steep slopes. The change in vegetation is pronounced ranging from grasslands at lower elevations to a mixed coniferous forest. Scenic quality is high.
10. Durkee - The Durkee subregion is a rugged mountainous area containing the town of Durkee and the Burnt River Valley. Vegetation is sparse and most prevalent in drainages. Several mines dot the hills. Most are abandoned but a few are still being worked on a limited basis. The Burnt River flows through this area and has cut steep walled canyons and broad valleys. Scenic quality is moderate to high.
11. East-Central Blue Mountains - This portion of the Blue Mountains is moderately rugged forest land with many small valleys and meadows. The major drainages are the north fork of the Burnt River, Powder River and Middle Fork of the John Day River. Phillips Lake is a major recreation area. Scenic quality is rated moderate to high.
12. John Day Valley - The John Day is a sparsely populated valley of rustic beauty located adjacent to the John Day River. Many irrigated farms are situated in the valley. Cottonwoods and willows lining the river add to the scenic beauty. The Aldrich and Strawberry Mountains to the south form a rugged and striking backdrop. The higher plateau becomes increasingly rugged with vegetation changing from the grass and sage of the lower plateau to junipers and mixed conifers at higher elevations. Scenic quality is moderate to high.
13. Aldrich and Strawberry Mountains - These dominating mountains loom high above the John Day Valley. The semi-arid lower slopes transform into rugged alpine peaks offering spectacular views. The Strawberry range has been designated as a wilderness area. Scenic quality is high.

14. Malheur-Silvies - This area south of the Strawberry and Aldrich Mountains is within the Blue Mountain geomorphic province. It includes an area of plateaus with deep dissected drainages and two large broad valleys, the Bear and Logan. The Malheur, Silvies, and South Fork of the John Day rivers are the major drainages and contain several areas of high scenic quality. Scenic quality rating is moderate to high.

15. Mitchell - The area surrounding Mitchell is predominantly bench lands, rock outcrops and buttes. Black Butte and White Butte are the more prominent features. North flowing streams have formed small valleys large enough to accommodate isolated ranches. Dominant vegetation is natural vegetation grass and sagebrush communities with isolated juniper stands. Scenic quality is moderate to high.

16. Ochoco Mountains - Terrain in the Ochocos is variable with some rugged areas. Steep slopes and rock outcrops are common. Vegetation is predominantly stands of ponderosa pine, Douglas fir, white fir, and western larch. Many open meadows interrupt these stands. Scenic quality is moderate to high.

17. Crooked River - The southern foothills of the Ochoco mountains are comprised of gently rolling grasslands with sagebrush and juniper plant communities. The Crooked River is the primary drainage and has areas of outstanding visual quality. Scenic quality is rated moderate to high.

18. North Central Oregon - This subregion is a mid-basin plain of lava buttes and hills, with deeply eroded drainages. Vegetation is mixed cropland, grassland, and sagebrush with sparse to heavy stands of juniper. Scenic quality ranges from low to high.

Esthetics-Buckley-Malin Corridor Study Area

(1) Buckley - The Buckley subregion is a generally flat plateau broken by deeply eroded drainages. Extensive rangeland exists with fingers of cultivated cropland scattered throughout the area providing interesting variations in landform patterns. Scenic quality is low to moderate.

(2) North Central Oregon - As described previously, this subregion is a midbasin plain of lava buttes, mesas and hills. Deeply eroded drainages with flat or rolling topography contain some cultivated land. Vegetation is mixed cropland and sagebrush with sparse to heavy stands of juniper. Scenic quality ranges from low to high.

(3) Trout Creek - Trout Creek is an area of moderately rugged terrain dissected by many smaller drainages. Irrigated fields provide some contrast with the surroundings. Scenic quality ranges from low to high.

(4) High Lava Plain - The High Lava Plain subregion is characterized by little surface variation and extensive stands of small junipers. Visual relief is provided by an occasional lava butte or cinder cone, and sagebrush covered flats. Scenic quality is low to moderate.

- (5) Bear Creek Buttes - This area forms a transition between the Blue Mountains physiographic province and the high lava plain province. These high rounded buttes have extensive stands of juniper on the lower slopes, changing to ponderosa pine at higher elevations. Scenic quality is moderate.
- (6) Fort Rock Valley - Fort Rock Valley is part of the high lava plain province with small surface variations except for an occasional butte. There are few streams but several intermittent or dry lake beds exist. The soil is saline and supports only desert shrub type vegetation. Scenic quality is low.
- (7) Connley Hills - Connley Hills is a small group of juniper covered buttes rising above the Fort Rock and Silver Lake valleys. Scenic quality is moderate.
- (8) Winter Ridge - Winter Ridge, a part of the Basin-Range Province, is characterized by fault blocking. This ridge is part of the Winter Rim fault to the east and is relatively flat with many signs of volcanic activity. Few seasonal or year-round streams exist in this zone because of the porosity of the pumice and the many basins. The Sycan River is an exception, flowing into a large basin area containing a desert shrub vegetation with some juniper encroachment. To the north and south of Sycan Flat the vegetation is predominantly mixed conifer. Scenic quality is low to moderate.
- (9) Sprague River Valley - This broad valley is formed by the Sprague River and its tributaries. Vegetation is sagebrush. Scenic quality is low to moderate.
- (10) Yainax Butte - Yainax Butte is located between the Sprague and Lost Rivers. Terrain ranges from gently sloping near the valleys to rolling in the higher elevations. Vegetation is mixed conifer. Scenic quality is moderate.
- (11) Lost River Valley - Lost River Valley is an intensely irrigated valley contrasting with the surrounding sagebrush. Scenic quality is moderate to high.
- (12) Malin Substation - The Malin Substation is located at the base of a large north-south oriented hill. Vegetation is predominantly ponderosa pine. Scenic quality is moderate.

RECREATION

Abundant natural resources and vast areas of range and forest land provide for a wide variety of recreational opportunities from developed facilities to wilderness. Figures 12 and 13 show the distribution of recreational facilities. National Forest and other public domain lands (Figs. 6 and 7) are used for dispersed recreation activities like rockhounding, sightseeing, camping, and hunting. The area is within moderate driving distance of the populous Willamette Valley and several interior cities. There is a significant amount of tourist traffic through the area.

Prominent physical features include the John Day Fossil Beds, Picture Gorge, Painted Hills State Park, Devil's Garden lava fields, and Fort Rock.

No components of the National Wild and Scenic Rivers System (16 U.S.C., Sec. 1271-1287) are found in the study area, however, many streams and rivers are major recreational attractions. The Deschutes, John Day, and Minam are designated state scenic waterways. Segments of the Grande Ronde and Crooked Rivers are identified as potential state scenic waterways (Department of Transportation 1978). Fishing opportunities abound in these and other streams and lakes. The Oregon Trail is within the study area for this project and has recently been designated the Oregon National Historic Trail and included in the National Trails System (P.L. 95-265, Title V, Subtitle B, Section 551(9)).

Several species of big game, upland game birds, waterfowl, and some nongame animals can be hunted year round. Such species also provide significant recreational benefits to persons who enjoy viewing and photographing wildlife.

There are large tracts where recreationists can experience true wilderness (Figs. 12 and 13). Foremost is the Strawberry Mountain Wilderness Area, where a number of foot and horseback trails provide access to hikers, fishermen, hunters, campers, and mountain climbers. There are also over 20 inventoried roadless areas in the Blue, Ochoco, and Strawberry Mountains.

Other recreational resources include Cold Springs and McKay Creek National Wildlife Refuges, State wildlife management areas, numerous governmental and private campgrounds, winter sports areas, hiking trails, and waysides. The Trans-America Bicycle Trail parallels much of the Brownlee-Grizzly Corridor 1 alternative. This trail was established in 1976 and receives substantial use.

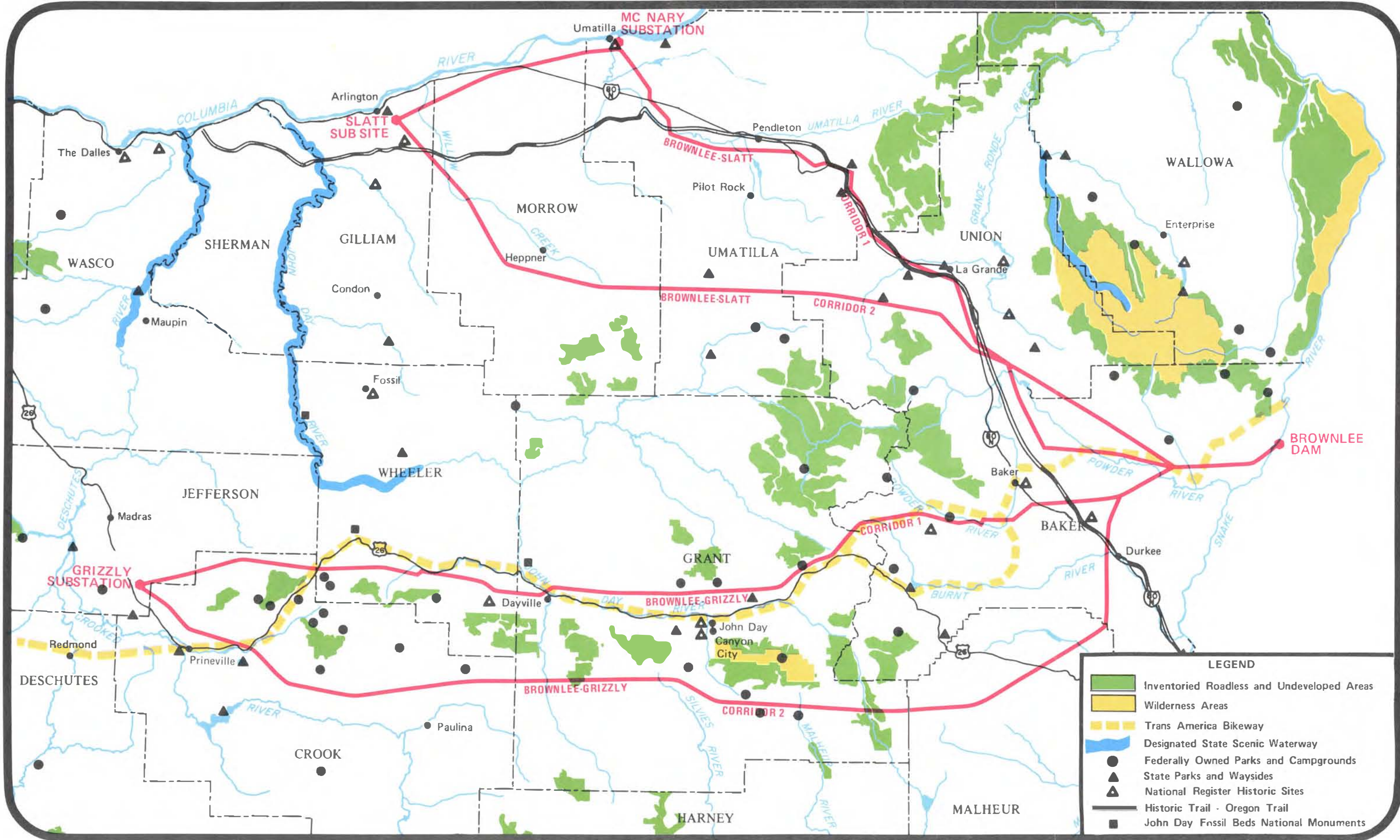
HISTORICAL/ARCHEOLOGICAL

The historical and archeological background of the planning study area is one which reflects the early development of central and eastern Oregon. Historically it was first occupied by small wandering bands of Indians who subsisted through hunting and gathering. Evidence from findings at early sites shows intermittent occupation over the last 10,000 years.

First known white contact east of the Cascades was the Lewis & Clark Expedition (1804-06). The following 40 years were marked by early trappers and traders exploring the river valleys of central and eastern Oregon.

During the 1850's gold was discovered in the John Day region and traffic to the area increased. Stockmen soon started grazing their cattle on open ranges of native grasses, and large ranches were formed. The Oregon Land Donation Act of 1880 started an influx of settlers to central and eastern Oregon who made attempts at ranching and farming.

The ranching mode of life continued to be most important until World War I. At that time the demand for agricultural goods and wood products placed more emphasis on the farming and lumbering industries.

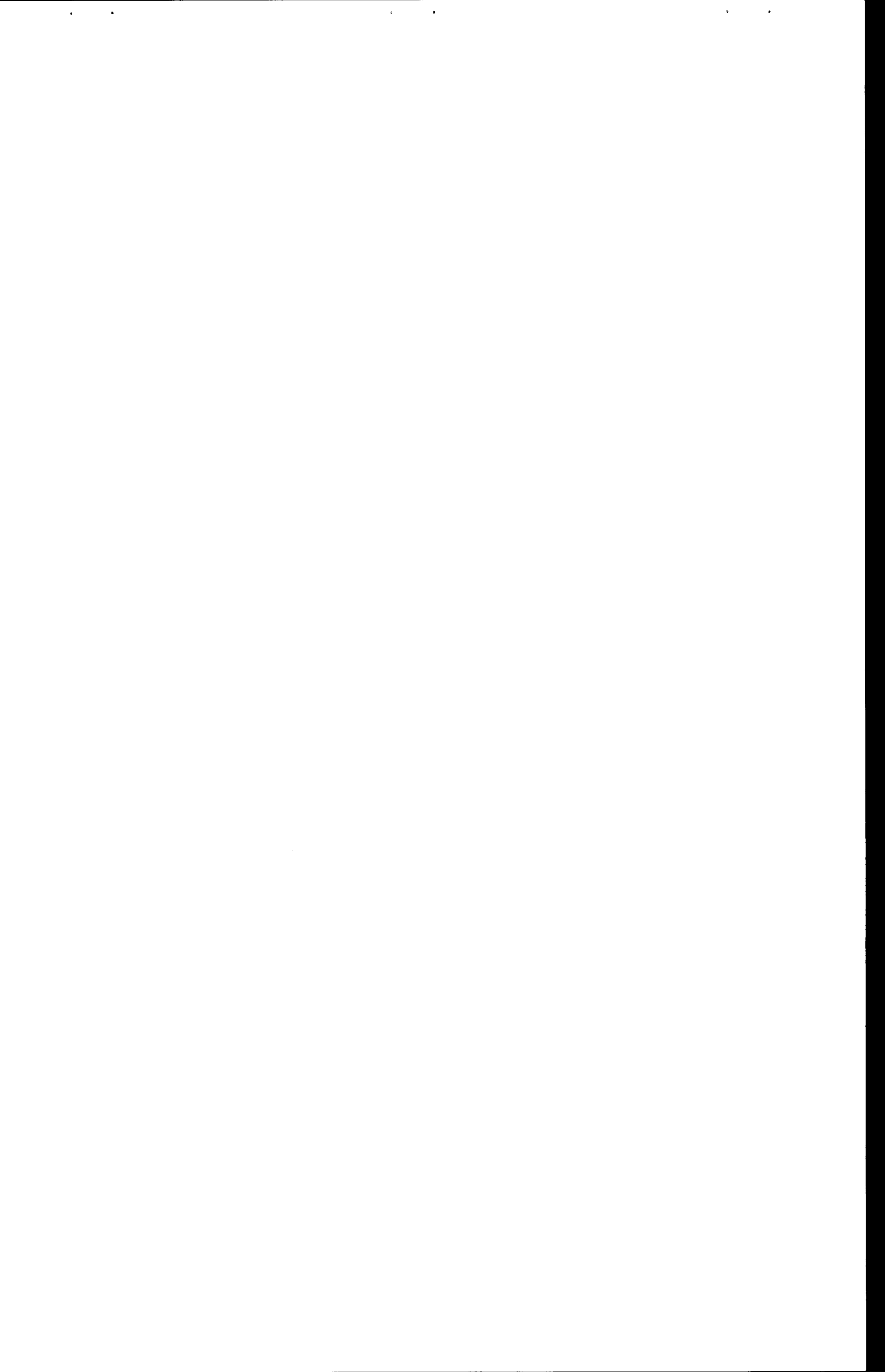


LEGEND

- Inventoried Roadless and Undeveloped Areas
- Wilderness Areas
- Trans America Bikeway
- Designated State Scenic Waterway
- Federally Owned Parks and Campgrounds
- State Parks and Waysides
- National Register Historic Sites
- Historic Trail - Oregon Trail
- John Day Fossil Beds National Monuments



FIGURE 12
RECREATION/CULTURAL
BROWNLEE-SLATT/BROWNLEE-GRIZZLY
79-5



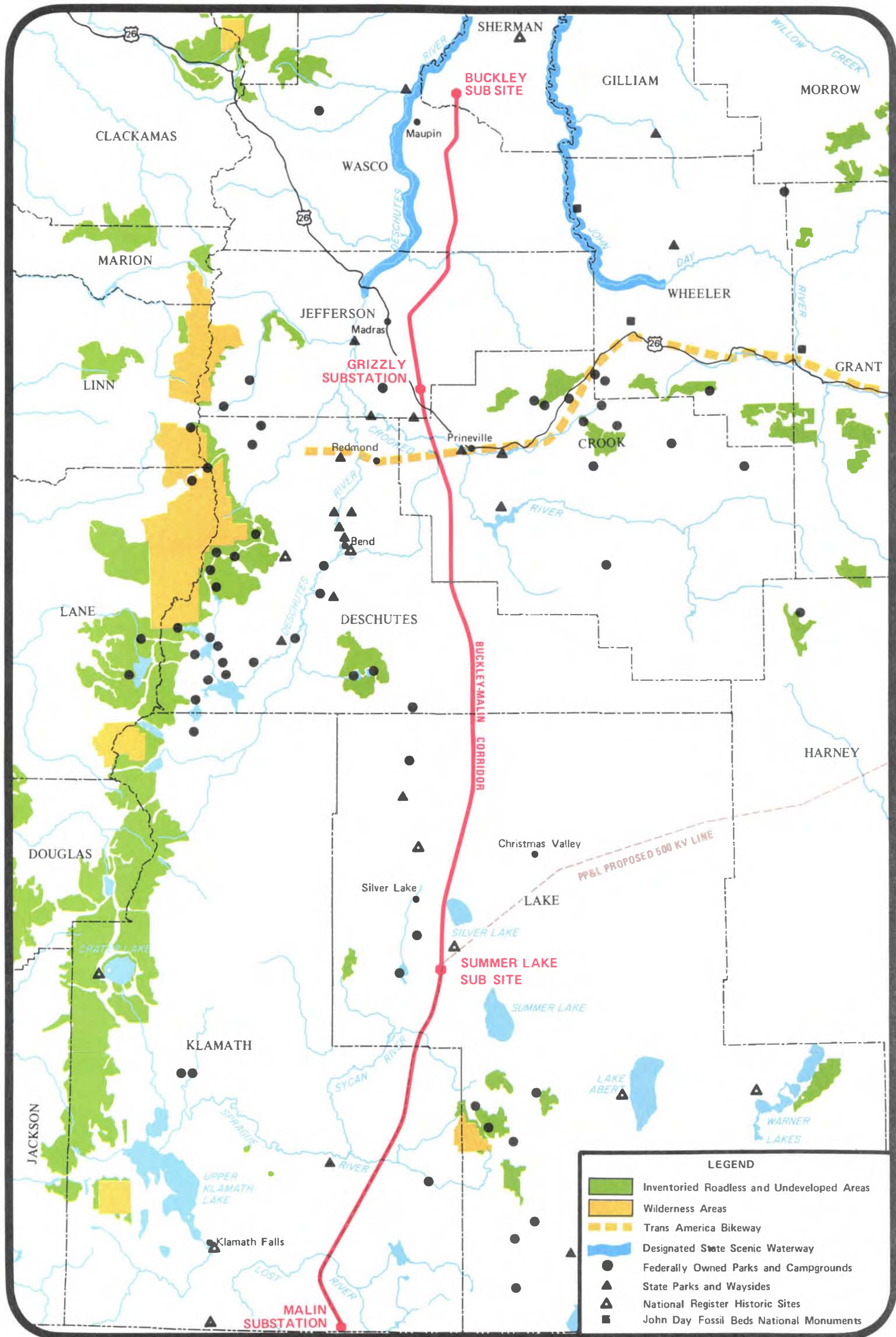
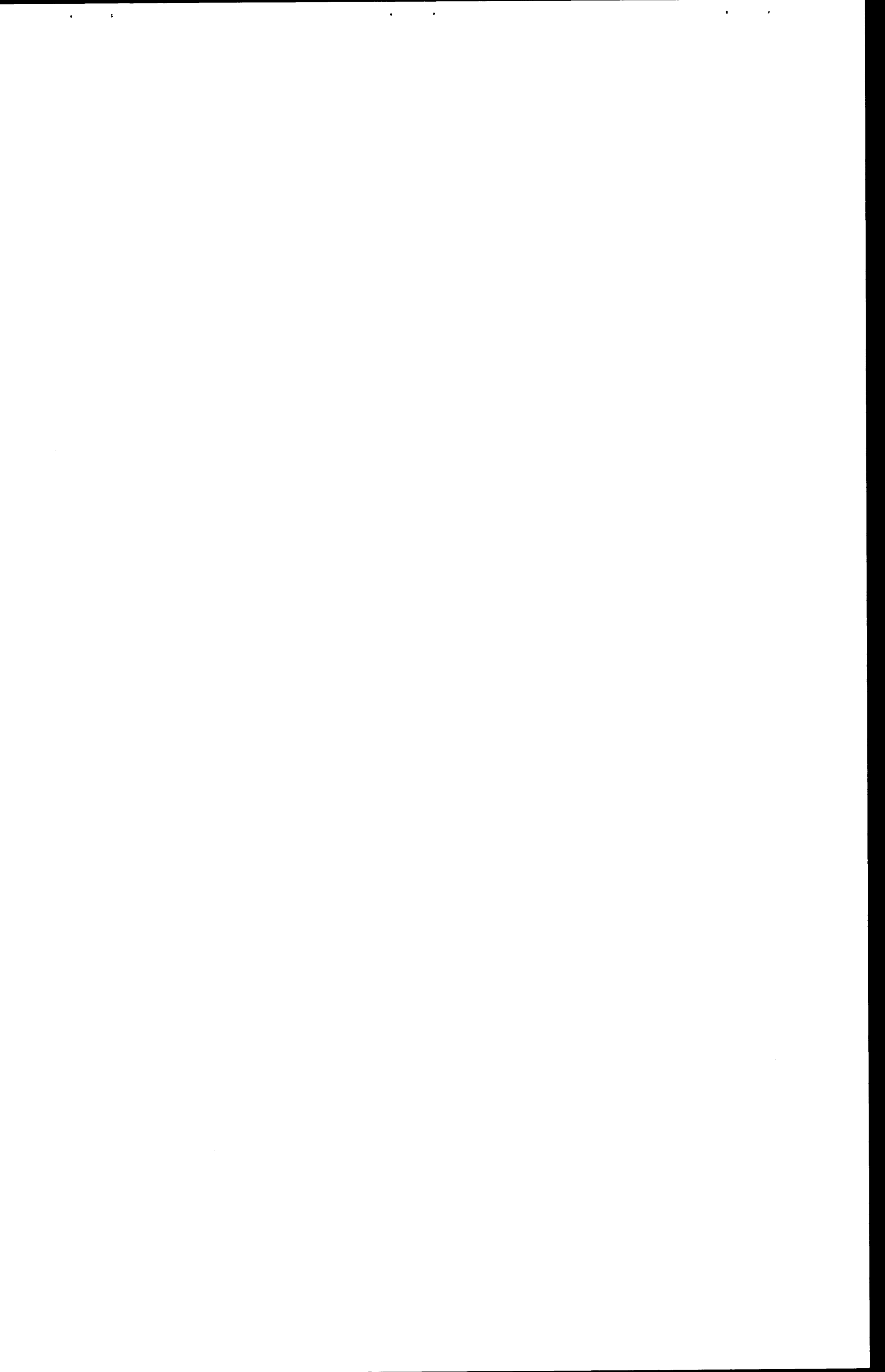


FIGURE 13
RECREATION/CULTURAL
BUCKLEY-MALIN
79-5



Overall the influence of white culture in central and eastern Oregon was marked by rapid penetration and settlement during the 1860's with few towns, most of which were well established by the turn of the century.

The early economy centered on agriculture, trade, and mining. Raising livestock was the principal activity. Cattle were grazed on large expanses of open range. Later in-migration of homesteaders and crop farmers brought an end to open range policy. Following the turn of the century emphasis changed to large wheat and cattle ranches, with timber and some mining becoming important industries.

Although there are many sites of local historical interest along the various study corridors, most would remain unaffected by any transmission line construction or maintenance activities. Thirty-five sites on the National Register of Historic Places and its addenda through June 1978 can be found within the project study area. Almost all are outside the transmission line zone of influence.

P L A N O F S E R V I C E A N A L Y S I S
P O T E N T I A L I M P A C T O F T H E P R O P O S A L A N D A L T E R N A T I V E S

Impact evaluations are presented for the proposed plan of service (Brownlee-McNary which follows Brownlee-Slatt Corridor 1 and Buckley-Malin) together with three corridor routing options. Discussions of impacts at this planning stage are of a generalized nature pertaining to normal construction and maintenance effects. More explicit impacts will be detailed when a line location has been decided upon and BPA studies its related impacts. Impacts have been detailed from Brownlee Substation to Slatt Substation. At this time, however, BPA intends to build only as far as McNary Substation near Umatilla. Impacts described between McNary and Slatt have still been included since that portion of line will be required when the second powerhouse is installed at McNary Dam. Cumulative impacts of these projects would be as presented below.

Corridors as discussed herein are broad paths up to 2 miles (3.2 km) wide, identified during early stages of transmission line planning and environmental analysis, within which a line may be located. Impacts are discussed for elements common to all corridors presented.

N A T U R A L R E S O U R C E S

A t m o s p h e r e

The amount of increased atmospheric pollution (gases and particulate matter) from transmission facility construction is primarily a function of the length of the line as it relates to vegetation disposal, access road preparation, and vehicular activity on or near the right-of-way. Other factors are proximity to population centers, weather, and rate of atmospheric dispersal.

Construction, operation, and maintenance of a transmission line along any of the alternate corridors would not significantly alter the region's air quality. Impacts to air quality would be short-lived localized inconveniences of construction and would not have any long-term impacts on the atmosphere.

Excavation for tower footings, access road construction, and substation site development would result in local dust pollution. Generally the dust would settle quickly. During windy periods, the dust would be dispersed, possibly impacting occupants of nearby homes. Exhaust emissions from construction vehicles would not cause any significant adverse impacts.

In heavily forested areas, right-of-way clearing would require slash disposal. Burning of slash would introduce smoke (combustion-by-products) into the atmosphere producing a one-time local impact. The degree of impact would be a function of local weather conditions and the rate of atmospheric dispersal.

BPA will allow contractors to use controlled open burning to dispose of these materials where and when permitted by local, State, and Federal air pollution regulations. The mitigating measures employed by BPA and/or our contractors in the performance of routine construction work are discussed in BPA's Role EIS, Appendix B, Chapter VIII, Section A.1.

Operation of the transmission lines would produce very minor amounts of oxidants (ozone and nitrous oxide). These are produced by small irregularities on the conductor surface (usually dust, water droplets, or insects) which cause a distortion in the electrical field, resulting in a breakdown of air immediately adjacent to the conductor causing ionization.

Experience and studies to date indicate the amount of oxidants produced are minimal and have no adverse effects on humans, animals, or plants (BPA, 1977). For further information concerning ozone from high-voltage lines and other potential health effects, refer to Chapter VII, Section C.2., Appendix B of BPA's Role EIS.

Proposed Plan of Service

Brownlee-Slatt Corridor 1 - As previously stated, primary atmospheric pollutants would be dust and exhaust emissions from construction equipment used for the transmission line, access roads, and site development activities. The magnitude of impact is minor and would primarily affect occupants of close-vicinity homes, parks, and highways. Brownlee-Slatt Corridor 1 passes through suburban areas of LaGrande and Umatilla which would evidence the above described short-term impacts.

This corridor would parallel or rebuild existing transmission lines over its entire length; only minor forestry clearing and slash disposal would occur near any urban areas. Impacts from slash burning would be short-term and restricted mainly to the area where the line crosses the Blue Mountains.

Buckley-Malin Corridor - Atmospheric impacts for this portion of the proposal would be similar to those described for Brownlee-Slatt Corridor 1. Impacts would be short-term and confined to smoke from slash disposal and air-borne dust raised by construction equipment. The corridor passes at considerable distance from any major population centers, consequently few people would be affected by the minor atmospheric pollution caused by transmission line construction.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - The Brownlee-Slatt Corridor 2 would result in minor amounts of air-borne dust and smoke from slash disposal. Atmospheric impacts attributable to this corridor would be similar to those for Brownlee-Slatt Corridor 1. The Brownlee-Slatt Corridor 2, however, would not cross the suburban areas of LaGrande and Umatilla described in Brownlee-Slatt Corridor 1. The Brownlee-Slatt Corridor 2 crosses more forest land than Brownlee-Slatt Corridor 1 and would require more clearing and resultant slash disposal in mountainous areas. This would increase particulate material in the air in these areas; however, it should have little impact on human populations.

Brownlee-Grizzly Corridor 1 - Atmospheric impacts associated with this corridor would be confined primarily to slash disposal from forest clearing operations and dust from construction vehicles. The corridor passes at considerable distance from any major population center. Impacts would be primarily those discussed previously concerning slash burning and would be evidenced only on a short-term basis.

Brownlee-Grizzly Corridor 2 - Impacts would be the same as for Brownlee-Grizzly Corridor 1.

Geology, Soils and Minerals

Geology and soil impacts such as erosion and compaction associated with transmission line construction are directly related to the landform crossed and its susceptibility to disturbance. Impact magnitudes are normally related to the length of corridor within each landform. Table 6 shows the percentage of corridor lengths within three generalized landforms which comprise the study area.

In the Deschutes-Umatilla Plateau, the Broad Valley, and the High Lava Plain Landforms, most transmission line construction impacts would be related to agricultural soils. Construction disturbances and vegetation removal in areas of coarse to fine sandy soils could allow accelerated wind erosion and produce blowouts, impacting areas on and adjacent to the right-of-way. Nearly level landforms like the three discussed above are favorable for transmission line construction. Access across the nearly level terrain has minimal construction disturbance and could be confined to the right-of-way, reducing the amount of disturbed acreage. Potential for water erosion on this nearly level topography is generally low.

In the Northern Foothills, the Low Relief Uplands, the Southern Foothills and Valleys, and the Basin and Range landforms, the gentle to moderately undulating terrain poses road grade limitations and forces access roads to be less direct. Occasionally, access roads would leave the right-of-way, moderately increasing the ratio of access road miles to miles of transmission line. Increased impacts would result from additional acres disturbed by road construction. Soils exposed during road bank cut and fill operations and

TABLE 6 Percentage Corridor Lengths Within Generalized Landform

SLOPE	GENERALIZED LANDFORMS	BROWNLEE/ SLATT CORRIDOR 1	BROWNLEE/ SLATT CORRIDOR 2	BROWNLEE/ GRIZZLY CORRIDOR 1	BROWNLEE/ GRIZZLY CORRIDOR 2	BUCKLEY/ MALIN
NEARLY LEVEL	Deschutes-Umatilla Plateau					
	Broad Valleys	59	39	4	2	62
	High-Lava Plain					
GENTLE TO MODERATE	Northern Foothills					
	Low Relief Uplands					
	Southern Foothills and Valleys	23	41	23	73	31
	Basin and Range					
MODERATE TO STEEP	Non-Forested Moderately-Rugged Mountains	18 *	20	73	25	7
	Forested Moderately-Rugged Mountains					



right-of-way clearing in these areas would have a low to moderate potential for evidencing increased water erosion effects.

In the Forested and Non-Forested Moderately Rugged Mountains, the hilly terrain would significantly influence access road locations. Access would be indirect and require an increased ratio of access road miles per mile of transmission line. Again the greater length of access would proportionately increase potential impacts. Water erosion potential on exposed soils ranges from low to high depending on slope and soil type. Small local road cut failures could be expected. Road cuts through granite have a high erosion potential due to the granular infertile nature of the weathered rock that inhibits growth of stabilizing vegetation. High erosion potential also exists where construction is through areas underlain by tuffaceous deposits.

In the Rugged Mountain Landform the steep slopes could require road construction activity which could result in high impacts.

In order to reduce potential erosion, compaction, and soil mixing resulting from transmission line construction, mitigation measures described in the BPA Role Statement, Appendix B, Section VIII, will be implemented during and after construction. Construction of the transmission line would not impact the present or future mineral extraction in any of the mining districts.

Proposed Plan of Service

Brownlee-Slatt Corridor 1 - This corridor would rebuild or parallel existing BPA transmission lines. Existing access along the corridor would be sufficient for construction activities. Almost 60 percent of this corridor is on nearly level terrain with low potential for water erosion. Level terrain would keep soil disturbances associated with spur road construction and temporary access across agricultural land to a minimum. Near Umatilla and Boardman, an area highly susceptible to wind erosion would be crossed. Mitigation measures set forth in the BPA Role Statement, Appendix B, would be implemented to reduce potential impacts. Termination of this alternative at McNary would eliminate the wind erosion problem mentioned above.

Buckley-Malin Corridor - Existing access could be used along this portion of the proposal requiring construction of only short spur roads. Approximately 60 percent of this corridor is on nearly level terrain. Soil disturbances and impacts would be low.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - A basic access road network exists between Brownlee Dam and Baker. Approximately 40 percent of this corridor crosses nearly level terrain where construction disturbances would be minimal. Another 40 percent of this corridor would cross gentle to moderately sloping terrain. Some access road construction would be necessary to link existing roads into a basic access road system. Soil disturbances, erosion, and compaction associated with transmission line and access road construction

would range from low to moderate and would not constitute a problem. No areas which might exhibit excessive impacts were identified along this corridor.

Brownlee-Grizzly Corridor 1 - This corridor would parallel existing wood pole lines most of the way from Brownlee Dam to near Dixie Summit, east of John Day. Approximately 75 percent of this corridor would cross moderate to steep terrain. Road construction would be necessary to link existing roads into a basic access road system. Soil disturbances associated with transmission line and access road construction would range from moderate to high. Potential impacts resulting from water erosion on these disturbed areas would be moderate.

Brownlee-Grizzly Corridor 2 - The Brownlee-Grizzly Corridor 2 would parallel an existing line out of Brownlee Dam for only a short distance. The remainder of the route would require access road construction. Approximately 75 percent of this route would cross gentle to moderate terrain. The nature of potential soil disturbances and impacts would be the same as those described under the Brownlee/Slatt Corridor 2 option. Impacts would be more extensive however in light of increased line length and additional access roads required.

Hydrology

Right-of-way clearing, access road building, and tower construction contribute both directly and indirectly to hydrology impacts. Such construction activities may increase sedimentation and accelerate runoff and erosion, affecting water quality. Impacts on hydrology can vary and span the duration of the stabilization period following construction disturbance. The stabilization period may be from several months to several years depending on the geology and soil of the area, the extent of disturbance, surface runoff, and other factors. The amount of surface runoff, and to a lesser extent the water quality may experience change. Typically these impacts are most pronounced immediately after construction, but may have residual effects which can last the life of the facility. Appendix B, Chapters VII and VIII, Section A.3., of BPA's Role EIS details impacts to hydrology from construction, operation, and maintenance of a transmission line and mitigation measures used to reduce or eliminate those impacts.

Table 7 lists surface water resources that may be crossed by the proposal. The erosion potential/sediment yield categories correlate to the susceptibility of the physical landscape to impact. The number of stream crossings, the type of landforms encountered, and the sediment yield potential are indicators for impact predictions.

Executive Order 11988, May 1977, requires that each agency reduce the risk of flood loss, and minimize the impacts of floods on human safety, health, and welfare. It also directs agencies to restore and preserve the natural and beneficial values provided by floodplains.

Floodplains are defined as the lowland and relatively flat areas that are subject to a 1 percent or greater chance of flooding in any given year.

Table 7 - Major Surface Water Resources

Basin	Stream	Brownlee/Slatt Corridor 1	Brownlee/Slatt Corridor 2	Brownlee/Grizzly Corridor 1	Brownlee/Grizzly Corridor 2	Buckley/Malin Corridor	Basin	Stream	Brownlee/Slatt Corridor 1	Brownlee/Slatt Corridor 2	Brownlee/Grizzly Corridor 1	Brownlee/Grizzly Corridor 2	Buckley/Malin Corridor
Snake	Snake River	x	x	x	x		Malheur	Willow Creek					
Grande Ronde	Ladd Creek	x	x					South Willow Creek					x
	Rock Creek	x	x					Little Malheur River					x
	Whiskey Creek	x	x					North Fork Malheur River					x
	Jordan Creek		x					Summit Creek					x
	Grande Ronde River	x	x					Big Creek					x
	Fivepoint Creek	x						Lake Creek					x
	McCoy Creek			x			Malheur Lake	Bear Creek					x
	Meadow Creek		x					Silvie's River					x
Umatilla	McKay Creek	x					Deschutes	Trout Creek			x		x
	Birch Creek	x						Willow Creek		x			x
	Umatilla River	x						Buck Hollow Creek					x
	Willow Creek	x	x					Bakeoven Creek					x
	East Birch Creek			x				Wilson Creek					x
	Bear Creek			x				Hay Creek					x
	Butter Creek			x				Mild Springs Creek					x
	Johnson Creek			x				Crooked River					x
	Little Butter Creek			x				Powell Creek					x
	Balm Fork			x				Wolf Creek				x	
Rhea Creek			x			Paulina Creek				x			
Powder	Summit Creek	x	x	x	x		North Fork Crooked River					x	
	Eagle Creek	x	x	x	x		Gray Creek					x	
	Powder River	x		x	x		Horse Heaven Creek					x	
	Goose Creek	x	x				Ochoco Creek					x	
	Balm Creek	x	x				Mill Creek					x	
	Big Creek			x			Old Dry Creek					x	
	Ruckles Creek	x					McKay Creek					x	
	Lawrence Creek				x		Lytle Creek					x	
	Alder Creek				x	x	Goose and Summer Lakes	Benny Creek					x
	Sutton Creek				x			Squaw Creek					x
	Beaver Creek				x		Klamath	Sycan River					x
	North Fork Burnt River				x			Sycan Marsh					x
	North Fork Dixie Creek					x		Sprague River					x
	South Fork Dixie Creek					x		Lost River					x
Burnt River					x								
John Day	Middle Fork John Day River				x								
	Clear Creek				x								
	Bridge Creek				x								
	Dads Creek				x								
	Dixie Creek				x								
	Bear Creek				x								
	Grub Creek				x								
	Beech Creek				x								
	John Day River				x								
	Birch Creek				x								
	South Fork John Day River				x	x							
	Cottonwood Creek				x								
	Birch Creek				x								
	Rock Creek				x								
	Bridge Creek				x								
	West Branch Bridge Creek				x								
Bear Creek					x								
Murderers Creek					x								

Source: Geological Survey. "Hydrologic Unit Map - 1974: State of Oregon"



The effects of the plans identified, to and within floodplains, cannot yet be accurately determined at this early planning stage. All corridors cross a number of streams and involve construction of facilities across possible 100-year floodplains. No practicable alternatives have been identified which would avoid crossing these lands. It is BPA's intention to be in conformance with local floodplain protection standards. In most cases, the flood prone areas would be spanned; consequently no structures would be needed on those lands. If any structures are required in a floodplain zone, they would be built to withstand a 100-year flood. Structures would also be designed to minimize impact to and within floodplains. BPA will be in compliance with all state and Federal floodplain and wetland regulations.

Proposed Plan of Service

Brownlee-Slatt Corridor 1 - As shown on Table 8 and discussed in the previous section, this corridor is predominantly on nearly level to moderately sloping terrain. The table shows about 85 percent of the corridor traverses land with low to moderate sediment yield potential. It has few stream crossings in comparison with other routes, but parallels the course of the Grande Ronde and Umatilla Rivers for several miles with no predicted impact. How close the line will be to the rivers and actual impacts expected will be more fully detailed in the location phase.

A few small wetlands are encountered. It is likely these features can be either avoided or spanned. BPA will not locate within wetlands unless there is no practical alternative. Hence, most impacts can be prevented or minimized. If it were necessary to locate in such areas, all practical measures will be employed to minimize adverse impact to them.

Overall the expected impact level would be low because an existing line could be rebuilt or paralleled and relatively few new or improved access roads would be required decreasing potential sediment increases to undisturbed streams. The proposal would not increase flood hazard.

Buckley-Malin Corridor - Over 90 percent of this portion of the proposed plan of service crosses nearly level to moderately sloping terrain. Seventy-five percent of the route is classified as having low sediment yield potential; 25 percent is classified as high. Relatively little physical disturbance is expected since existing access roads can be used for most of this parallel line. In addition, little forested land needs to be cleared and few streams are crossed. Several small wetlands are encountered along this route. They are predominantly marshy spots and playas. Since a corridor and road systems are already established, little additional impact to that currently experienced is expected. Overall, the impact potential on water features is low.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - Eighty percent of the corridor traverses nearly level to moderately sloping terrain, and about 75 percent of the line crosses land with low to moderate sediment yield potential. More right-of-way clearing through forested land would be required than for the Brownlee-Slatt Corridor 1. A larger number of stream crossings also would be required, but most of these crossings would be from ridgetop to ridgetop thus avoiding water resources. Riparian vegetation should be largely undisturbed by tower placement. Access roads required to cross stream valleys would be the main source of impact resulting in erosion and sedimentation as described previously. Few wetlands are encountered. It is likely impacts could be avoided when centerline location studies are done. When they cannot be avoided, all practical design and construction measures would be taken to minimize impacts.

Although this route is the shortest under consideration, it would require new nonparallel right-of-way and access roads for most of its length. Overall the impact to hydrology would be low to moderate.

Brownlee-Grizzly Corridor 1 - The majority of the corridor crosses moderate to steeply sloping land. A little over half of the corridor traverses land with low to moderate sediment yield potential, and nearly 40 percent is on land with high sediment yield potential. A substantial amount of the corridor requires right-of-way clearing through forested land. Another significant segment of the route in the John Day Valley and the Powder River Basin passes through open range vegetation across the grain of the topography (crossing ridge to ridge). A large number of streams are crossed; however, as in Brownlee-Slatt Corridor 2, little impact is expected except from the access road system.

Several wetlands are encountered in the upper John Day and Powder River Basins. As mentioned previously, most impacts can be avoided or minimized. However, tower structures and/or access roads may be required where increased sedimentation and soil compaction would be evidenced. All practical design and construction measures to minimize these conditions would be taken.

In comparison to other corridors, the impacts would be moderate to high because of the steep terrain, high sediment yield potential, and the amount of physical disturbance from clearing and road construction.

Brownlee-Grizzly Corridor 2 - Most of the Brownlee-Grizzly Corridor 2 crosses gentle to moderately sloping terrain; nearly 80 percent of the route is on land with low or moderate sediment yield potential. However, compared to other alternatives, this corridor would cause the most physical disturbance from access road construction and right-of-way clearing. A large number of streams would be crossed, with impacts similar to those described in the general impacts discussion. Few wetlands are found along this route, and impacts probably could be avoided or mitigated.

Table 8 - Percentage of Corridor Length Within Generalized Erosion Potential Sediment Yield Categories

Generalized Erosion Potential and Sediment Yield 1/

	Brownlee Slatt #1	Brownlee Slatt #2	Brownlee Grizzly #1	Brownlee Grizzly #2	Buckley Malin
Less than 200 tons per sq. mi. per yr.	42	39	27	48	75
200-400 tons per sq. mi. per yr.	42	36	30	31	00
400-1000 tons per sq. mi. per yr.	12	20	39	17	25
1000-2000 tons per sq. mi. per yr.	04	05	04	04	00
Number of Stream Crossings ^{2/}					

Source: State of Oregon Department of Environmental Quality. 1978. "Oregon's Statewide Assessment of Nonpoint Source Problems."

U.S. Geological Survey. 1974. "Hydrologic Unit Map - 1974: State of Oregon."

1/ Approximate percent of each corridor in the respective erosion potential/sediment yield category.

2/ The count is a comparison of higher order streams as recorded in the Oregon Hydrologic Unit Map and does not include the complete stream channel network. Many low order stream channels that usually carry water only in wet weather were not tabulated.



In comparative terms, the impact on water resources would be moderately high to high because of the number of encounters with surface water features, and the high potential for physical disturbance from construction.

Vegetation

Construction of the proposed transmission line and associated facilities will entail clearing vegetation for roads, tower sites, and stringing and tensioning pads. Shrub-steppe and forest vegetation would be crossed with clearing most significant in the forest areas. Grand fir, Douglas fir, western larch, juniper, and ponderosa pine would be removed along the various corridors where necessary.

Much of the vegetation cover removal in shrub/steppe areas would be considered a temporary disturbance. Natural revegetation of shrub species should occur within 10 years except on rocky, unproductive sites. How fast each site recovers will depend on precipitation, soil type, growing season, and livestock grazing. Some vegetation which may interfere with the construction or maintenance of the line will require permanent removal. Any clearing through forest areas constitutes long term impacts as tree species will be removed for the life of the facility.

The possible spread of noxious weeds and some poisonous plants due to construction activities could pose additional problems to landowners. Cheatgrass brome, rabbitbrush, and Russian thistle already dominate much of the overgrazed areas adjacent to and within the right-of-way and can be expected to spread to disturbed areas. BPA cooperates with local weed control districts and landowners to prevent the spread of noxious weeds and poisonous plants wherever possible.

Impacts to the four zones in the Shrub-Steppe Province are expected to be minimal and temporary. Whether any impacts would be long-term would depend on the maintenance policy within the right-of-way and on access roads.

Forest Provinces (grand fir and ponderosa pine) will be impacted wherever they are encountered. Long-term impacts include: periodic maintenance and clearing; land removed from timber acreage base; productive capacity losses; interference with timber management practices; and changes in the vegetative composition of cleared sites.

Unauthorized use of BPA access roads by off-road vehicles may cause further damage to adjacent and surrounding vegetation. Associated vegetation removal can increase wind and water erosion and can cause minor impacts to wildlife habitat.

Threatened and endangered plants are usually so classified due to their low tolerance levels to various types of competition or because of restricted habitat. Any clearing near such classified plants can alter the balance of their habitat resulting in their possible elimination.

Further discussion of generalized impacts on vegetation and mitigating measures to minimize those impacts are described in BPA's Role EIS, Appendix B, Chapter VIII, Section A.4.

Proposed Plan of Service

Brownlee-Slatt Corridor 1 - From Brownlee Dam to LaGrande the existing corridor traverses the Big Sagebrush Zone and a small part of the Western Juniper Zone. Clearing will not be extensive with only occasional junipers requiring removal. Revegetation in this area should be complete within 10 years. Between LaGrande and Pendleton clearing would be extensive. This portion of the corridor crosses the Blue Mountains and impacts the Grand Fir Zone. Approximately 20 miles (32 km) of timber clearing would be necessary for a parallel line, removing this land from further timber production. Regrowth can be expected to be in the form of grasses and shrubs. The Steppe Zone from Pendleton to Umatilla and the Big Sagebrush Zone beyond have been altered by farming practices and little natural vegetation remains. Impacts to native vegetation would be of a minor consequence and of short duration. Natural revegetation should be complete within 10 years. If this project is terminated at McNary the Big Sagebrush Zone mentioned would not be affected.

Buckley-Malin Corridor - Very few clearing impacts on the shrub-steppe vegetative zones are anticipated between Buckley Substation and Malin Substation. Occasional areas may be cleared during construction periods but overall impacts would be minor and of short duration.

A small amount of the Ponderosa Pine Zone, encountered near the Sand Spring compensation station and forest areas south of Silver Lake will require extensive clearing. Any cleared timber areas would be removed from future production for the life of the facility. Revegetation would be in the form of grasses and shrubs. A total of approximately 40 miles of forest land would be crossed but with minimal impacts. Overall the impacts attributable for this portion of the proposed plan would be minor.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - Extensive clearing will not be required between Brownlee Dam and LaGrande for the Brownlee-Slatt Corridor 2. However, further west in the Blue Mountains the Grand Fir and Ponderosa Pine Zones would require much clearing. This corridor crosses approximately 30 miles (48 km) of forest vegetation. Impacts and revegetation cycles would be the same as those described for forest areas of Brownlee-Slatt Corridor 1. From Heppner to Slatt Substation little vegetative clearing will be required. The only vegetative type encountered over this portion of the corridor would be the Shrub/Steppe. Impacts here would be minimal.

Brownlee-Grizzly Corridor 1 - From Brownlee Dam near Baker, western juniper, and big sagebrush are intermittently crossed with very little impact. Only an occasional tree would require removal. Revegetation should take place within 10 years. From Baker west to the John Day Valley, Grand Fir and Ponderosa

Pine Zones would be crossed with extensive vegetative clearing resulting. Big sagebrush is again encountered in the John Day Valley with little predicted impact. Vegetation gradually changes to juniper, then ponderosa pine and grand fir stands in the Ochoco Mountains. Again extensive clearing would be necessary. Approximately 42 miles (67 km) of timberland would be cleared along this corridor. Impacts discussed for previous corridors would be evident.

Brownlee-Grizzly Corridor 2 - Vegetation from Brownlee Dam southwest to the Grant/Malheur county line is the same as described in Brownlee-Grizzly Corridor 1. From here westward large tracts of ponderosa pine and grand fir are encountered along with smaller tracts of western juniper and big sagebrush. The majority of Crook County is in the Western Juniper Zone with only a small amount of ponderosa pine. Approximately 47 miles (75 km) of forest land would be crossed by this corridor. Associated impacts would be the same as those discussed for timber lands under Brownlee-Slatt Corridor 1.

Wildlife

Potential impacts resulting from construction of the proposed transmission facilities would occur primarily through the physical disturbance of wildlife and the elimination or modification of habitat. Studies to date have yielded no indication of adverse impact to wildlife through electrical effects associated with transmission lines.

Impacts are significant if the habitat is critical to "threatened" or "endangered" wildlife. Impacts may be more intense where the proposed facilities would traverse new rights-of-way requiring new access roads; where there is introduction of additional obstacles into waterfowl flyways; or where there is clearing of corridors through timbered areas.

Habitat modifications that result in impacts on wildlife generally are related to one of the following:

1. Physical change in habitat that occurs as a result of construction of the proposed transmission facility, e.g., vegetation removal or alteration, water siltation, or introduction of man-made structures.
2. Additional human access to wildlife due to construction of new roads increasing disturbance potential to wildlife.
3. Temporary introduction of workmen, construction equipment, and resultant noise to wildlife habitat which would have short-term direct disturbance on wildlife.

The construction and maintenance of the transmission facility may have both beneficial and adverse impacts on wildlife as discussed below.

Terrestrial - There would be disturbance of wildlife behavior immediately adjacent to the transmission corridor, access roads, and substations during

construction due to human activity, noise, dust, etc. Most species would leave the area temporarily, but should return after construction activities cease. Construction through nesting, calving, breeding, resting, and wintering areas would be expected to have a greater impact than other portions of the right-of-way. Impacts could be significant where habitat is eliminated and particular species are highly dependent on this area. Short-term effects could result where the transmission line would cross seasonal migration routes for big game. If construction and migration were concurrent in a critical area, disruption of normal routes might be evidenced. According to available studies, transmission lines cause no known long-term impacts to big game migration routes or feeding and resting areas (Goodwin, 1975). Transmission lines could possibly create obstacles in waterfowl flyways and change flight behavior depending on where feeding and resting areas were in relation to the line.

Aquatic - Construction activities (mainly new or improved access roads and right-of-way clearing) for the transmission facility would have adverse impacts on aquatic wildlife as a result of increased stream sedimentation. These impacts would be increasingly significant when they occur in combination with an increase in water temperature such as that caused by the removal of streamside vegetative cover. Critical areas would be those portions of streams used for spawning. Loss of spawning habitat could affect the food chain for other species that rely on spawned-out fish for their food source.

For more detailed impacts to terrestrial and aquatic wildlife, refer to Appendix B, Chapter VII, Section A.5., of BPA's Role EIS.

Proposed Plan of Service

Brownlee-Slatt Corridor 1 - Because this corridor would parallel or rebuild existing transmission lines for most of its length, minimal adverse impacts would occur to wildlife populations. An exception would be additional obstacles in waterfowl flyways increasing the potential for collision. Important flyway and waterfowl habitat areas along the corridor include: Thief Valley Reservoir, Power City Wildlife Management Area, and the Umatilla National Wildlife Refuge. During periods of poor visibility or when large flocks are taking off or landing, transmission lines may present a hazard to waterfowl. Flight patterns at the Power City Wildlife Area may be altered affecting seasonal hunting.

Terrestrial species are not expected to evidence significant impacts as a result of building this corridor option. It is estimated that 54 miles (86 km) of deer and elk wintering ground would be crossed by the proposed plan of service. Most would be over open, brushy terrain and would not require clearing. The transmission line should have little effect in this area. Fifteen miles (24 km) would be through areas of forest cover where trees would be removed, however, considering the large quantities of similar cover available nearby, it is not expected that this would be a detrimental factor to the winter range. Impacts to the winter ranges are also not as significant as they might be because of the proximity of rail lines, major roadways, and

urban areas which lend to restricted use of feeding and resting ground by deer and elk. The addition of the transmission line to an already impacted area is not expected to contribute greatly to a lowering of the use of the winter range.

No adverse impacts are expected to "endangered" or "threatened" wildlife species.

Buckley-Malin Corridor - The Buckley-Malin portion of the proposed plan of service would have little impact on wildlife due to minimal clearing of trees and lack of need for new access roads. A major concern would be the additional obstacles created by the transmission line within a waterfowl flyway between Summer Lake, Silver Lake, and Paulina Marsh. The addition of another corridor may change flight behavior and increase potential for bird mortality due to collisions with transmission lines.

The corridor crosses several important antelope and deer wintering areas but should have only short-term impacts. The short-term effects would include additional stress to the animals during construction. Forty miles (64 km) of deer and elk winter range would be crossed by this corridor, most of it over the southern portion of the line. Little forest thermal cover would be removed and few new access roads would be required. Overall impact is anticipated to be minor. In addition, 13 miles (21 km) of antelope range would be crossed. Most of this land would be open range. No significant impacts are anticipated.

No adverse impacts are expected to "endangered" or "threatened" wildlife species along the corridor.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - This corridor would result in significant habitat modification from clearing of forest land and increased access, which would increase human disturbance of wildlife adjacent to access roads. These long-term impacts would remain for the life of the line.

This corridor probably would have the most significant adverse effects of any corridor on elk and deer and their winter ranges through the Whitman and Umatilla National Forests. An estimated 55 miles (88 km) of deer and elk winter range would be crossed. Twelve miles of this total would require removal of forest thermal cover. Impacts would be significant because little access is currently available in this area thereby allowing animals to winter in relatively undisturbed conditions. New access roads required for the transmission line could allow for increased hunting activity in the area and increased vehicular traffic which would disturb wildlife utilizing the winter range.

Clearing along the new right-of-way could have adverse effects on cavity-nesting birds and other species dependent on old growth timber such as the northern spotted owl.

There would be no impact to waterfowl or to threatened or endangered species as a result of building this corridor.

Brownlee-Grizzly Corridor 1 - A considerable number of new access roads and much clearing for new rights-of-way would be required for this corridor. There would be similar impacts to wildlife as outlined under Brownlee-Slatt Corridor 2. The Brownlee-Grizzly Corridor 1 would have significant adverse impacts to wildlife due to clearing needed for the new right-of-way.

No impacts to waterfowl or endangered or threatened species would occur as a result of this option. General wintering areas for big game would be traversed but impacts would be minimal. A total of 27 miles (43 km) of deer and elk winter range would be crossed by this corridor. Only 5 miles (8 km) would consist of forest thermal cover, the rest is open rangeland. Little disruption would be evidenced on this winter range.

Brownlee-Grizzly Corridor 2 - Brownlee-Grizzly Corridor 2 crosses several key elk and deer winter ranges south of Dayville, Oregon on the Ochoco and Malheur National Forests. A total of 58 miles (83 km) of deer and elk winter range would be crossed. Of this total 36 miles (58 km) would require forest thermal cover removal. Much of the winter range along this corridor is pristine and little disturbed. Access roads required for this corridor would increase hunting pressure and could result in additional vehicular traffic. The corridor also traverses important pronghorn antelope habitat in Bear Valley just south of Seneca, Oregon. Impacts from this routing would be high due to the sensitive wildlife areas crossed. There would be no impacts to waterfowl and endangered or threatened species.

RESOURCE USE AND SOCIOECONOMIC RESOURCES

Demographic and Economic Impacts

Establishing transmission line rights-of-way proceeds in stages. In order, these include reconnaissance and surveying, land appraisal and acquisition, right-of-way clearing and road system improvement, and finally line and/or substation construction. The skills needed for these construction activities are specialized and often not available locally. Consequently, there is a need to bring in a large percentage of the work force. This can result in demographic and economic impacts to communities. Workmen require housing and food, and a variety of trade and service items. The work force is seldom concentrated anywhere long enough to strain a community's resources. Actual impact of any population increase on a community depends largely on the size of the community and its facilities and the magnitude of the project. Usually only a few workers bring their families; most stay in motels and/or hotels, and the rest use trailer facilities.

Temporary construction jobs are often available to local residents. If people are not available locally, they are recruited elsewhere. BPA and its contractors attempt to use local facilities and equipment when possible, especially to perform clearing and grading operations and supply the concrete

and rock for substation construction. The potential income from increased employment, trade, and services is a positive economic effect for most communities, especially in predominantly rural, low population areas.

Small towns near the proposed projects could experience some short-term effects. These towns would not be permanent headquarters for construction crews and would not house any of the work crews. Nevertheless, crews would probably purchase some items in these towns and their presence would be obvious in small communities. Generally, the ability to absorb economic and social impacts is directly related to community size (Wise 1974). Most construction work on transmission lines is performed during the summer and has a seasonal impact on community services.

Table 9 and the following discussion summarize the potential demographic and economic impacts. The extent of impacts to demographic and economic resources is primarily a function of line length as it relates to construction crew size, duration of the project, and proximity to service facilities. Impacts are generally short-term, low in magnitude, and similar for all alternatives.

Proposed Plan of Service

Brownlee-Slatt Corridor 1 - Construction of this corridor is expected to have low impacts. This plan option would employ between 217 and 251 total estimated workers. The incoming work force will require local services for 20 to 28 months, providing a temporary stimulus to the local economy. Workers would not be concentrated in any one spot along the line, hence communities would not be servicing a large workforce.

Buckley-Malin Corridor - This portion of the proposal also has low impacts to economic and demographic resources. The hiring of an estimated 75 to 83 workers from either the local area or outside sources would be necessary. The construction time of 20-26 months is similar to the other plan options.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - Impacts would be equivalent to those detailed for the Brownlee-Slatt Corridor 1 plan option.

Brownlee-Grizzly Corridor 1 - Brownlee-Grizzly Corridor 1 would require about the same number of workers as the Brownlee-Slatt Corridor 1 plan. The construction time is the longest among the alternatives at 28 to 34 months. The incoming work force would require local services during construction.

Brownlee-Grizzly Corridor 2 - Impacts are estimated to be the same as those for the Brownlee-Grizzly Corridor 1 plan option.

Agriculture

Impacts to farmland depend on the type of transmission line to be built, the crop to be crossed, and the farming practices in use (i.e. irrigated or

nonirrigated and the type of irrigation systems used). The main concerns when crossing agricultural areas are lands taken from production and interference with farming practices.

Impacts incurred while crossing irrigated lands are more severe than for nonirrigated lands. Irrigation increases the value of the land by allowing intensive farming practices, high production levels, and the raising of high value crops. Especially important are large irrigation project developments such as those between Umatilla and the Slatt Substation. Projects of this magnitude have a reliable water supply and the fertility status is maintained through management programs. Any alteration of these lands would have a high adverse impact. Impacts to irrigated lands are usually ones of obstruction in which the presence of towers may alter the irrigation system in use. In many cases this means removing some lands from production.

Safety hazards are also increased around irrigated farmlands. Loss of life has resulted from people raising irrigation pipes into powerlines while moving the pipes. To alleviate this safety problem, BPA has established minimum conductor clearances which meet or exceed the standards established by the National Electric Safety Code. In addition BPA personnel endeavor to inform farmers of safety practices they can observe to minimize safety hazards.

In most cases cultivation can take place to within a few feet of the tower base, so land taken from production occurs only at towers. Towers however, interfere with equipment operation as additional time is required to farm around them. The potential for damage to farm machinery also increases. Compaction of soil, overfertilization, and overseeding can also result from the extra passes farm equipment must make around towers.

Construction of a high-voltage transmission line will require the movement of equipment along the transmission line right-of-way, occasionally through cultivated fields. Heavy equipment such as trucks, backhoes, cranes, and bulldozers will be used. Unavoidable disturbance to crops, and compaction and rutting of soils will result. When footing excavation, backfilling, and tower assembly and erection take place, soil conditions may be significantly altered and crops may be destroyed. Operation of sprinkler irrigation systems (side roll, solid set, and circles) may be interrupted if construction occurs during the growing season.

Upon completion of construction, BPA will compensate the landowners for any crop damage and the cost of subsoiling compacted and rutted areas. Payment is also made for alteration of existing irrigation systems, loss of irrigable land, and/or damage to irrigation systems, drainages, and fences.

For further information concerning the effects of transmission line construction on agricultural areas see BPA's Role statement, Appendix B, Chapter VII. More specific impacts attributable to various corridors for this project are detailed below.

Table 9 - Demographic and Economic Considerations Related to Construction Activities *

Considerations	Plan A - Brownlee-Slatt		Plan B - Brownlee-Grizzly		Plan C - Buckley-Malin
	Alt. A-1 Parallel Route	Alt. A-2 Southern Route	Alt. B-1 via John Day Valley	Alt. B-2 Southern Route	Parallel Route
Approx. Range in Facility Size	206 miles	186 miles	216 miles	231 miles	232 miles
Total Number Employed	246-261	217-222	246-251	284-294	289-299
Number Hired from Local Area	57-61	52-56	57-61	75-83	75-83
Length of Time Needed to Complete Project (months)	20-23	21-28	28-34	22-26	20-26
Average Wage (\$/hour)	10	10	10	10	10
Estimated Potential Wages Paid to Local Employees** (\$ 000)	888	880	1,035	1,180	1,163

* Although this information is based on general estimates, it is included to provide some indication of the potential socioeconomic impacts that can be expected with the clearing and construction activities required for the proposed project.

** This does not take into consideration the potential income that will be derived from providing trade and services (i.e., food, lodging, entertainment, equipment, supplies, etc.) to the work force by local businesses.

Source: Line Construction Section, Branch of Construction, E&C Division, BPA.



Proposed Plan of Service

Brownlee-Slatt Corridor 1 - This corridor crosses approximately 11 miles (18 km) of dryland wheat between the Blue Mountains and Umatilla and 28 miles (45 km) of irrigated farmland between Umatilla and the Slatt Substation. The land between Umatilla and Slatt Substation would not be effected until the second powerhouse is installed at McNary. At that time a new line would be required over this section of the Brownlee-Slatt corridor.

Greatest potential for impact will be in the Hermiston, Umatilla, and Boardman districts where large agricultural developments with a great amount of circular irrigation and intensive farming practices are notable. Depending on location and design, line construction could cause alteration or curtailment of some irrigation by inhibiting movement of equipment. This may result in the loss of some highly productive land. Much of the farmland to be impacted is classified as prime and unique by the Soil Conservation Service. Although not restricted from crossing prime and unique farmlands, it is BPA's policy to avoid them whenever possible or to mitigate any adverse affects through selective tower location.

Restriction of equipment movement with resultant soil compaction, overfertilization, and overseeding would be the main impact to dryland agricultural areas. Loss of minor amounts of productive land (up to 2 acres, 1 ha, per mile) may be evidenced. Possible interference with aerial crop spraying may also take place, however since this corridor option parallels or rebuilds an existing line, the impact would be somewhat minimized.

Additional and more specific details concerning impacts to cropland will be presented in the Facility Location Supplement.

Buckley-Malin Corridor - Approximately 2 miles (3 km) of irrigated and 6 miles (10 km) of nonirrigated farmland would be crossed by this corridor. While the farmlands crossed by this portion of the proposal could sustain crop damage, soil compaction, and possible interference with irrigation, the total impact to agriculture would be minimal when comparing agricultural land to the total amount of land crossed.

Some land used for dryland wheat will be permanently removed from production by the substation site at Buckley. The total number of towers in farmland will be determined when the centerline is established and tower locations are fixed. More specific impacts will be described at that time.

This corridor will not cause a significant change in continued use of the farmland. No prime and unique farmland would be crossed.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - Brownlee-Slatt Corridor 2 would have a much lower impact on agricultural land than Brownlee-Slatt Corridor 1. This line is routed to avoid the majority of irrigation areas which Brownlee-Slatt Corridor 1 impacts. Approximately 3 miles (5 km) of irrigated land would be crossed.

Nearly 27 miles (43 km) of dryland wheat is within the corridor study area, however, careful line location could avoid most of the productive areas. By heading westward from LaGrande towards Heppner the transmission line skirts the fringe of the southern boundary of the wheat lands, thus missing most of them. From Heppner the line swings northwest to Slatt. It would be nearly impossible to miss all wheat fields here, but by locating near canyon rims, impacts should be minimized. Little irrigated land would be disturbed by this route, and only a small section of prime and unique farmland would be crossed with little resultant impact to farming operations or productive land. General impacts to irrigated and nonirrigated lands would be the same as detailed for Brownlee-Slatt Corridor 1. Impacts to aerial spray operations would be greater due to the introduction of a flight obstacle where none previously existed.

Brownlee-Grizzly Corridor 1 - The corridor from Brownlee to Grizzly through the John Day Valley avoids almost all agricultural land. Only 2 miles (3 km) of nonirrigated farmland would be crossed. Impacts would be minimal with little resultant loss of productive land and only minor interference with farming practices. No designated prime and unique farmland would be crossed.

Brownlee-Grizzly Corridor 2 - The Brownlee-Grizzly Corridor 2 crosses no agricultural land and consequently would have no impact on them.

Forestry

The main impacts of a right-of-way through commercial forest land would be the removal of timber, loss of productive capacity, and interference with timber management practices. These impacts are long-term and irreversible for the life of the line. Impacts are substantially reduced through paralleling or rebuilding an existing right-of-way and/or by crossing timber lands of marginal productivity. Clearing within stands of ponderosa pine is usually less extensive than in other commercial forest types because their growth often occurs in open, park-like stands; consequently, fewer trees must be removed. Clearing of lodgepole pine or other conifers will represent lower value lost, though the total volume removed will probably be greater than required for ponderosa pine. Areas cleared of trees will remain so through periodic maintenance of the right-of-way.

Further description of impacts to forest lands and mitigation measures employed to help alleviate these impacts can be found in BPA's Role EIS, Appendix B, Chapter VII, Section B.1.

Brownlee-Slatt Corridor 1 - The Brownlee-Slatt Corridor 1 crosses approximately 20 miles (32 km) designated as forest land, 10 miles (16 km) of which are considered of commercial value. Commercial timber resources along this route are confined primarily to the Umatilla National Forest. The proposed corridor parallels or rebuilds an existing right-of-way. Additional clearing would be required for a parallel route as the present right-of-way is too narrow to accommodate the proposal and the existing lines. Rebuilding the present line would substantially reduce any clearing required. Further

information concerning such impacts will be presented in the Facility Location Supplement when additional design and location information is available.

Sparse, widely scattered timber stands occur in gullies along the corridor from LaGrande to a point northwest of Hilgard State Park. Only minor clearing for a parallel route would be required in the gullies. Little productive potential would be lost.

Near Hilgard the timber becomes larger, dense and commercially valuable. Several stands of stagnated lodgepole pine are also located here. Only a few openings in the timber occur, primarily on south-facing slopes and ridge tops. Practically all of the stands have extensive beetle kill and large salvage cuts are underway. Clearing of commercially valuable trees would be required near the boundary of the Umatilla Indian Reservation. No timber would be affected between the Reservation and the Slatt Substation.

Areas which undergo timber clearing for transmission line construction would be restricted from revegetation in tree species. It is estimated that approximately 300 acres (122 ha) overall would be permanently eliminated from timber production uses. The existing timber on these acres would be salvaged, but future reforestation would be restricted as it would interfere with the operation and safety of the transmission line. Periodic chemical use or hand cutting would be employed during maintenance operations to keep trees from interfering with the operation or reliability of the line.

Overall impacts from this corridor option would be low.

Buckley-Malin Corridor - Forty miles (64 km) of designated forest land would be crossed by the Buckley-Malin Corridor, 20 (32 km) of which are considered to have commercial value. Commercial timber resources along this portion of the proposal are generally limited, and the existing right-of-way is wide through the forested areas meaning little additional clearing would be required. Roughly 15 to 20 percent of the total right-of-way length would cross marginal forest land. The forest land is within the Deschutes and Fremont National Forests.

Timber stands are very sparse and widely scattered where the right-of-way would pass through the Deschutes National Forest. Timber removal can be confined to a few isolated trees. This area is arid and semi-arid and its productive capacity is very low.

The existing right-of-way remains wide through the timberlands on the Fremont National Forest. Impacts from timber removal will thus be greatly reduced. Productivity is higher than on the east edge of the Deschutes National Forest and some productive timberland will have to be cleared.

The density of the timber and its productivity increase as the right-of-way rises over the Black Hills. The U.S. Forest Service classifies much of this land as timber producing. The right-of-way remains wide but some clearing will be required through large, dense timber. Timber management activities,

mostly shelterwood cuts, are in evidence. The timber ends at the Sprague River Valley, but more valuable commercial timber would be cleared as the right-of-way rises out of the valley. Timber clearing would continue to just south of the National Forest boundary. Areas evidencing timber removal would remain so for the life of the facility. Total loss of commercially productive forest land is estimated at 120 acres (49 ha). Trees removed on these acreages would be salvaged during clearing operations, however, future use of the land for timber production would be restricted for the life of the facility.

The new switching station at Buckley and the substation expansion at Malin do not encroach on timberland. No impacts to forestry will occur at these sites. Overall impacts to forest land would be low because much of this corridor has been previously cleared.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - Nearly 30 miles (48 km) of designated forest land is crossed by this corridor. Approximately 20 miles (32 km) is located through commercial timberlands. Higher value timber is privately owned. Commercial timber of lower value occurs on the adjoining portions of the Wallowa-Whitman and Umatilla National Forests. A right-of-way would be cleared through these timberlands to the Grande Ronde river valley. This valuable and productive timberland represents about 35 percent of all the forest land crossed.

The remaining 65 percent of commercial timberland occurs between Starkey and the Umatilla National Forest boundary. Large amounts of beetle-killed timber are present (up to an estimated 50 to 60 percent in some stands) and large salvage cuts are in progress, leaving only a few scattered trees standing.

The remaining timber consists primarily of scattered large ponderosa pine with smaller lodgepole pine in the understory. Productive potential lost and timber cleared would be of lower value than on privately owned timberland.

Estimated loss of productive timber land along this corridor is 650 acres (263 ha). Timber would be salvaged during right-of-way and access road clearing activities. Lands cleared of timber would be restricted from production for the life of the facility.

Overall impacts to forest resources from this option would be moderate.

Brownlee-Grizzly Corridor 1 - Approximately 42 miles (67 km) of this corridor crosses designated forest land. Commercial timberland occurs along this corridor primarily in the Wallowa-Whitman and Umatilla National forests and overall totals 10 miles (16 km). This portion of the corridor parallels an existing powerline which will reduce impacts on forestry. Some commercial timber also occurs farther west where the route crosses the northwest corner of the Ochoco National Forest. As with other corridors through eastern Oregon, large areas of beetle kill occur and salvage cuts are underway. Some clearing of timber along this route is required but the impacts are generally low.

Open stands of large ponderosa pine would require some clearing as the corridor skirts the south edge of the Sumpter Valley. Denser timber occurs as the corridor continues west near Huckleberry Mountain. Thickets of stagnated lodgepole pine occur with large ponderosa pine dominating the overstory. Ridgetops are generally devoid of timber. Some clearing is required but paralleling the existing line will reduce impacts. The timber ends as the route crosses into the John Day Valley.

Timber does not occur again until the corridor is inside the northwest corner of the Ochoco National Forest. Over half of the corridor inside this National Forest contains no timber. The last 10 miles near the forest boundary contains mostly open stands of timber in gullies. Scattered large ponderosa pine is the most important tree. Productivity is low to moderate. Total productive timber land expected to be removed is 750 acres (304 ha). Trees cleared from this land during the right-of-way and access road construction process will be salvaged, however, land needed for right-of-way purposes and access roads would be lost from production for the life of the line.

Overall impacts attributable to this alternative would be moderate.

Brownlee-Grizzly Corridor 2 - About 45 miles (72 km) of this corridor crosses commercial forest land in the Wallowa-Whitman, Malheur and Ochoco National Forests. There is some beetle kill, but its incidence appears lower than along the other corridors. As a result, timber land values are higher. Clearing timber would cause high impacts (due to loss of productive land) primarily where the corridor crosses the Malheur National Forest. Productivity, timber value, and consequent impacts generally decrease as the corridor continues west.

Scattered park-like stands occur for about the first 10 miles (16 km) inside the Malheur National Forest boundary. The Brownlee-Grizzly Corridor 2 also passes through a proposed 600-acre (240 ha) Forest Service Research Natural Area, however, the corridor here has been previously cleared and little impact is predicted. Just west of this Research Natural Area, dense commercially valuable ponderosa pine with low beetle kill begins on relatively productive sites and continues to the east end of Logan Valley. Dense timber reappears as the corridor rises out of this valley and continues to the northeast edge of Bear Valley. High impacts will occur along this section if a right-of-way is cleared. Large timber again appears west of Bear Valley but is more widely spaced, and stands of smaller-sized lodgepole pine predominate. These forest lands continue west to the Malheur National Forest boundary. The sites along this section remain productive, but not as productive as the forest land to the east. Clearing would be required, with moderate impacts occurring.

The Brownlee-Grizzly Corridor 2 continues through the southern edge of the Ochoco National Forest. No commercially important timber occurs except for about 10 to 12 miles (16-19 km) of open stands near Pollard and Calle Buttes on the southwest corner of the Ochoco National Forest. Some timber management is apparent, but most of this section is not highly productive. Impacts along this section are low.

Lands which would require productive timber clearing for right-of-way and access roads is estimated at 820 acres (332 ha). This land would be restricted from timber production for the life of the facility.

Urban and Residential

Impacts to urbanized land uses will be minimal since few urban areas are near the transmission line corridors. In the more remote areas direct impacts will be limited to noise, dust, and visual impacts to nearby residents. Residents may prefer the solitude provided by their location and would be disturbed by the presence of construction crews and activities.

In the more intensely developed parts of the study area, impacts to urbanized land use may slightly differ. In addition to noise, dust, and visual impacts from construction activities, there would be more potential for conflicts with existing or future land use along the rights-of-way. Because of higher population densities there is more potential for safety hazards and traffic disruption.

The proposed facilities may cause television or radio interference. However, if residents experience television and/or AM radio interference, mitigation in accordance with BPA policy as outlined in BPA's Role EIS, Appendix B, Chapter VIII, will be undertaken to restore reception.

Proposed Plan of Service

Brownlee-Slatt Corridor 1 - The only significant concentrations of urbanized land occur along this corridor. At LaGrande the transmission line will parallel or rebuild an existing line adjacent to 15-20 residences and one apartment building. The general impacts described above (dust, noise, and visual intrusion) would occur unless an alternative alignment is identified. Further details outlining more specific impacts will be presented at the location phase when additional information on design and location is available.

Near Umatilla the existing line is also located near suburban areas. Although no direct conflict with land use has been identified with an additional line, there is potential for limiting future land uses. The Hermiston-Umatilla airport has plans for expansion which may conflict with the transmission line. Relocation of the existing and new lines could avoid this problem. Further coordination with the airport will be conducted during the location phase to avoid or mitigate impacts.

Between LaGrande and Meacham the existing line parallels I-80N and an oil pipeline. The new transmission line may cause a visual intrusion for travellers along the highway. No mechanical or safety hazards are anticipated for either the pipeline or the transmission line.

The city of Boardman has developed on either side of an existing transmission line right-of-way. In many places urban development adjoins the corridor. Two major subdivisions could be affected if construction would occur along

this corridor. Extent of impact would depend on the construction being done. Impacts over this portion of the Brownlee-Slatt Corridor I line will be delayed until the second McNary powerhouse is built. At that time this additional portion of line will be required.

Buckley-Malin Corridor - Because of the rural location of this portion of the proposal the impacts to urbanized land uses would be minimal and limited to isolated instances of construction disturbance like noise and dust to residences near the line.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - Impacts would be the same as those detailed for the Buckley-Malin Corridor.

Brownlee-Grizzly Corridor 1 - Impacts would be the same as those detailed for the Buckley-Malin Corridor. In the John Day Valley, rural residents and residents of Dayville, Mt. Vernon, John Day, and Prairie City might be able to see the line several miles away. See the visual map for additional information.

Brownlee-Grizzly Corridor 2 - Impacts would be the same as those detailed for the Buckley-Malin Corridor.

Esthetics

Impacts upon the visual resources within the study area are unavoidable. These perceived visual impacts vary according to the visual quality of the landscape, number and/or sensitivity of the viewers, viewing distance, duration of views, and the apparent contrast between the transmission line and its surroundings (Jones and Jones, November, 1976). Because of the extensive and diverse landscape settings found within the study area, only general impacts are addressed. These impacts include grading and clearing scars, skylining, and disruption of views from sensitive viewpoints. Visual impact maps (Figs. 14 and 15) illustrate the location and degree of impacts. These maps are general summaries of visual impacts. Localized areas of both higher and lower visual impacts exist but would not be significant enough to alter any planning decision. Further discussion concerning the visual impacts of transmission lines and associated activities, and possible mitigating measures can be found in Appendix B, Chapter VII and VIII of BPA's Role EIS.

Proposed Plan of Service

Brownlee-Slatt Corridor 1 - Visual impacts associated with the Brownlee-Slatt Corridor 1 are the greatest encountered, for any corridor involved. Proximity of the corridor to LaGrande, Pendleton, Hermiston, and Umatilla, and its many crossings of I-80N, expose it to a high number of viewers. The visual sensitivity of these people may vary but the combination of high viewer frequency and nearness to the line increase the potential for an adverse impact.

Buckley-Malin Corridor - Visual impacts along this portion of the proposal would be low to moderate. The existing line has already established a visual intrusion. The additional line would add to this, but would not significantly change present visual conditions. Viewer frequency would be extremely low due to the isolation of this segment.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - Visual impacts associated with this corridor would be closely related to the physical disruption of the landscape. Viewer contact would be minimal except for the crossing of I-80N south of LaGrande. The clearing of a right-of-way through the Blue Mountains would be a major visual intrusion producing a highly contrasting swath through the timber. Few viewing opportunities would be available because of the relatively flat topography and low viewer frequency. Logging, thinning, salvage operations, and sculpturing of the right-of-way during clearing would mitigate the harsh clearing edges.

Brownlee-Grizzly Corridor 1 - Viewer frequency is low with viewing opportunities screened by topography and/or vegetation. Visual impacts along this route are generally moderate. Areas of high visual impacts occur near Baker, Phillips Lake, and the John Day Valley. These areas have a high viewer frequency and/or are areas with high viewer expectations for their scenic quality.

Brownlee-Grizzly Corridor 2 - This corridor would have a low viewer frequency, but those viewers present would have a high degree of visual awareness and expectation with reference to scenic quality. High viewer sensitivity to physical disruptions within the landscape from road construction and vegetative clearing which would occur would create a high visual impact.

Recreation

A variety of outdoor recreation settings and opportunities exists in the study areas. The type and degree of impacts to recreationists vary with the setting and the activity. Impacts would be primarily on recreational viewers. Transmission facilities are more compatible and less intrusive in some landscapes than in others; this aspect is discussed under the visual section and shown on the visual resource maps (Figs. 10 and 11). Recreational activities to a certain extent influence viewer expectations and the perceived level of impact. Landscape characteristics such as topography, vegetation and water attractiveness, remoteness, and presence of discordant features also affect the recreational experience. Normally a transmission line adds a discordant element to the landscape. Transmission facilities are generally less compatible with recreational activities in undeveloped areas as compared to areas containing numerous man-made elements.

Figures 12 and 13 show the location of the alternative corridors with respect to recreation areas. The relative potential impact of each corridor reflects judgments on the proximity to the recreational features and the nature of expected impacts.

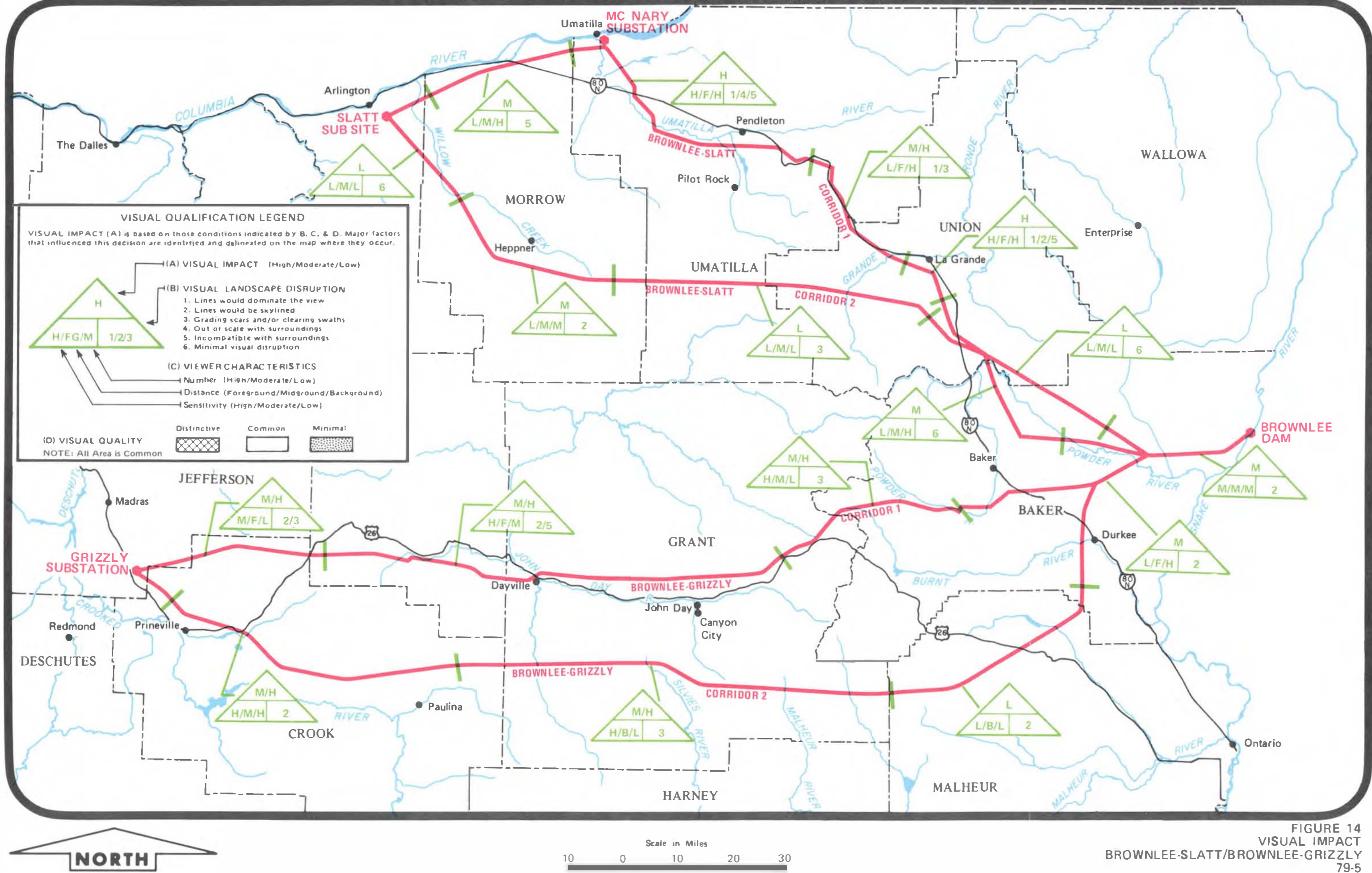


FIGURE 14
VISUAL IMPACT
BROWNLEE-SLATT/BROWNLEE-GRIZZLY
79-5

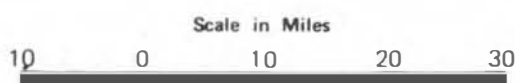
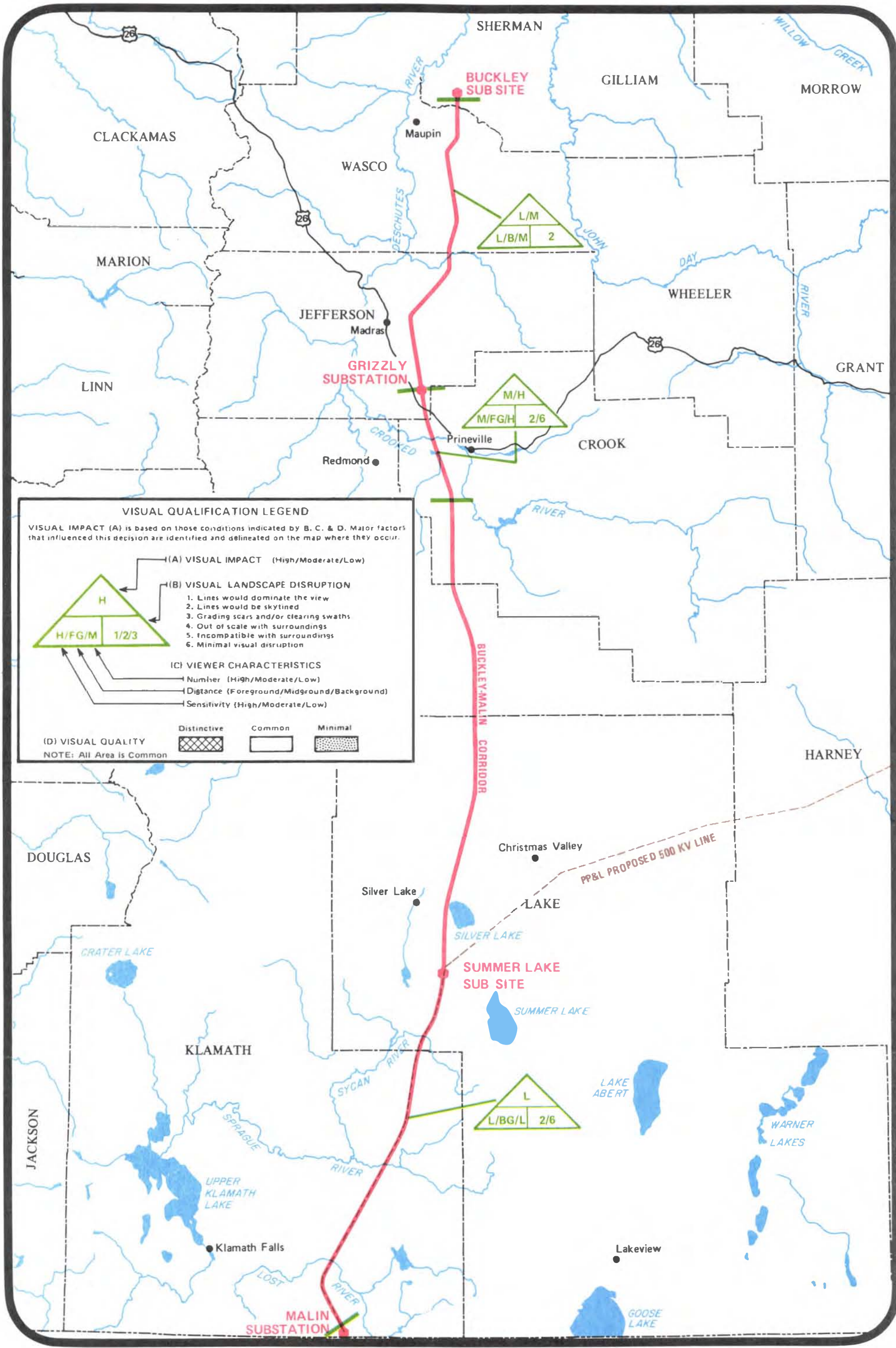
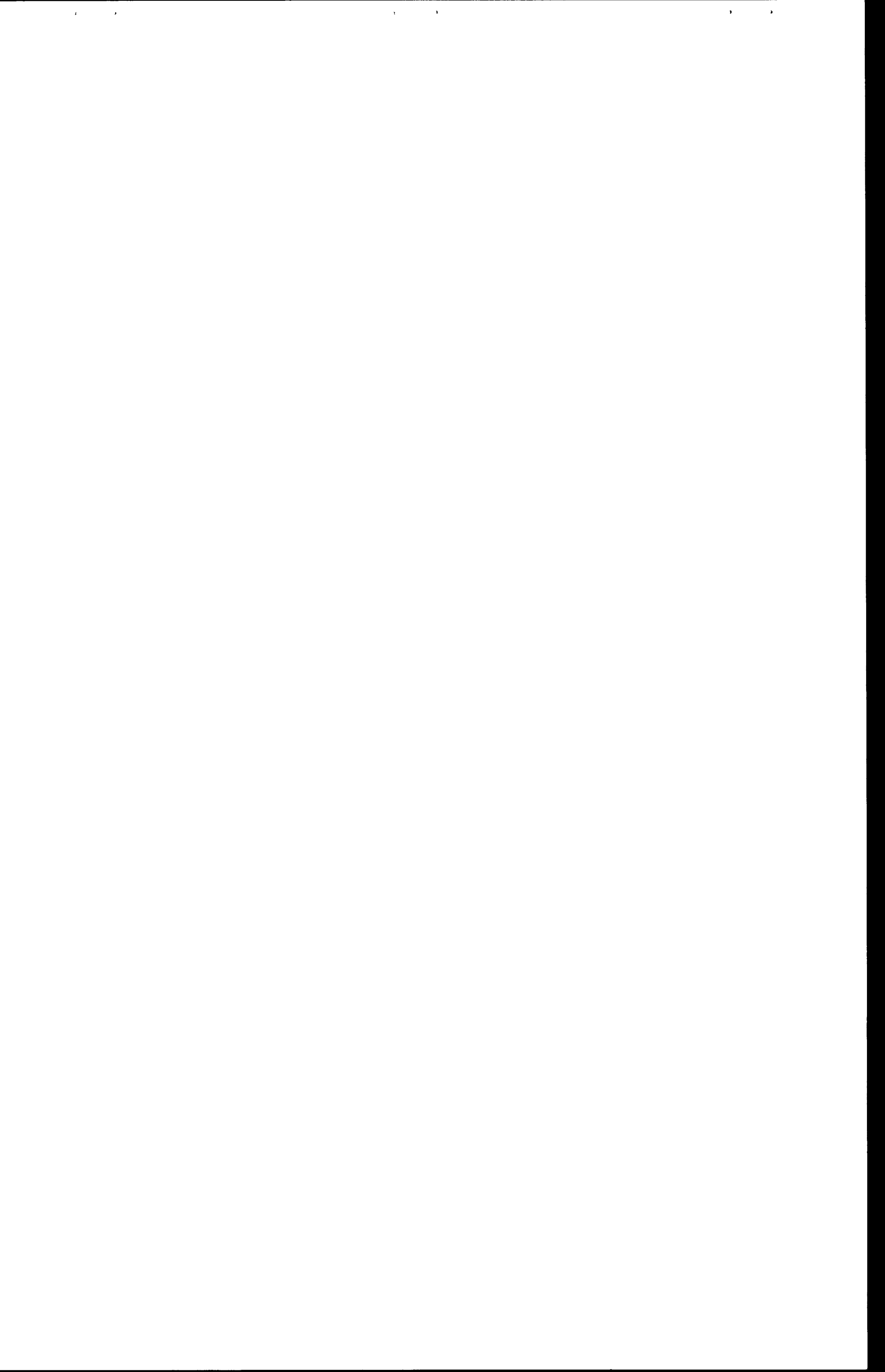


FIGURE 15
VISUAL IMPACT
BUCKLEY-MALIN
79-5



Proposed Plan of Service

Brownlee-Slatt Corridor 1 - The proposed plan of service does not cross any inventoried roadless areas. It parallels Interstate 80-N, an important transportation route to northeast Oregon recreation areas. This highway follows the same general path as that of the historic Oregon Trail, parts of which have high potential for commemorative development (Fig. 12). The Oregon Trail is now designated as the Oregon National Historic Trail and is included in the National Trail System. This corridor crosses and parallels portions of the Oregon Trail, however, no physical disruptions are anticipated.

Several parks and campgrounds are adjacent to the corridor, but none would be physically impacted. Neither of the two National Wildlife Refuges would be crossed by the line. Travelers to these recreational areas may notice the transmission line and thereby be affected.

Hunters, fishermen and other dispersed recreational users will be exposed to views of the corridor. Impacts could be both beneficial and detrimental. People seeking remote areas may object to the intrusion of a new man-made passageway. Conversely, a positive effect could be the creation of access for recreation to lands that were previously inaccessible.

Overall the corridor would have low impact on recreation due to the opportunity for paralleling existing facilities.

Buckley-Malin Corridor - Impacts to recreation over this portion of the proposal are expected to be minor. As with the other corridors, recreational sites occur in the surrounding area, but none are close to the proposed line (Fig. 13). The most serious impact to recreation would be the visual intrusion of an additional line within an existing corridor. In relative terms the impact potential is low.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - The corridor passes near an inventoried roadless and undeveloped area; however, it does not cross any designated roadless areas.

The corridor crosses near Battle Mountain State Park and Red Bridge State Park, but neither site would be impacted directly. A number of points of interest are located several miles from the corridor (Fig. 12); but no adverse effects are expected.

Most of the land crossed by the corridor is excellent big game hunting country. The most significant effect would be creating new access. Although their use is unauthorized, transmission line access roads can be intensively used during hunting seasons (Goodwin, 1975); a positive recreational benefit for some hunters. Others view the increased access, with the resulting increase in the number of hunters, as undesirable. Fishing, sightseeing and other forms of dispersed recreation also occur along the corridor. Impacts from construction, operation, and maintenance of the line could be beneficial or detrimental as mentioned above.

Overall the corridor would have a moderate impact on recreation resources. The intrusion of a corridor and new access into a relatively remote setting is the principle adverse factor.

Brownlee-Grizzly Corridor 1 - This corridor is near several inventoried roadless areas.

Several campgrounds, waysides, monuments, and other points of interest are found in the Ochoco and Blue Mountains and along the John Day Valley. The corridor would not result in direct physical impacts on any of these sites, however, travelers to the area may be visually impacted by the transmission line.

The area through which the corridor passes is frequented by many recreationists who enjoy rockhounding, hunting, hiking and other forms of dispersed recreation. New access created by the line could open up some previously remote areas. This would be an adverse impact to those seeking a pristine setting. Others may use the corridor as a trail, a positive impact for some persons.

The corridor crosses a number of fishing streams, including the John Day. The transmission line could decrease the quality of the natural setting surrounding fishing areas. Also, new roads could increase access to certain sections of fishing streams.

The corridor would cross the Transamerica bicycle route several times (Fig. 12). The impacts would be primarily visual.

In relative terms the impacts would be moderately high to high because of the number of recreational attractions in the area and the potential impacts on the natural setting.

Brownlee-Grizzly Corridor 2 - The corridor is located near a number of inventoried roadless areas and south of the Strawberry Mountain Wilderness Area. It actually crosses three such designated roadless areas. A transmission line would create a highly noticeable visual impact in these relatively undisturbed settings. Access to these presently remote areas would also be increased.

A few campgrounds and parks occur in the general area through which the corridor passes. None would be directly affected by the route. Recreationists going to these spots may notice the additional element in the setting.

Dispersed recreation in the area would be impacted by the addition of a transmission line. The proposed line could impact the physical setting where these activities occur and create additional access.

This corridor would also cross the Transamerica bicycle route, with some visual impact at the crossings. In comparative terms, this corridor would

result in moderate to high impacts. It creates access to areas presently remote and with few discordant elements.

Historical/Archeological

The impacts of transmission facilities upon cultural resources are likely to result from the introduction of visual or audible elements that are out of character with the property or alter its setting; isolation from, or alteration of a property's surrounding environment; or destruction or alteration of all or part of a property.

Transmission line impacts to historic and/or archeologic resources are usually minor in nature. Most of the sites within the study area which are listed on the National Register lie outside the zone of influence of any of the transmission facilities being considered and would not be impacted. Visitors to those historical sites which do lie adjacent to or near any of the transmission lines may be disturbed by the visual impact of having the facility in the area. Along some of the transmission corridors this visual impact would be somewhat lessened because one line is already present and the proposed new line would parallel or rebuild an existing one.

Some disturbance and breakage of surface archeological artifacts by vehicles is possible, however existing access roads in the various transmission line locations will be utilized thus minimizing potential damage. In most areas the occurrence of archeological artifacts is a rarity as shown by various cultural surveys conducted by independent professional sources for BPA.

Consultation with the Oregon State Historic Preservation Office indicates most of the area involved has not been subject to archeological surveys. It is expected some of the proposed routings could pass near or over either known or as yet undiscovered sites. No long-term or cumulative effects to any historical/archeological sites are expected. If an archeological site should be discovered, steps in accordance with established BPA procedures will be followed. Mitigating measures available to BPA will normally ameliorate any prospective adverse impact. In all cases BPA will comply with the guidelines and procedures of the Advisory Council (36 CFR Part 800), and the provisions of Section 106 of the National Historic Preservation Act (16 USC Section 470 f), and Executive Order 11593 (May 13, 1971).

Further discussion of BPA procedures and compliance activities concerning historical and archeological resources can be found in the BPA environmental statement entitled "The Role of the Bonneville Power Administration in the Pacific Northwest Power Supply System, Appendix B, and Part II."

Brownlee-Slatt Corridor 1 - Most impacts to the historical/archeological resources along Brownlee-Slatt Corridor 1 would be visual and minor in nature. Three sites which could possibly be impacted along this corridor are listed on the National Register of Historic Places. These include the Virtue Flats Mining District east of Baker, the Weston House in Umatilla, and the Four Mile Canyon area near Arlington. The extent of impact to any of these

sites is expected to be only visual and dependent on final line location. In addition to the sites listed on the National Register, the line would parallel the route of the Oregon Trail for much of the distance, possibly crossing the trail in several places. In most areas there are no visible signs of the trail. There are, however, several State of Oregon commemorative markers in the area. The presence of the line in these areas may constitute a visual impact.

The archeological resources of the study area are relatively unknown. No comprehensive surveys have been conducted in the region. Presently there are six known archeological sites along the proposed corridor which could be affected, depending upon final line location. Surveys will be conducted along the final route prior to construction to avoid adverse impacts to archeological sites wherever possible. Mitigation measures outlined in the BPA Role Statement will be observed. Termination of this alternative at McNary would eliminate any possible impacts to the Four Mile Canyon area near Arlington.

Buckley-Malin Corridor - Although the area traversed by the Buckley-Malin portion of the proposal has played a large role in Oregon history, it has primarily been as a transportation corridor. Only two sites within the study corridor are on the National Register, Fort Rock Cave and The Picture Rock Pass Petroglyph Site southeast of Silver Lake. Neither site would be disturbed by the addition of this transmission line. No other sites of known national or local historical value are expected to be impacted.

Archeological surveys over this section of the transmission corridor study area indicate that lithic scatters, petroglyphs, and other associated cultural debris can be expected. Sites have shown the area has been occupied since approximately 5,000 B.C. Many sites have lost their archeologic value because of the actions of relic hunters, however, it is expected several previously unknown sites will be discovered during the cultural survey to be conducted prior to line construction. Mitigation measures as earlier referenced in BPA's Role EIS will be employed whenever the line conflicts with an historical or archeological site.

Alternative Corridors Considered

Brownlee-Slatt Corridor 2 - As in the case with Brownlee-Slatt Corridor 1, Corridor 2 would be near the Virtue Flats Mining District and Four Mile Canyon which are listed in the National Register. Visual intrusion would be the main impact expected. Brownlee-Slatt Corridor 2 would cross and parallel the Oregon Trail for a short distance, however it departs parallel near North Powder River and would have no further effect on the Trail until the Four Mile Canyon area where visual intrusion would occur.

Archeological surveys along the corridor are almost nonexistent, therefore, little is known of the area. It is expected a survey would reveal several sites evidencing Indian habitation in the past. Impacts to these sites often included increased activity by relic hunters whose unauthorized use of access

roads open formerly undisturbed areas. In addition, vehicle use during construction and maintenance periods may lead to breakage and scattering of surfacial artifacts. Any vegetation removal for tower sites and along access roads may lead to increased wind excavation of archeological sites.

Brownlee-Grizzly Corridor 1 - The Brownlee-Grizzly Corridor 1 would be near four sites listed on the National Register of Historic Places. One would be the Virtue Flats Mining District east of Baker, and another would be the old mining town of Antone at the west end of the John Day Valley. In addition, a building in John Day and a church in Canyon City are within the corridor study area. No impacts are expected to either structure listed, and the only expected impact to the town of Antone or the mining district would be visual intrusion.

This corridor would cross the Oregon Trail north of Pleasant Valley in eastern Oregon, but would have no impact since the trail at this point is covered by highway. The Dalles Military Road once ran through the John Day Valley but all traces of the road have since been destroyed. Finally, much of the area around John Day is considered as an historic district. Impacts to this district will not be known until possible line location but are expected to be minor.

The John Day fossil beds form one of the most important paleontological resources in the country. The site of the beds is well known and any line in this region would be routed to avoid any impact on them.

Little archeological work has been done in the area so information is spotty. Surveys will be conducted along the selected corridor prior to construction. It is expected sites found would be of an Indian habitation nature. Impacts are similar to those described for the Brownlee-Slatt Corridor 2 section. This corridor would pass near or over two known archeological sites. Thirty-eight others listed on the statewide inventory are within the corridor but would not be affected.

Brownlee-Grizzly Corridor 2 - This corridor would avoid all four sites listed on The National Register which were listed under Brownlee-Grizzly Corridor 1. It does cross the Oregon Trail near Durkee, however, this is another section of the trail covered by highway. No other known historical sites are along this corridor.

One known archeological survey has been conducted in this area, but only a few Indian artifacts were found. Impacts as outlined for Indian habitation sites on the Brownlee-Slatt Corridor 2 are to be expected if this route is chosen.

NONCONSTRUCTION

It has been forecast that the southwestern Oregon market area will be energy deficient by the early 1980's if the proposed project is not built or another source of energy input devised. If an adequate east-west intertie is not constructed as proposed, alternative sources of power will be required to

supply the needs in southwestern Oregon and other portions of the Pacific Northwest.

Nonconstruction of one of the proposals or development of some other power input scheme could result in thermal overloads on existing electrical facilities, contribute to system instability, and cause possible cascading outages due to overload conditions. West to east power transfer capability to the Middle Snake Region would not be strengthened. In addition, the overall reliability and transfer ability of the Pacific Northwest/Pacific Southwest power supply system could be severely weakened if the Buckley-Summer Lake-Malin line were not built.

Direct results of nonconstruction could include the slowdown or reduction in the level of industrial output in the southwestern Oregon region as well as the elimination of future industrial and commercial development or expansion. Overall effects of commercial and industrial slowdown would be curtailment of increased employment and reduced commodities output. An energy deficit could also result in unreliable residential electric heating, cooling, and refrigeration.

Nonconstruction of these transmission facilities would eliminate the need for right-of-way corridors and related land use conflicts. It would also reduce capital equipment costs and operation and maintenance costs which are passed on to the consumer through higher rates. Finally, all associated impacts as described in this statement would be eliminated.

OTHER ALTERNATIVES CONSIDERED

Alternative plans of service other than those detailed in this statement do exist. All would provide for the power needs of southwestern Oregon. Most, however, are not considered to have advantages of the options discussed in this statement. Criteria used in such a determination include: the ability to transfer electric power from the coal areas of Wyoming to southwestern Oregon; the provision for reliability reinforcement for the entire Pacific Northwest transmission grid; and the assurance of west to east power transfer possibilities from western load areas to the Middle Snake Region upon need. BPA's proposal employs a single utility concept solution rather than a single source to single load-demand type solution. This concept allows for increased electrical reliability throughout the entire Northwest.

Among other alternatives considered are the following:

MIDPOINT-MALIN-MEDFORD 500-KV LINE

This is a proposal presented by PP&L to meet the demands of its Southwest Division load. The Midpoint-Malin-Medford line would transfer a portion of the power from Wyoming and eastern Idaho to southwestern Oregon. This line has been described in detail in the EIS "Midpoint, Idaho-Medford, Oregon, Pacific Power and Light 500-kV Transmission Line " prepared by the U.S. Bureau of Land Management.

PP&L proposes this transmission line to transfer power generated from PP&L plants in Wyoming. The power would be transferred over existing and presently being constructed PP&L and IPC lines to Midpoint, Idaho. Once there, IPC would divert its share of the power into its system while PP&L would transfer a portion of their share over their proposed line to southwestern Oregon. The balance of their share would be transmitted through the Idaho Power system to interconnections with BPA for delivery to Pacific Northwest loads. At Malin, PP&L can transmit some of its power to its Southwest Division over existing facilities and the 500-kV line now being constructed between Malin and Medford to serve loads in that vicinity.

For reasons discussed in this document, the Midpoint-Malin line is not an alternative to the BPA proposal, as this facility does not meet BPA system requirements. If the PP&L Midpoint-Malin line is constructed as scheduled, construction of the line from Buckley to the intersection with the Midpoint-Malin line (near Summer Lake) would still be required for energization in the fall of 1982. Additional switching facilities would be required at the intersection of this line and the PP&L Midpoint-Malin line. The Brownlee to McNary line would also be required.

From a long range planning standpoint both the BPA proposal and the Midpoint-Malin line will ultimately be required. Building the Midpoint-Malin line initially will not change the need for facilities outlined in the BPA proposal.

BROWNLEE-SLATT 500-KV LINE WITH LOAD DIVISION

This alternative makes full use of existing transmission facilities but is only a short-term solution. It provides the needed east-west and west-east transmission capability, but it does not have the same capability as other plans to serve the load in southwestern Oregon and was therefore dropped from further consideration.

The transmission line consists of new 500-kV transmission line from Brownlee Dam to the McNary Substation parallel to existing lower voltage transmission lines. Existing 500-kV lines would then be utilized, together with series compensation 1/ and switching stations, to transfer power into the Willamette Valley at the Marion Substation near Salem and on down the valley to southwestern Oregon. Series compensation would also be required on 500-kV lines down the valley to increase power flow into southwestern Oregon.

1/ The use of series compensation permits heavier loading on a line thereby increasing capacity.

BROWNLEE-WALLA WALLA-LOWER MONUMENTAL

Another plan option considered for transferring power generated in Wyoming was routing the power from the Brownlee Dam delivery point in a northwesterly direction through Walla Walla and on to Lower Monumental Dam where the power would be integrated into the system over the existing grid network. Preliminary investigation of this plan of service uncovered problems which made feasibility of utilizing the route doubtful.

The plan would provide for west to east power transfer but east to west transfer capability is limited and inadequate. Additional electrical flow problems were expected in transferring power from this area into southwestern Oregon.

The plan proved more expensive than other options because of rugged terrain crossed and associated construction problems. Several serious environmental impacts are evident along this particular route. Therefore, based on the associated effects of electrical, engineering, economic, and environmental conflicts, this particular plan of service was dropped from further consideration.

ENERGY CONSERVATION AND LOAD MANAGEMENT

Historically the growth in electric power usage in the Pacific Northwest has averaged about 7 percent per year. In recent years BPA and the rest of the Northwest utilities have embarked on a multi-faceted energy conservation program. Though ultimately it is the consumer who takes direct conservation measures, the rates and persuasion by the utilities are important factors in reducing energy consumption. As a result of these energy conservation efforts, it is estimated that the future growth rates will be closer to 4 percent. These reduced rates have been used in planning the facilities indicated in this document.

BPA promotes conservation among its employees and customers through meetings and brochures on energy budgeting, efficient energy use, insulation, alternative energy systems and vehicle conservation. Its customers have been introduced to the use of aerial infrared thermal imagery to monitor heat losses from buildings. In proposed BPA legislation there will be provisions for low-cost financing of insulation for residences. Some of these incentives are counteracted by the uncertainties in the cost and availability of alternative fuels such as oil and gas.

The utilities continuously monitor the growth potential of residential, commercial and industrial energy usage in their service areas to plan in advance for adequate facilities without overbuilding. Since the utilities are caught between sharply increasing costs and customer resistance to rate increases there are strong incentives to minimize the investment in cost intensive power plants and transmission systems. Thus the proposals to

construct electrical generation facilities, whether they be coal or nuclear, are carefully scrutinized. If load growth does not materialize, it is certain that the plans for future facilities will be scrapped or at least held in abeyance.

Mandatory conservation can reduce power usage, but it is beyond BPA's capability to initiate these measures without proper authorization. BPA is currently working with the state authorities to develop allocation and curtailment plans. The states of Washington, Oregon, and Montana have prepared State Energy Plans, but none of the plans have been able to quantify energy savings or reduced growth rates in their forecasts. During the past few years the rate of growth of energy usage has decreased due to various factors such as rate increases, warmer winters, tax incentives for conservation, and public awareness of the limits of renewable resources. However, the available information is insufficient to estimate how much would have been consumed in the absence of specific conservation measures. The Pacific Northwest utilities have commissioned studies to determine the effects of conservation on load growth. The results vary, but they are taken into consideration while planning BPA facilities.

The rate structures can provide incentives to the customers to reduce their energy usage. By the use of life-line rates utilities have been able to reduce the energy usage in some areas while minimizing the hardship on low-income families. Since the BPA service area comprises multiple state jurisdictions, delays will be encountered in implementing such restrictive measures. These factors are taken into consideration prior to constructing power system facilities.

Conservation is not simply a reduction in the quantity of energy consumed. It includes an increase in the efficiency of energy production, distribution and use. Thus there is a constant effort inside BPA to reduce regional transmission system losses and to install more and more efficient equipment.

BPA is also involved in the development of alternative energy sources that are likely to reduce the need for renewable sources of energy. While BPA is not directly responsible for the development of new energy resources, it facilitates the integration of these sources into the region's hydro-thermal system. The potential of energy from cogeneration in this region is being studied. BPA's research and development effort is focused on funding and monitoring development of wind and solar power. Applications of conservation techniques are pioneered in BPA's substations. Thus the installation of facilities to retrieve power transformer waste heat and to harness solar energy for the heating and cooling of BPA's buildings is expected to provide technical data for the future. However, the conservation effort is not expected to eliminate or reduce the need for the power facilities under construction or for those proposed in this document.

Load management refers to a program established by utilities in which some customer loads can be interrupted or deferred until periods of relatively slack demand. Often certain industrial loads can be interrupted during system

demand peaks to supply power for residential or other essential uses. This technique is not as effective as reducing energy demands through conservation, but is an alternative. Load management can be a useful tool for reducing a utility's requirements for peaking resources but does not significantly alter the need for baseload or long-range generation. Since the present problem in southwestern Oregon is primarily one of supplying baseload generation, load management techniques have only limited applicability here. Further discussion of conservation and load management approaches to solving electrical needs can be found in the BPA's Draft Role EIS, Part 1, Chapter IV.B.

SUMMARY OF PLAN OF SERVICE ANALYSIS

Resources and uses identified as important, critical, or unique are given special attention in the planning and construction of transmission facilities. Predictions of potential impacts to these important features are based on past BPA experience, information from numerous agencies and individuals, and on the expertise of interdisciplinary environmental specialists within BPA. Predictions of possible impacts are meant to facilitate comparisons of the environmental aspects of alternative system plans.

It should be noted that the proposed corridor from Brownlee to Slatt includes a segment of the under-construction Ashe-Slatt 500 kV double-circuit line, shown in BPA's FY 1976 Final Program EIS. This corridor segment, in addition to the Ashe-Slatt line, includes two existing 230-kV lines. At some future date additional capacity may be needed to transfer additional power from the second McNary powerhouse. By rebuilding one of the 230-kV lines, the cumulative impacts of the proposal could be minimized.

Brownlee-Slatt Corridor 1 with a termination at McNary has been identified as BPA's proposal because it best meets the previously detailed system requirements while still integrating the future power forecast at McNary Dam. The Alternative with a McNary termination is indicated on Table 10 as Corridor 1A. The Facility Location Supplement will investigate impacts for the two corridors within the Brownlee-Slatt plan of service and detail more specific impacts for final corridor location selection. Detailed quantification and qualification are deferred until that time.

The impact predictions in the accompanying table compare the potential impacts of each corridor on specific resources. The Buckley-Malin corridor has not been included in this comparative summary table because it is common to all plans of service and consequently has no options for comparison. Impacts attributable to the Buckley-Malin corridor are constant for all plan of service alternatives. For detailed information concerning those impacts refer to the Plan of Service Analysis section; Potential Impact of the Proposal and Alternatives. The Facility Location Supplement for Buckley-Summer Lake-Malin will add more specific details to those discussed in the Planning Supplement. Detailed quantification and qualification of impacts will be summarized in table format at that time.

TABLE 10 Table Summary

	Brownlee - Slatt Plan of Service									Brownlee - Grizzly Plan of Service					
	Corridor 1			Corridor 1A			Corridor 2			Corridor 1			Corridor 2		
NATURAL RESOURCES	Weighting Factor	Degree of Impact		Weighting Factor	Degree of Impact		Weighting Factor	Degree of Impact		Weighting Factor	Degree of Impact		Weighting Factor	Degree of Impact	
Atmosphere	1	2	(2)	1	1	(1)	1	1	(1)	1	1	(1)	1	1	(1)
Geology/Soils	2	2	(4)	1	2	(2)	1	1	(1)	3	3	(9)	2	2	(4)
Hydrology	1	1	(1)	1	1	(1)	1	2	(2)	2	3	(6)	2	4	(8)
Vegetation	1	1	(1)	1	1	(1)	2	1	(2)	2	2	(4)	3	2	(9)
Wildlife	2	3	(6)	2	2	(4)	2	1	(2)	2	2	(4)	3	2	(6)
		(14)			(9)		Least Impact to Natural Resources		(8)		(24)		Greatest Impact to Natural Resources		(28)
SOCIO/ECONOMIC RESOURCES	Weighting Factor	Degree of Impact		Weighting Factor	Degree of Impact		Weighting Factor	Degree of Impact		Weighting Factor	Degree of Impact		Weighting Factor	Degree of Impact	
Agricultural	4	4	(16)	3	2	(6)	3	3	(9)	1	1	(1)	1	1	(1)
Forestry	2	2	(4)	2	2	(4)	2	2	(4)	3	3	(9)	3	3	(9)
Urban & Residential	3	2	(6)	3	2	(6)	1	1	(1)	1	1	(1)	1	1	(1)
Esthetic	3	4	(12)	3	3	(9)	2	2	(4)	4	3	(12)	3	3	(9)
Recreational	2	2	(4)	2	2	(4)	2	2	(4)	3	3	(9)	3	3	(9)
Historical/Archeological	2	1	(2)	2	1	(2)	2	1	(2)	2	2	(4)	2	1	(2)
	Greatest Impact to Socio/Economic Resources		(44)		(31)		Least Impact to Socio/Economic Resources		(24)		(36)			(31)	
		(58)			(40)			(32)			(60)			(59)	

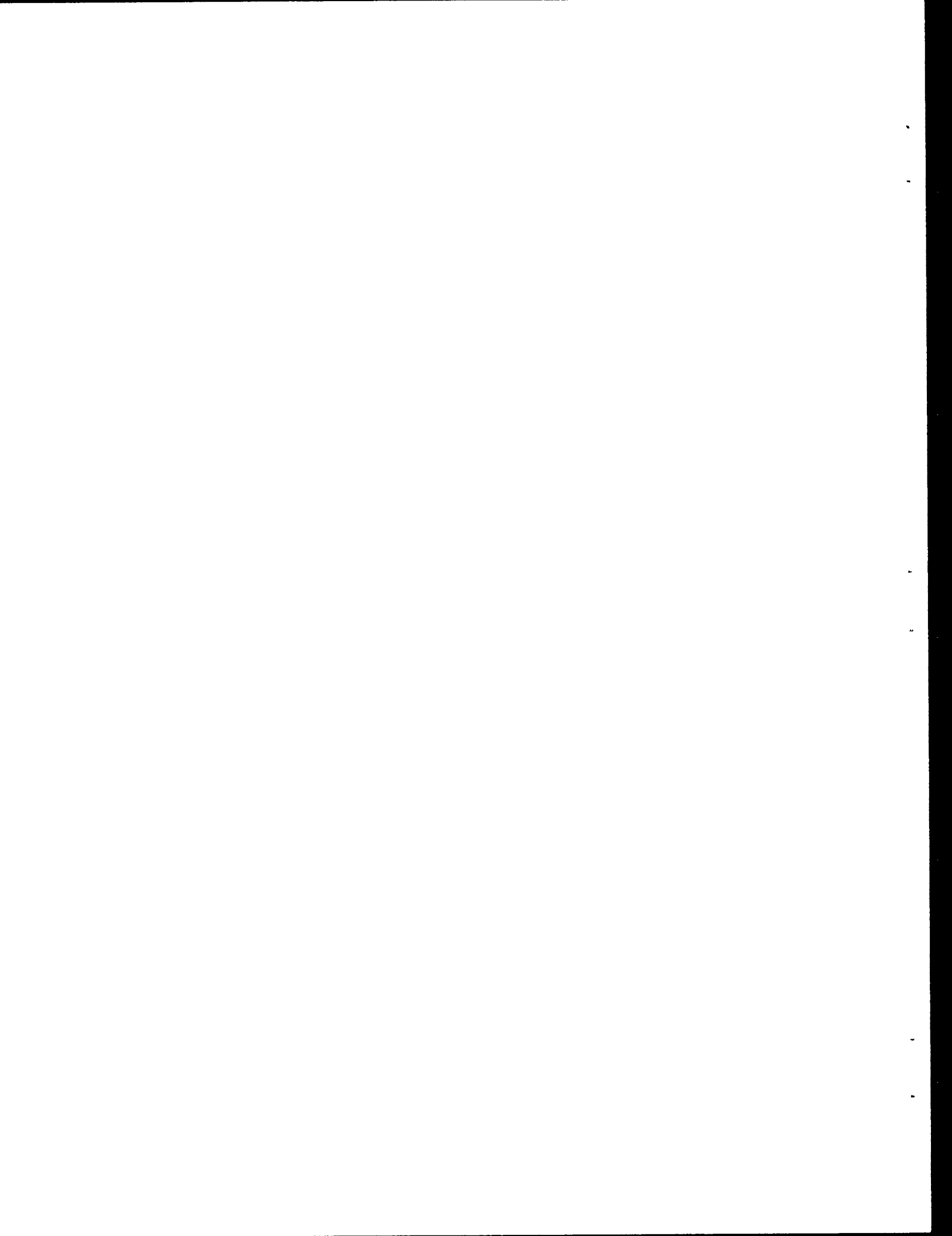


Table 10 indicates environmental differences within and between plans of service. Numbers used in the table exemplify relative degree or magnitude of impact expected on a particular resource rather than actual numeric values. The figures were derived from an interdisciplinary team analysis of each resource based on input from various outside sources including Federal, State, and local land planning agencies.

As previously stated, the numbers themselves have no absolute value, but are used merely as symbols to represent relative degree of impact to a particular resource within a corridor. The fact that, under Brownlee-Slatt Corridor 1, Atmosphere has a 2 beside it for degree of impact, and Geology/Soils a 1 does not mean that impacts to Atmosphere are twice as great as impacts to Geology/Soils. Nor does it mean that impacts to Atmosphere under Brownlee-Slatt Corridor 1 are twice as great as those for Brownlee-Slatt Corridor 2. The numbers only give insight to the relative importance and degree of impact to a given resource. For the plans considered, a factor of 4 indicates the highest potential for impact to that particular resource; a factor of 1 indicates the lowest potential for impact.

The degree of impact assessment value is based on the potential for impact rather than the actual impact which will not be known until the location stage. The degree of impact potential was estimated on a worst case basis without regard to design options such as paralleling or rebuilding an existing line. Potential impacts predicted in these instances may be significantly reduced depending on final line design. Such information will be available in the Facility Location Supplement.

A weighting factor was also applied in the analysis by the interdisciplinary team to take into account the relative importance of individual resources along each corridor. This weighting factor takes into account input from outside agencies, the duration of impact to the resource (short-term vs. long-term), the amount of the resource within the corridor, and the length of the corridor. This weighting factor was used for its multiplier effect on the corridor-by-corridor comparison of resource impacts to achieve a combined impact rating for each plan of service. Again, a 4 indicates a resource of high importance while a 1 indicates that resource is of minor importance.

Each resource was assigned to one of two groups, either Natural Resources or Socioeconomic Resources, in order to ascertain whether impacts were higher to the natural environment or man's environment. This resource grouping also allows for comparison of impacts to the resource groups between corridors. Applying the multiplier effect to the degree of impact results in numbers which indicate relative levels of impact (i.e., the higher the number, the greater the impact). The focus is thus directed not only to the resource group (Natural or Socioeconomic) receiving the greatest impact, but also those individual resources within that group which are most impacted.

DESCRIPTION OF THE TRANSMISSION
LINE ROUTES, THEIR POTENTIAL IMPACT
AND MITIGATION

Proposed and/or alternative locations for transmission line facilities will be presented in the draft and final facility location supplements. Proposed locations will be identified on the basis of comments received on previous facility supplements, field reconnaissance, and additional environmental and engineering analysis.

DESCRIPTION OF THE SUBSTATION AND/OR
PROJECT RELATED FACILITY SITES, THEIR
POTENTIAL IMPACT AND MITIGATION

BPA's proposal includes a new 500-kV transformer addition at Idaho Power Company's Brownlee Substation, a terminal addition at BPA's McNary and Malin Substations, and a new switching station (Buckley Substation). If the Grizzly plan option were adopted, new equipment would be needed to supplement the existing facility. A terminal addition at Slatt will be required when the McNary-Slatt line is built.

Brownlee, McNary, Grizzly and Malin Substations may require acquisition of 2 to 3 acres (1 - 1 1/2 ha) of additional land for expansion. Minor grading and other site development work will result. BPA will purchase approximately 26 acres (10 ha) of land at Buckley to allow for ultimate electrical development. About 5 acres (2 ha) will be developed initially. Impacts would be minimal and limited primarily to grading operations. A switching station will be developed near Summer Lake where the PP&L Midpoint-Malin proposal and BPA's Buckley-Summer Lake proposals intersect. The substation will be similar to the Buckley Substation but will require no transformation. Approximately 8 acres (3ha) will be required for development.

The mitigating measures employed by BPA to keep impacts to a minimum while constructing these facilities are discussed in BPA's Role EIS, Appendix B, Chapter VIII. A more detailed description of impacts associated with substation construction will be included in the Facility Location Supplement for this project.

POTENTIAL UNAVOIDABLE
ADVERSE IMPACTS

Temporary and permanent unavoidable adverse impacts will result from the construction, operation, and maintenance of the proposed facilities. Building processes will create noise, dust, and visual impacts temporarily affecting the area's residents and wildlife populations.

Increased erosion and sedimentation can be expected, particularly at stream crossings. Tree cover within the right-of-way will be removed for the life of the facility. Long-term timber productivity will be lost. Tall trees adjacent to the right-of-way which could fall across the line will also be felled. Individual animals dependent upon this vegetation for food and shelter will be affected.

Certain limitations on agricultural and residential land uses will result. For example, farm uses involving sprinkler irrigation systems adjacent to tower sites may be permanently affected. BPA will work with landowners to explore appropriate mitigation measures. Landowners will also be compensated for the loss of crops during construction.

Administrative mandates such as "prime and unique farmland", "cultural properties", "wetlands", and "floodplains", may also be unavoidably affected. BPA will, however, make every attempt to minimize such impacts through the use of proper mitigating measures as outlined in Appendix B, Chapter VIII, of BPA's Role EIS.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM
USES OF MAN'S ENVIRONMENT AND THE
MAINTENANCE AND ENHANCEMENT
OF LONG-TERM PRODUCTIVITY

High-voltage facilities (transmission line and substation equipment) proposed for construction have an expected average useful life of 50 years.

Some of the environmental consequences associated with the creation of the facility are short-term. These are primarily associated with construction activities and include disturbance to nearby wildlife and humans from noise, dust, and visibility of men and equipment.

Long-term impacts on the environment and productivity, including the increased productivity of other activities resulting from the availability of electric energy, are directly dependent on continued existence of the transmission facility itself. The productivity resulting from the use of electricity provided by new facilities will be substantially the same over the life of the facility. Similarly, the adverse effects on productivity, which are primarily related to land use considerations, will last as long as the facility remains in place.

If changes in technology make a transmission line obsolete, it can be dismantled and removed, although experience in past years indicates corridors are usually upgraded to higher capacity as technology advances, rather than being entirely removed from service. Retirement and removal of equipment would permit return of most of the area to its natural state (vegetative regrowth may take several years), which will terminate any adverse impact on land and its productivity directly created by the line, and would also terminate the benefits to productivity resulting from the availability of the

power provided. Retirement and removal of the line would make the corridor available for a full range of uses. However, if adjacent land use patterns (at the time of dismantling) have been modified by the existence of the line, the uses of the corridor may continue to be limited after removal of the line. No other direct long-term impacts on productivity have been identified.

I R R E V E R S I B L E A N D I R R E T R I E V A B L E
C O M M I T M E N T S O F R E S O U R C E S

The loss of soil through accelerated erosion is not irreversible; accelerated erosion can be halted by revegetation and other mitigating measures. However, soil which is lost through erosion before mitigating measures take effect is irretrievable. Obliteration of the soil profile and the loss of soil nutrients are, for the most part, irreversible impacts within the life span of the project. Soil forming processes working over a long period of years will ameliorate these impacts, and therefore when considering the very long-term, the soil profiles are not irretrievably committed.

Surface water which is impacted by the project will not be irreversibly or irretrievably committed. Increases in sediment and turbidity are likely to degrade water quality so as to alter its potential use. Surface water which might become degraded as a result of sedimentation can be treated and purified. The commitment of surface water is therefore not irretrievable. Refer to Chapter VIII, Appendix B of BPA's Role EIS for a list of mitigating measures commonly employed by BPA.

Irretrievable commitments of vegetation would be limited to that lost during construction and maintenance of the proposed facilities. There are instances when transmission lines change vegetation types and actually increase the available vegetation for grazing by clearing brush and trees and creating a forage cover. In the future, it is conceivable the project could be abandoned, all facilities removed, and native vegetation allowed to reestablish. Therefore, this proposed project could not be considered an irreversible commitment of the vegetative resource. Right-of-way and access road clearing and continued control of tree growth will result in an irretrievable timber production loss over the life of the facility.

The maintenance of early forest communities, and of new access roads are an irreversible commitment of wildlife resources, to the degree that those roads and communities result in additional physiological stress on, or the destruction of individual animals adapted to the original environment. Physiological stress may predispose individuals to mortality, or reduce their capacity to successfully produce and rear young. Direct destruction of individuals may be caused by crushing, collision (with vehicles or structures) or shooting (legal and illegal). The destruction of individual animals is an irretrievable commitment of those animals, though, with possible exception of endangered and threatened species, it is not an irretrievable commitment of any species, fish or wildlife. The destruction of individuals of any identified threatened or endangered species is considered to be only a very

remote possibility. The loss of habitat is an irretrievable commitment of resource only where road construction and scarification around construction sites expose soils which will not revegetate. Stream bank construction activity (fording, culvert installation) or land failure may introduce sediment loads which could irretrievably compromise a year's fish production.

During the life of the facilities certain uses of the land will be restricted, limiting the range of beneficial uses of the land involved. The principal limitation will result from the restriction of large structures from the right-of-way. This limits the use of the right-of-way as a site for residential, commercial, industrial, and agricultural buildings. Because of the linear nature of a right-of-way, other suitable lands are generally available nearby.

Irreversible commitment of agricultural lands involves only those lands occupied by tower bases, guying cables or ancillary facilities on agricultural lands. These areas will not be available for agricultural production during the lifetime of the project. Irretrievable resources are those agricultural products which could not be produced on lands removed from production during construction or on lands occupied by structures. This loss of resources would be insignificant when considered as a portion of total agricultural production within the area.

Also, certain types of agricultural activities, such as wheel and circular irrigation, dependent on large areas of unobstructed access, may be affected. In areas where these activities are practiced, construction of the proposed facilities may necessitate adjustments in crop layout to obtain optimal use of the land and small portions of a holding may, in some cases, become uneconomic to farm. Where these situations occur, the landowner will be compensated.

In theory, the right-of-way for this transmission line could, when abandoned, be developed to urban and residential land uses so that no irreversible and irretrievable commitment of land would occur. In reality, however, line location will have an irreversible impact on urban growth patterns. Transmission lines are generally considered more compatible with industrial or commercial land use than with residential. By locating a line on the fringe of a developing area, the area will likely be developed to those uses rather than with residential. Once an area is urbanized, the urban use generally will not change.

All of the mitigation practices recommended in Chapter VIII, Appendix B of the Role EIS will reduce to some degree the impact on recreation resources. However, because outdoor recreation relies heavily upon the "visual environment," the physical presence of the transmission line with its supporting facilities is the major recreation impact. Without a detailed seen-area analysis to show those recreation sites and areas which are not within viewing distance of the transmission line, all of the measured impacts on recreation resources identified must be considered irreversible for the life of the project. The relative importance of these recreation impacts varies from area to area.

The visual impacts that remain after restoration and revegetation of construction related scars would exist as long as the transmission lines are maintained. If the corridor is abandoned and towers and lines removed, many areas will, in time, revegetate, reducing contrasts and visibility of the project. In areas where soil erosion and difficult growing conditions slow revegetation, one might consider the visual impacts irreversible, at least when using loose definitions of the term.

In addition to the commitment of land resources, several thousand tons of steel and aluminum required for the manufacture of the tower structures and conductor will be irreversibly committed to transmission uses. If any of this equipment should later be retired, materials used in their construction can normally be reused elsewhere or recycled.

CONSULTATION AND COORDINATION
WITH OTHERS

PLANNING COORDINATION

The following agencies and organizations were contacted by BPA economists, engineers, and environmentalists during the planning phase of this project. Information on land use plans, resource data, and engineering concerns were exchanged. Additional meetings to review locations during the location phase of the project will be held to determine their compatibility with local land use plans and zoning.

Federal Agencies

U.S. Department of Agriculture
Forest Service
Soil Conservation Service
U.S. Department of the Army
Army Corps of Engineers
U.S. Department of the Interior
Bureau of Indian Affairs
Bureau of Land Management
Fish and Wildlife Service
Geological Survey

State Agencies

Oregon State
Attorney General's Office
Department of Environmental Quality
Department of Fish and Wildlife
Historic Preservation Office

Local Agencies

County Planning Commissions

Crook County
Deschutes County
Jefferson County
Klamath County
Lake County
Malheur County
Morrow County
Sherman County
Umatilla County
Union County
Wasco County

Other

Idaho Power Company
Pacific Power and Light

COORDINATION IN THE REVIEW OF THE DRAFT FACILITY PLANNING SUPPLEMENT

The FY 1979 Draft Facility Planning Supplement was sent to Federal agencies, State clearinghouses, and to local clearinghouses where these have been established by States, or to County or metropolitan planning commissions and environmental agencies where local clearinghouses have not been established. These agencies are listed below.

AGENCIES REQUESTED TO COMMENT ON THE DRAFT FACILITY PLANNING SUPPLEMENT

Federal Agencies

U.S. Department of the Interior
Fish & Wildlife Service
Bureau of Mines
Bureau of Indian Affairs
Bureau of Land Management
Heritage Conservation and Recreation Service
National Park Service
Geological Survey
Bureau of Reclamation
U.S. Department of Agriculture
Forest Service
Soil Conservation Service
U.S. Department of Health, Education and Welfare
U.S. Department of Housing and Urban Development
U.S. Environmental Protection Agency
Federal Energy Regulatory Commission
Federal Aviation Administration
Advisory Council on Historic Preservation
U.S. Department of the Army
Army Corps of Engineers
U.S. Department of Transportation

State Agencies

Oregon State
Attorney General's Office
Department of Energy
Department of Environmental Quality
Historic Preservation Office
Intergovernmental Relations Division

Local Agencies

County Planning Commissions

Crook County
Deschutes County
Jefferson County
Klamath County
Lake County
Malheur County
Morrow County
Sherman County
Umatilla County
Union County
Wasco County

Other

Idaho Power Company
Pacific Power and Light
Environmental Defense Fund
Pacific Northwest Conservation Council
Sierra Club, Pacific Northwest Chapter
National Wildlife Federation
Federation of Western Outdoor Clubs
Friends of the Earth
Natural Resources Defense Council
The Wilderness Society
Natural Resources Law Institute
Oregon Environmental Council

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COMMENTS RECEIVED DURING REVIEW PROCESS

John R. Moreau, Grant County (February 26, 1979)

Comment: If either of the preferred alternatives (Brownlee-Slatt Corridors 1 or 2) are rejected in favor of Brownlee-Grizzly Corridors 1 or 2, we would ask that consideration be given to the following:

- a. That serious consideration be given to stepdown transformation to existing transmission voltages serving Grant and Harney counties in order to provide increased reliability power sources for this important middle point of the southeast Oregon region.
- b. That care be given to delineating the path of Brownlee-Grizzly Corridors 1 or 2 to minimize the esthetic impacts of transmission lines on both the public and private lands that would be affected.
- c. That the U.S. Department of Energy's and the Bonneville Power Administration's future energy planning recognize the power potentials of wood/wastes and forest residues in the forested areas of Oregon and make provision for allowing cogenerative power that might become available to be integrated into the power grid during non-peak-load intervals. The region of eastern Oregon that both BPA transmission line alternatives traverse are high in potential for providing this additional energy source.

Response: BPA's present proposal is to construct the facilities as described for the Brownlee-Slatt Corridor 1 with termination at McNary. Existing lines presently have the capacity to transmit power from that point to the Buckley Substation. The new Buckley-Malin line would then transfer the power to southwest Oregon. If, at some time in the future, a Grizzly Corridor is taken into consideration, analysis of the above points will be made and pursued if feasible.

Stephen R. Lindstrom, Port of Umatilla (March 1, 1979)

Comment: The Idaho Power Company has indicated a desire to construct and own a 500-kV segment of transmission line from Brownlee to LaGrande. It is imperative that BPA cooperate to the fullest extent possible to facilitate Idaho Power's needs and to avoid duplication of service, additional expense, greater environmental effects, and delay in construction or beneficial occupancy of the proposed intertie.

Response: Electrical facilities are planned on a single-ownership basis, i.e., as if all the facilities are owned by a single utility. BPA coordinates its program with other utilities to minimize land usage, environmental effects and costs. The Brownlee-Slatt line is no exception.

The BPA Administrator, in his letter of February 14, 1979, to the President of Idaho Power Company, has acknowledged the Company's interest in the Brownlee-LaGrande portion of the line and has offered to discuss the proposal with the Company's representatives.

Stephen R. Lindstrom, Port of Umatilla (March 1, 1979)

Comment: Paralleling the existing corridor, especially in western Umatilla County, makes good sense. Page III-19 of the subject document speaks to a regional problem that would be compounded by the new line if an adjustment is not made in the existing corridor alignment. We speak of the proximity of the existing corridor to the Hermiston Airport. Planning for the new 500-kV line must include an eastward adjustment of both the existing line and the new line by at least 2,000 feet further from the end of the runway. Final alignment should be coordinated with the City of Hermiston, the FAA and the Oregon Division of Aeronautics. If the new line is strung higher or strung on taller towers, then additional eastward movement of the corridor must be planned to compensate. The Hermiston Airport is currently land-bound at its western end. It would be incredibly unfortunate to preclude orderly development and expansion of the airport in the easterly direction by failing to realign the corridor during the planning of this new transmission facility.

Response: Subsequent to the release of the Draft Proposed Fiscal 1979 Program (Southwest Oregon Area Service), BPA has investigated several relocations of the Brownlee-Slatt 500-kV transmission line to avoid conflicts with the Hermiston Airport. Generally, these alternates depart from the existing corridor northeast of Stanfield, head north along South Edward Road to the vicinity of the Union Pacific Railroad, then turn west and rejoin the existing corridor north of State Highway 207 near North Townsend Road.

This location involves a slight increase in the total line length of the proposal but minimum disruption to agricultural land and existing urban development. Since this alternate is a new alignment, new right-of-way would be required and several houses would need to be removed. Locations further east would be difficult because of agricultural land, greater urban development along State Highway 207, and the Cold Springs National Wildlife Refuge.

Should the location of the existing McNary-Roundup 230-kV line need to be altered, negotiations between BPA and the Port of Umatilla can be discussed concurrently.

Coordination with the City of Hermiston, the FAA, and the Oregon Division of Aeronautics will be initiated prior to final route selection.

Martin Grancola (March 6, 1979)

Comment: I am strongly opposed to the construction of any large voltage lines through Grant County. Environmental impact in Grant County would be moderate to high for soils, moderate to high for water, and moderate to high for vegetation, high for wildlife.

I feel that the construction of 500-kV lines through Grant County would only take from Grant County economically in terms of logging, ranching, hunting, and tourism.

Response: See comment response for P. Milliren which follows.

Merlin and Susan Dimitman (March 20, 1979)

Comment: With reference to the proposed construction of two 500 kilovolt transmission lines, we are AGAINST BROWNLEE GRIZZLY 1 & 2 routes. Such a power line through Grant County would result in:

- Loss of commercial timber & consequent jobs/money;
- Adverse impact on wildlife;
- Cosmetic & visual loss--especially along the John Day River--important for tourism and fishing;
- Erosion of soil and its consequences.

Response: See comment response for P. Milliren which follows.

Dean Littlepage (March 6, 1979)

Comment: Second, the construction of the lines would result in totally unacceptable damage to timber resources, soil, water quality, integrity of drainages within the corridor, wildlife resources, and the natural beauty that is valuable to county residents and to the tourist industry. The small return in temporary local employment in no way balances the incredible economic and environmental damage the BPA is ready and willing to inflict on Grant County.

Response: See comment response for P. Milliren which follows.

Jim and Dorothy Hartle (March 9, 1979)

Comment: We have been advised that two 500 kilowatt transmission lines will be penetrating Grant County.

We had no idea this construction was proposed and feel enraged at its implications:

1. It would be bad for the logging industry.
2. Construction may alter the creek-ways and therefore be harmful to existing ranches.
3. The sheer ugliness of massive appearance of parallel lines would be intolerable in so many ways esthetically, and what about the tourist industry?
4. What about the elk, deer, and antelope involved in the construction? How can animals be expected to change their environment?
5. I think the BPA itself admits that the line through Grant County would not be as effective as other choices.

Response: See comment response for P. Milliren which follows.

Adele and Mark Cerny (March 12, 1979)

Comment: As Grant County landowners and future residents, we strongly object to the proposed construction of 500 kilovolt transmission lines through Grant County.

Response: See comment response for P. Milliren which follows.

Philip J. Kuhl, Grant County Resource Council (March 12, 1979)

Comment: The Resource Council wants to go on record at this time to impress upon you the concern we have as to the impact the two Grant County routes will have on our resource land base. Both routes pass through timbered country. The southern route will have the highest impact in lowering our timberland base.

Response: See comment response for P. Milliren which follows.

Gary Rudisill, Oregon State Forestry Department (March 9, 1979)

Comment: Brownlee-Slatt Corridor - 2 results in an even greater timberland reduction, and the Department opposes this alternative entirely.

Response: See comment response for P. Milliren which follows.

Holly Porter (March 10, 1979)

Comment: We are very much against the construction of these lines for many reasons. First, the lines would be detrimental to the logging industry, cutting wide swathes of bare land through timberland. Second, they are ugly and we strongly feel their presence would ruin the natural beauty of our area. We also understand that these lines through Grant County would not be as effective and would have more power loss than their other choices.

Response: See comment response for P. Milliren which follows.

Catherine Morrow (March 9, 1979)

Comment: First I question the need for such a project. My most grave concern is the two southern route proposals. The two southern routes through Grant County would cost more financially and environmentally than they are worth.

Response: See comment response for P. Milliren which follows.

Sandra Roth (March 9, 1979)

Comment: I am totally against the Brownlee-Grizzly Corridor 2 proposal in that area. In that area is a refuge - too many endangered species.

Response: See comment response for P. Milliren which follows.

Jim and Candance Bahrenburg (March 10, 1979)

Comment: The environmental impacts of both Corridors 1 and 2 seem prohibitive. Wildlife displacement, visual impacts, new road construction, soil and stream damage are impacts which heavily outweigh any advantages of these Grant County sites. Corridor 2 would also disturb three Roadless Areas and come close to the southeast boundary of the Strawberry Wilderness. The erosion factor of Corridor 1 is reportedly high to moderate. Grant County would lose most or all of its wild quality were either of these sites chosen for construction.

Response: See comment response for P. Milliren which follows.

Tim Lillebo (March 10, 1979)

Comment: Secondly, and most important, the environmental damage from construction of the Grizzly Corridor and resulting line would create unmitigated damage to Grant County's forest, wildlife, water, recreation, agriculture, and scenic qualities that are all far more valuable economically and esthetically than any overbearing powerline. Any powerline would create problems for the fragile nature of the land in Grant County. A gross 500-kV line would completely destroy the quality environment found in the John Day Valley. The Valley is so narrow, the line would dominate the entire landscape and ruin the high scenic and casual flavor of this country. The Forest Grizzly Corridor would be harmful to many forms of wildlife and damage the quality of several roadless primitive recreation areas.

Response: See comment response for P. Milliren which follows.

Patricia M. Milliren (March 13, 1979)

Comment: There is no doubt that the wildlife and water resources will be disturbed in any of the alternatives. There is no doubt that the wildlife and water resources are far more important to people in Grant County than extra electricity - and personally, the former are far more important to me also.

Response: Impacts referred to in your comments have been described in the EIS and were taken into consideration along with engineering and economic data in arriving at a plan of service decision. Based on these inputs, Brownlee-Slatt Corridor 1 with a present termination point of McNary has been chosen as the plan which is most economical, best fulfills system electrical needs, and causes the least environmental impacts of the options under consideration. Further details concerning this route location will be contained in the Draft Facility Location Supplement.

Dean Littlepage (March 6, 1979)

Comment: First, I feel the need for this corridor through Grant County has not been established. Pacific Power & Light's and BPA's plans for separate lines to serve the same area of concentrated population in southwest Oregon demonstrates a total lack of foresight and coordination and an incredible economic and environmental waste. Why denude huge swaths of eastern Oregon unnecessarily and at huge cost? Why do the residents of Grant County have to pay the price for the failure of publicly responsible agencies to fulfill their responsibilities to assemble the necessary facts, put together some reasonable alternatives and present them to the public.

Response: The system requirement section of the planning phase EIS explains the reasons that both BPA's proposal and PP&L's proposal would eventually be necessary. An explanation of the history of both projects and associated requirements is outlined in BPA's response to PP&L's comments herein attached (see letter - Mr. Robert W. Moench, PP&L). The Brownlee-Grizzly plan and associated corridors which affect Grant County are alternatives to BPA's proposed (selected) plan which is presented in this final planning phase EIS. In summary, since the Brownlee-Grizzly corridors will not be developed, Grant County residents will not be affected.

Jim and Candance Bahrenburg (March 10, 1979)

Comment: Finally, we question the validity of disrupting the Montana and/or Wyoming environments to create power to be shipped to the Valley, when there is no real conscientious effort being made to cut down on the extravagant use of electrical power, or to use or develop sub and/or wind power.

Response: See comment response for Marta Black which follows.

Marta Black (March 7, 1979)

Comment: Finally, I seriously question the necessity and the validity of disturbing the Montana and/or Wyoming environment to create power to be shipped to the Valley - when there is no real effort being made to cut down on the extravagant dependency on electric power, or to use the power of the sun and wind.

Response: The nation has in recent years, depended on large electrical generating stations to serve growing consumer demands. A transmission network has been developed to transmit energy produced at these plants to use areas. Generating stations located in Montana and Wyoming utilize local coal deposits and transport its energy to consumers via transmission lines.

Energy conservation programs and utilization of renewable resources for on-site generation of power are in their development stages. It is too early at this time to predict the effect that these efforts will have on generation and/or transmission requirements. In the interim, conventional approaches to generation and transmission planning are being followed.

The Jim Bridger plant in Wyoming is currently an operating plant and additional capacity (Unit 4), now under construction, is scheduled for energization late in 1979. Plans for increasing the capacity of the Jim Bridger Plant were formulated more than 5 years ago, and are now close to being realized. Transmission additions planned to deliver this power

have for a number of reasons, been delayed; hence, one might get the impression that generation decisions are tied to transmission decisions. In this particular instance, this is not the case.

For a number of years, projects initiated prior to energy conservation and renewable resource programs will continue to be actively worked on by the electric utility industry. This is undoubtedly confusing to those who are monitoring the nation's progress in the development of alternative energy sources. For additional information on BPA's energy conservation consult BPA's Draft Role EIS, Part 1, Chapter IV.B and the energy conservation alternative contained in this document.

Jim and Candance Bahrenburg (March 10, 1979)

Comment: We are very concerned about these proposed Grant County sites and hope that a site outside the county is chosen which would have far less detrimental impacts on the land.

Response: See comment response for Tom Lillebo which follows.

Scott Cooper (March 10, 1979)

Comment: I sure hope these arguments will be considered when choosing which way these power lines will go. Come to Grant County and see the damage that could be done if this proposal goes through.

Response: See comment response for Tom Lillebo which follows.

Melody Jane Jackson (March 12, 1979)

Comment: As a concerned citizen and resident of Grant County, I am writing to you about the proposed power lines you wish to cross our county. I do not want the lines to cross our county. I feel the disadvantages associated with the crossing far outweigh the feasibility and benefits from the crossing.

Response: See comment response for Tom Lillebo which follows.

Martin Morrow (March 9, 1979)

Comment: I object strongly to your 500-kV transmission line proposed for Grant County. How can you ever consider routes that can be damaging to our local areas?

Response: See comment response for Tom Lillebo which follows.

Sandra Roth (March 9, 1979)

Comment: If you must choose a route for your power line, I-80 seems the most logical since the highway is already there and the line would seem to do the least amount of damage.

Response: See comment response for Tom Lillebo which follows.

Robert A. Hudson and Merle A. Archie (March 10, 1979)

Comment: We are terribly concerned with the rumors we hear of a BPA major power line being routed through the John Day Valley in Grant County, Oregon. As far as we can see, there is no justifiable need to destroy a valley and a highway route that is now classified as scenic and has had power lines and telephone lines put under ground to keep it scenic, when there are existing transmission line corridors in use both to the north and to the south of this beautiful yet unmarred route across eastern Oregon. It is incredible that your Administration would consider this route in the light of the above facts. We sincerely hope that you will do all in your power to keep this power line from destroying the scenic values as well as the timber resources in this timber and agricultural dependent area as well as the impact on the tourist oriented businesses. Please keep us informed on what your decisions and route changes might be in the near future.

Response: See comment response for Tom Lillebo which follows.

Tom Lillebo (March 12, 1979)

Comment: Again I am strongly opposed to any power line in Grant County. Thank you for an opportunity to voice an opinion in this matter.

Response: Brownlee-Slatt Corridor 1 with a termination at McNary as described in the Planning Supplement has been selected for this project's plan of service. Environmental, economic, and engineering factors were taken into consideration in arriving at this decision. A more detailed description of the route and its impacts will be contained in the Draft Facility Location Supplement for Brownlee-McNary.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: BPA received a lengthy letter from Pacific Power and Light on this proposed action. Many of the matters discussed in the letter are not environmental issues, but pertain to planning, legal and institutional matters. Rather than preparing a segmented comment response discussion to this generic portion of their letter, BPA has

prepared the following discussion which presents BPA's position on those matters. PP&L's more specific comments are addressed in the conventional comment-response manner. The PP&L letter has been printed in its entirety along with all other letters received on this project elsewhere in this document.

BPA has revised its proposal to coordinate with the PP&L Midpoint-Malin line as discussed under Description of the Proposal. However, the following comment responses are directed to the PP&L letter relating to the context in which it was written, with updating where indicated.

Response:

DISCUSSION

It should be understood that while the BPA proposal referred to in PP&L's letter is an alternative to the Midpoint-Malin line, the converse is not true. Even though the Midpoint-Malin line is to be constructed, the Brownlee-McNary line or an equivalent system reinforcement must be provided in the same time frame to provide for increasing transmission requirements between the Northwest and Idaho. The Midpoint-Malin line will not provide this transmission capacity without reinforcement of the Pacific Northwest-Pacific Southwest Intertie. This would result in more total miles of transmission line being required, 600 to 400 miles for BPA's plan, greater cost and more environmental impacts.

The Brownlee-McNary 500-kV line is not a recent development. It was proposed in 1969 as one means of providing transmission capability from Idaho to the Northwest for the transfer of power from the Jim Bridger project, then called Nine Mile. It was preceded by several other transmission system reinforcement plans between Idaho and the Northwest. In the 1950s a 345-kV development was proposed in conjunction with studies on High Hells Canyon. In the latter 1960s a Brownlee-Umatilla (vicinity of McNary) 500-kV line was proposed in several of the alternatives for transmission associated with the High Mountain Sheep project.

The Brownlee-McNary (Umatilla) 500-kV line was then as today a multi-purpose line useful for other regional transmission requirements in addition to wheeling of Pacific's Wyoming generation to the Pacific Northwest. Our planning included federal or non-federal construction of the line. At a meeting in November 1971, attended by representatives of BPA, PP&L, the Idaho Power Company and the Washington Water Power Company, PP&L stated that for wheeling purposes BPA should assume Jim Bridger output would be delivered to BPA at Umatilla, and that the Brownlee-Umatilla 500-kV line would probably be constructed by Pacific. Later discussions with PP&L included the possibility that the line would be constructed in part or wholly by BPA. Meeting minutes, letters, and other data relating to these studies and discussions are in BPA's files.

BPA has studied a number of transmission alternatives for transfer of Jim Bridger power to Pacific load centers in the Northwest both before and after the announcement by PP&L of the Midpoint-Malin line. A number of these included the Brownlee-McNary line as such or as a part of the Brownlee-Slatt 500-kV line.

The third AC Intertie line has also been studied for a number of years. Among the uses of this line considered during these studies was that of service to southwest Oregon. As a point of interest, during the latter 1960s it was recommended to Pacific that it consider construction of all or part of a third intertie line to provide service to their southwest Oregon loads via Malin. It would also have provided Pacific with additional access to the Pacific Southwest markets via the intertie.

The above facts demonstrate that the Brownlee-Slatt line and the Buckley-Malin line have been in the regional long-range transmission plans for many years.

The Federal Columbia River Transmission System Act, P.L. 93-454, directs BPA to construct transmission facilities to "integrate and transmit the electric power from existing or additional federal or non-federal generating units." Consistent with this direction, BPA provides an efficient and reliable transmission system meeting to the extent possible the needs of all utilities in the Pacific Northwest. Non-federal utilities are not preempted from constructing transmission facilities as is evidenced by the extensive system of non-federal transmission facilities in the Pacific Northwest.

Prior to construction of major transmission facilities, BPA will seek authorization from Congress and provide notice to various utilities in the Pacific Northwest of the time at which it plans to request approval from Congress. This is required by Sections 4 and 5 of the Act.

BPA would be remiss if it did not continually examine all aspects of future Northwest transmission system development with the intent of arriving at the best balance of low cost, reliability, environmental acceptability, and a well-integrated transmission system for all users. This presupposes coordinated activities with the other utilities with the recognition that some utilities will be constructing their own system additions. However, when these proposed additions are of limited usefulness to the Northwest system, a more widely useful, or multi-purpose, project is sometimes indicated.

BPA's position on the Midpoint-Malin line has for some time been that while the line would serve Pacific's needs, it would be less than a full multi-purpose line within the context of the Northwest integrated transmission system. It would provide the functions of transferring a portion of Pacific's Wyoming power to its southwest Oregon load area and

provide some increase in system reliability. It would, however, result in placing some burdens on the intertie system under certain operating conditions which would limit transactions for which the Intertie was designed and built. It would provide no west-to-east capability in contrast with BPA's proposal.

BPA had also taken the position that while other alternatives would be more advantageous to the Northwest as a whole, it would not be proper to recommend one of these in lieu of the Midpoint-Malin line because of the delay that would be entailed in constructing the alternative as compared with the 1979 date announced for Midpoint-Malin. This situation changed, however, when the Secretary of Interior recommended an alternative route to PP&L for the Midpoint-Malin line which extended the energization date by at least two years as well as adding some 50 miles to its length.

The reasons for our change in posture are detailed in the February 24, 1978, letter from the Administrator to Robert M. Johnson, the Assistant Attorney General of Oregon. With the two-year delay in the completion of the Midpoint-Malin line, our recommended plan could be completed no more than a year later than the PP&L plan. This, together with the added advantages entailed in our plan, we believe justifies the change in our position. The BPA preferred alternative would provide west-to-east as well as east-to-west transfer capability and would function as a true multi-purpose facility in that it would provide transmission capability for transactions in addition to simply transferring Pacific's Wyoming power to the Northwest.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: In attempting to preempt construction of the desperately needed east to west transmission facilities, BPA has totally avoided consideration of PP&L's "wish to construct transmission facilities". And in linking the proposed BPA lines to service to southern Idaho, BPA has failed to consider continuance or expansion of current arrangements with Idaho Power Company and Utah Power & Light Company as an alternative. Both of these actions are in conflict with the basis upon which the Congress approved self-financing for BPA, and lead to the conclusion that present efforts may be unlawful.

Response: The facilities BPA is proposing are required in order to provide additional transmission capability for BPA to make additional energy available to Idaho Power Company for ultimate delivery to BPA's customers in southern Idaho and Utah by Idaho Power and Utah Power and Light. This is a requirement of the respective transmission agreements between BPA and each utility. The facilities will not duplicate or replace facilities which are provided by Idaho or Utah but will strengthen and increase the transmission grid which interconnects BPA and Idaho.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: The facilities proposed by BPA in the DSEIS would purportedly provide transmission service to the "southwestern Oregon service area" from available generation in Wyoming. However, most of that southwest Oregon service area is served directly or at wholesale by PP&L, and virtually all the power to be transmitted from Wyoming is and will continue, for the foreseeable future, to be generated by PP&L's generating plants. Thus, when placed in its proper perspective, it becomes clear that BPA proposes to expend public funds to construct facilities to transmit PP&L power from PP&L generating plants in Wyoming to PP&L customers in Oregon. Because this is a function which PP&L is ready, willing and able to perform without the expenditure of public funds, it must be concluded that the BPA proposal has been hastily conceived with the only apparent purpose of preventing the construction of major transmission facilities by anyone other than BPA.

Response: The Brownlee-Slatt/Buckley-Malin line segments of the BPA proposal would be multi-purpose facilities as opposed to the limited-use Midpoint-Malin line. In addition to providing east-west transfer capability for PP&L's Wyoming power and energy scheduled to the Northwest, the earlier proposal would satisfy the other requirements detailed under System Requirements.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: Any proposal which moves energy only from Brownlee to the Pacific Northwest omits a significant segment of transmission line required to permit the necessary energy transfers.^{1/} Contract negotiations with Idaho Power Company for the necessary added facilities will increase both the time schedules and cost requirements of the BPA alternatives.

^{1/} Thus the BPA proposal will require construction of some 450 miles of new line on the BPA system, plus some 215 miles of new or upgraded 500-kV lines on the Idaho Power Company system. This is a total of approximately 665 miles as opposed to 436 miles under PP&L's plan. (The 92 miles of line between Malin and Medford are not included because they are common to both proposals).

Response: Our studies indicate that only about 400 miles of line would be required on the BPA system and that with the upgrading of the two Midpoint-Boise-Brownlee lines to 345-kV, adequate capacity would be available through the Idaho Power Company system with certain adjustments in schedules, such as exchanges of Jim Bridger power for BPA Northwest power. Idaho Power Company has recently indicated that it may delay this planned upgrading. Although such a delay would likely affect the

sequence in which BPA would build and energize its proposed new facilities, it would not significantly alter what is ultimately built by BPA. The 215 miles of new 500-kV construction in Idaho would not be necessary to implement BPA's plan for the 1982 period.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: In order to portray its proposal as an alternative to PP&L's line, BPA becomes compelled to propose not merely a line from the western end of the Idaho Power Company main system to an interconnection with the Pacific Northwest transmission grid, but an additional "third intertie" (Buckley-Malin) along the route of the existing twin 500 kV Pacific Northwest-Pacific Southwest Intertie lines.^{3/}

^{3/} PP&L's line will parallel the intertie lines for some 76 miles, thus reducing the required length of a "third intertie" at such time as it might be necessary.

Response: The Buckley-Malin line would perform at least two functions: (1) provide firm transmission capacity to PP&L's southwest Oregon loads in conjunction with the Brownlee-McNary 500-kV line and the BPA system; and (2) add to the Intertie transfer capacity as well as firm up the existing Intertie. Again, the total line length of the Brownlee-McNary/Buckley-Malin proposal is less than that of the Midpoint-Malin line.

A discussion of the intertie system is given under Discussion of System Requirements.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: Purpose of the BPA Lines: As stated above, the BPA lines have been hurriedly proposed as an "alternative" to PP&L's line in an attempt to deprive PP&L of the ability to serve its own customers in an economic and timely manner. But because BPA must assuredly perceive that it would experience difficulty in promoting a program of expending public funds to serve a function for which private funds are available, BPA has cast about for additional "benefits" to make its proposal more palatable.

It is in this context that BPA contends (without any supporting data or documentation) that its lines would "assure greater overall system flexibility by simultaneously providing much needed . . . west to east transmission capability.

2/ The 1600 average MW of power to be transmitted into the new Meridian Substation at Medford is in excess of the loads in the southwestern Oregon area, and thus power now transmitted into the area from the generating facilities to the north will be displaced and, along with any excess, will be available for use in other portions of the Pacific Northwest Region.

Response: The delay in schedule for Midpoint-Malin removed the impediment to our recommending BPA's alternative. This is discussed in more detail in the introductory text material at the beginning of the document.

Since we are now in a self-financing status the term "program of expending public funds" is not factual. It would be more proper to be concerned about the effect these requirements would have on our rate structure since no tax dollars will be involved. Be that as it may, BPA studies quite thoroughly all proposed or alternative system additions with the intent of arriving at an efficient, cost-effective, and reliable transmission system taking into account all important facets of transmission system development including environmental impacts and overall system requirements, including those of non-federal utilities.

Footnote 2 is incorrect in stating "The 1600 average MW of power to be transmitted into the new Meridian substation ---." The Midpoint-Malin line has, based upon our studies, a transmission capability of only 750 MW, and a scheduling capability of 1000 MW. PP&L would not have the transfer capability to deliver 1600 average MW into Meridian without additional arrangements. In fact, the letter agreement of September 2, 1977, provides for a total transfer capability for PP&L's Wyoming power of 1600 MW from Idaho to Pacific's Northwest load centers over the Midpoint-Malin line and the existing BPA system. 600 MW of this total capability would be provided through wheeling over the existing BPA system from LaGrande, McNary, and Hatwai.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: BPA has conceded,^{5/} and PP&L has demonstrated,^{6/} that PP&L's line will provide essentially equivalent east to west transmission capacity and other system reliability benefits. Furthermore, BPA has also conceded that its unsupported assertion of a need for west to east transfer capacity will not require construction of its Brownlee-Slatt line until the mid-1980s at the earliest,^{7/} and that both the Brownlee-Slatt/Buckley-Malin lines and the PP&L Midpoint-Medford line will eventually be required.^{8/}

The question must then be asked: Why is BPA rushing to build a line which will not be required for some time, when current needs can be met by a private project well under way? The answer is self-evident -- BPA wishes to arrogate to itself total domination over the Pacific Northwest transmission system in patent disregard for the requirements of the Region's independent utilities and their customers, and in contravention of applicable laws as described in Section I of these comments.

Response: BPA's major interest in the added transmission capacity between Idaho and the Northwest is that this (these) addition(s) be the best for the region as a whole. This has been our position for many years. After consideration of all the factors involved, we believe that our alternative is needed in addition to the Midpoint-Malin line for the reasons previously stated. The mid-1980s period given as the approximate date when the Brownlee-McNary line would be required in the event that the Midpoint-Malin is built, was predicated on several assumptions relating to Northwest-Idaho transfers. Current information indicates that reinforcement will be required by the fall of 1982. If sufficient west-east transmission capacity can be obtained in the Buckley-Summer Lake-Midpoint lines, the Brownlee-McNary line can be delayed. It is now tentatively scheduled for 1985 on the supposition that this capacity can be made available.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: First, it has been demonstrated to the satisfaction of the Oregon Public Utility Commissioner that the PP&L line will adequately serve its intended function at a lower cost to PP&L customers than would the BPA lines. It is curious that not once in the DSEIS does BPA even mention the costs involved, as if cost of delivered energy were not a relevant factor in weighing true alternatives.

Response: It is true the PP&L proposal serves their needs adequately, i.e., provides a path for transmittal of a portion of their Wyoming power to serve their loads in southwestern Oregon. The line is, however, a single-purpose facility and does not lend itself to multipurpose use. BPA's proposal, on the other hand, would provide multipurpose functions and serve regional needs. BPA's currently-proposed Buckley-Summer Lake line in conjunction with the Midpoint-Summer Lake section of PP&L's Midpoint-Malin line will provide west-to-east transfer capability without degrading the AC interties. BPA facilities will also provide backup for Southwest Oregon loads, reduce transmission losses, and increase reliability of the interties. These benefits are described more fully under the System Requirements section.

Cost comparisons of BPA's proposal and the PP&L proposal have been presented by BPA in several recent documents: (1) Hector Durocher's testimony before the Public Utility Commissioner of Oregon on November 28, 1978; (2) the letter of December 28, 1978, from Hector Durocher and Ralph Gens to Mr. Richard Sabin, Administrative Law Judge, Oregon Public Utility Commission (PUC); and (3) the Administrator's letter of March 8, 1979, to Mr. Don C. Frisbee, President and Chairman of the Board of PP&L. While these differ in some detail, they all show a lower cost to the company for the BPA proposal.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: Secondly, the proposed BPA lines could not possibly be in service in sufficient time to meet the demonstrated need for this transmission service by late 1981. Again it is curious that while BPA in other forums quite properly painted in bleak terms the anticipated serious Pacific Northwest energy shortages, it appears quite blithely willing to delay (by what will be certainly more than a year) construction of facilities which are desperately needed to help alleviate those shortages and which BPA has repeatedly testified are wholly appropriate to that need. This is merely indicative of the extremes to which BPA will go to achieve its ambitions.

Be that as it may, BPA asserts that it can have its proposed lines in operation by late 1982, only one year later than PP&L's line. This is unwarrantedly optimistic, but worse, is misleading. For instance, on page 1 of the DSEIS, BPA states that construction could start in the winter of 1981 and be completed by the fall of 1982. Yet on page III-13 of that same DSEIS, BPA states that the work force will be in place for 20 to 28 months, and Mr. Jerry Frick of BPA is reported to have testified at the March 5, 1979 Hermiston, Oregon DSEIS hearing to the effect that there would be a two-year construction period. We submit that it would be physically impossible to construct 450 miles or so of 500 kV transmission line (plus the 215 miles on the Idaho Power System) within nine or ten months even with herculean efforts and huge cost penalties.

Response: The construction schedule for Brownlee-Slatt sent to Mr. Roger Colburn of the Oregon Public Utility Commissioner's office on May 4, 1978, showed a construction period from February 1981 through October 1982, a period of 20 months. The "Winter 1981" in the DSEIS should have read "Winter 1980-81," and referred to February rather than December of 1981.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: Moreover, the BPA plans are only now in their early formative stages. BPA has not yet selected a route, developed a route specific environmental impact statement, performed wilderness reviews as required by Section 603 of the Federal Land Policy and Management Act (P.L. 94-579), conducted surveys or right-of-way acquisition, or ordered materials. BPA has not received necessary Congressional approvals as required by Section 4 of the Federal Columbia River Transmission System Act (P.L. 93-454), or even attempted any serious coordination with the various Federal and State of Oregon agencies who may have an interest at the Federal, state and local level.

Response: Many of the activities which are described in this comment, occur concurrently with BPA environmental investigations. It is the practice of BPA to develop an environmental impact statement addressing alternative electrical plans-of-service prior to making detailed project decisions and major manpower and financial commitments. Planning level EIS's are intended to serve as vehicles for obtaining early public comments on various plan alternatives and secondly, to inform Congress early in our planning process of the environmental impacts which would result if the project is authorized.

Once Congressional authorization is obtained, BPA will undertake additional activities such as those described by the commentor.

BPA's proposed project is not comparable with that of PP&L with respect to regulatory or environmental hurdles. BPA has assumed that locating the proposed transmission lines adjacent to existing lines will cause minimum environmental impact. Public responses to the planning phase EIS, have verified this assumption. Based upon these comments and BPA's own experiences, it is expected that construction of the proposed line along existing transmission corridors will prove (in subsequent location specific EIS's) to be environmentally responsive.

Considering that existing transmission lines would be paralleled, wilderness conditions are not expected to be an issue. With the exception of a very small area near Brownlee Dam no wilderness study areas are known to occur along the existing corridors. The granting of a right-of-way across public lands is not expected to pose difficulties as the Federal Land Policy and Management Act emphasizes the desirability of locating new transmission lines within existing corridors as a method of reducing environmental impact. Additionally, existing BPA easements are sufficiently wide to accommodate 40 miles of new transmission line construction across private lands without right-of-way acquisition.

These considerations collectively suggest that the resolution of location and environmental issues will be expeditious. Although PP&L has already achieved resolution of some of these issues, the date is rapidly approaching when BPA's proposal would have achieved an equal level of accomplishment.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: On the other hand, the PP&L line has been through the entire regulatory and environmental review process^{11/} and construction has commenced. PP&L has received authorization from the Oregon Public Utility Commmsioner and the Idaho Public Utilities Commission, has received approval of its EIS and the specific route from the Secretary of the Interior, has obtained most of the right-of-way, and has all necessary materials on hand.^{12/} It has taken PP&L about five years to arrive at this position, and it is irrational to assume that BPA could run the gauntlet of environmental, Congressional and regulatory review in less than two years.

^{11/} BPA Administrator Sterling Munro has conceded as much. In a letter to Oregon Public Utility Commissioner Charles Davis, dated February 24, 1978, Mr. Munro stated that: "However, the Midpoint-Malin line timewise enjoys one major advantage over any other alternative. The right of way is already the subject of an Environmental Impact Statement (EIS) which has been completed and filed with the Council on Environmental Quality. Any of the other alternatives would be subject to completion of an adquate EIS."

^{12/} PP&L has not yet obtained right-of-way from the Bureau of Land Management (BLM) for the Malin-Midpoint segment of its line because BPA has asked BLM to withhold such right-of-way until the line has been rendered compatible with the Federal Power Marketing Program through execution of contracts with BPA for interconnections at Malin. Despite PP&L's continued efforts to enter into such contracts in accordance with a letter agreement between BPA and PP&L dated September 2, 1977, BPA inexplicably has not tendered such contracts for execution.

Response: The provisions of the contracts in question have not been fully agreed upon. Such things as (1) method of operation of the Malin interconnection, (2) reimbursement to BPA for backup transmission provided Pacific, (3) compensation of Pacific Northwest users of the Intertie when their use of intertie capacity is reduced in order to maintain service to Pacific southern Oregon loads, and (4) wheeling arrangements during the interim are still subject to negotiation. BPA will pursue these. In addition, refer to previous response for coverage of other points contained in this comment.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: As further evidence to support our contention that the BPA proposal is a sham, belatedly conjured up to block construction of the PP&L line, it must be noted that in spite of BPA's constant references to a 20-year planning horizon, the BPA lines do not appear on the 1978 edition of the Western System's Coordinating Council (WSCC) map of planned facilities for the Pacific Northwest, although all utilities (including BPA) routinely report all major facilities under serious consideration. In addition, BPA Administrator Munro testified, in connection with BPA's FY 1979 Budget Submittal, that there were to be no "major" transmission projects to be proposed for FY 1979 or FY 1980 except in connection with the Colstrip Project. Thus, it is clear that the BPA proposal was not conceived until sometime in 1978.

Response: BPA facilities were conceived as early as 1969 with alternatives becoming well-defined by the mid-1970s. However, a proposal was not formally declared since its energization date would have been later than the announced date of 1979 for the Midpoint-Malin line. BPA felt that the attendant delay of a much-needed transmission system reinforcement would not be warranted under the conditions prevailing at the time.

However, several events occurred which prompted BPA to reconsider. The need for transmission reinforcement for west-east transfers between the Northwest and Idaho accelerated by several years. PP&L facilities were delayed due to a new route recommended by the Secretary of the Interior and IPC announced plans to upgrade facilities between Midpoint and Brownlee. After these events occurred there was not sufficient time to present our proposal for the FY 1979 program. For more detail refer to the System Requirements section of the text.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: But BPA has also advanced its scheme on a theory of an additional need for west to east transfers and has stated that without the Buckley-Malin line, the PP&L line would not carry as much power to the east. In his testimony before the Oregon Public Utility Commissioner on November 27, 1978, BPA's Mr. Ralph Gens testified that "The Brownlee-Slatt circuit would be needed by the middle 1980s to serve BPA loads in southern Idaho regardless of whether the Midpoint-Malin (segment) is built." (Emphasis added). It appears, however, that BPA has not considered any alternate methods of serving its southern Idaho loads, such as wheeling over the Idaho Power Company system, and that BPA considers as realistic only those alternatives which entail its own ownership of all bulk transmission lines in the Pacific Northwest.

Response: BPA's plan assumes continued wheeling to our southern Idaho loads over the existing Idaho Power Company's transmission system and its planned upgrades. BPA's plan only increases BPA's capacity connecting Idaho and the Federal System to enable BPA to make power available to Idaho for ultimate service to BPA loads in southern Idaho and Utah, as well as the other transactions previously noted.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: Summary: The DSEIS is offered as a planning document to consider "the environmental impacts of two electrical plans of service. But the DSEIS is clearly not an environmental impact statement. It quite cursorily discusses the environmental impacts on the basis of "generalized (impacts) relating to normal construction and maintenance efforts" and arrogantly suggests that the real environmental review must await final line location.

Response: BPA utilizes a two step approach in its environmental analysis. The first step, the facility planning supplement, identifies the need for a specific new transmission facility proposed as part of the Annual Proposed Program, and outlines in preliminary form the probable environmental impact of constructing the facility in accordance with a general proposed system plan and alternative plans.

The second step, the facility location supplement, expands the facility planning supplements to include alternative locations for the proposed new facility and environmental impacts associated with each alternative location. This supplement is prepared after public and agency review of the planning supplement has been completed and reconnaissance studies have been made.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: On the other hand, the DSEIS is not even a valid planning document. It devotes the bulk of its 65-odd pages plus maps to generalized environmental factors, and only about ten pages to the planning considerations which led to this hasty proposal. It offers no facts or figures to support its allegations that the BPA line is needed or somehow better than the PP&L line. While it relies on PP&L's determination of need for west to east transmission capacity, it offers no more than unfounded assertions to the effect that the BPA lines will provide additional benefits to the Region, and does not even refer to any studies or data which might tend to support such assertions.

Response: The advantages of the BPA proposal and the reasons for recommending it as an alternative to PP&L's Midpoint-Malin line were discussed in the February 24, 1978, letter from the Administrator to Robert M. Johnson, the Assistant Attorney General of Oregon. Studies which led to this conclusion are available although they are not included as part of the DSEIS. As previously stated, cost comparisons between the BPA proposal and the PP&L proposal were provided in some detail in H. J. Durocher's testimony before the PUC on November 28, 1978; in the December 28, 1978, letter from H. J. Durocher and R. S. Gens to Richard Sabin, Administrative Law Judge, Oregon Public Utility Commission; and in the March 8, 1979, letter from the Administrator to Don C. Frisbee, President and Chairman of the Board of PP&L. The cost comparisons showed a lower cost to PP&L under the BPA proposal.

Although the BPA and PP&L proposals are not comparable electrically, reviewers of the environmental impact statements for these projects have questioned whether or not there were environmental advantages to one of these plans. A brief summary of general environmental characteristics encountered by these alternative plans is enclosed. Information within this table was taken from the environmental studies conducted on these projects.

It is BPA's conclusion that its proposal has less environmental impact; however, the reviewers are requested to draw their own conclusions. The fundamental difference between the proposals is reflected by the statistics on the use of existing transmission line corridors and the amount of new right-of-way acquisition which would be required.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: Maps and Figures: The maps included in the DSEIS are woefully inadequate to inform the public of the salient factors involved in the BPA proposal. They do not show existing or planned generating facilities which are integral elements of the BPA proposal. They do not clearly depict Indian Reservation, wildlife refuges, parks, national forests and other areas of cultural, environmental, social, recreational and economic concern. Color contrasts on the maps are minimal and render some of the maps (especially figures 4, 5, 6 and 7) undecipherable.

Response: As the generating facilities for the proposal are in Wyoming, the scale of the enclosed maps do not allow for their inclusion. Resources, both natural and cultural, are depicted on various maps throughout the document, especially on the land use and land ownership maps, figures 4 through 8. Because this EIS is to determine plan of service rather than location, the maps are of a more general nature. More specific maps on the project, will be available in the Draft Facility Location Supplements for Brownlee-McNary and Buckley-Summer Lake-Malin.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: The last paragraph on page 2 and the first paragraph on page 3 are self-serving, speculative, unsubstantiated and conclusionary. In particular, there is no basis for the assumption that the "BPA proposal would likely result in less overall environmental impact" (especially in view of the absence of a route-specific environmental review), or for the assertion that BPA's proposal will provide greater long range economic benefits to the region. Such unsupported and conclusionary statements are contrary to the intent of the CEQ guidelines for preparation of environmental impact statements, and should not be included in an environmental impact statement without substantiating data.

Response: See the attached comparison table which relates the PP&L's proposal to the BPA proposal.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: Similarly, the second, third and last paragraphs on page 4 contain additional self-serving, speculative, unsupported and conclusionary statements. "BPA's concept" of multi-purpose transmission lines is not defined, and no studies or data are offered to support the assertions made in these paragraphs.

Response: The concept of a multi-purpose transmission line, while not specifically defined in the DSEIS, should be clear. A multipurpose line would lend itself to a number of uses. Among these are sales of firm power and energy, economy energy exchanges, diversity exchanges, wheeling of power and energy for utilities not a party to the lines' ownership, means for sharing of reserves, emergency transfers, and all other uses which a fully-integrated line would accommodate. In addition, it would reduce system transmission losses and enhance system reliability.

The Brownlee-McNary line is physically and electrically located so that it can be considered a multi-purpose or "common carrier" line capable of supporting a number of different transactions in both eastward and westward directions. This is not true of the Midpoint-Malin line. The DSEIS does state that the BPA proposal would be usable for purposes other than the transfer of power from Wyoming to southern Oregon.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: The third and fourth paragraphs under the "Urban and Residential" heading on page II-11 suggest that BPA is prepared to submit its lines to the jurisdiction of State of Oregon land use laws. We applaud this position and urge BPA to continue this policy.



Environmental Comparisons Between BPA & PP&L Proposals

	<u>Midpoint-Malin</u>	<u>Brownlee-McNary</u>	<u>Buckley-Malin</u>	<u>PP&L</u>	<u>BPA</u>
<u>Length (Miles)</u>	441	163	232	441	395
<u>Existing Corridors Utilized (Miles)</u>	128	163	232	128	395
<u>Right-of-Way Required (Acres)</u>	9,354	1,440	2,774	9,354	4,214
<u>Land Ownership: (Miles)</u>					
BLM	252	20	44	252	64
USFS	17	5	58	17	63
BIA	0	15	0	0	15
State and Private	172	123	130	172	253
<u>Natural Resource Impacts (Miles)</u>					
<u>Vegetation</u>					
Forest	37	27	58	37	85
Desert Shrub	265	29	55	265	84
Grassland	42	70	105	42	175
Agriculture	61	30	11	61	41
Juniper	37	--	--*included in Forest	37	--
<u>Wildlife</u>					
Sensitive Areas Along Route	6	1	4	6	5
Birds of Prey Nat. Area		Ladd Marsh Wildlife Mgmt. Area	Silver Lake Sycan March		
Snake River Nat. Wild. Refuge			Sprague River		
Harvey Basin			Lost River		
Silver Creek					
Silvies River					
Valley between Burns & Buchanon					



Environmental Comparisons Between BPA & PP&L Proposals
(continued)

	<u>Midpoint-Malin</u>	<u>Brownlee-McNary</u>	<u>Buckley-Malin</u>	<u>PP&L</u>	<u>BPA</u>
Modification of Forest Habitat (Acres)	609	303	740	609	1,043
<u>Resource Use & Socio- Economic Impacts</u>					
Loss of Commercial Forestland (Acres)	609	303	120	609	423
Loss of Agricultural Productivity (Acres)	4	4	3	4	7
Relocation or Removal of Residences	0	7	0	0	7
Visability from adja- cent Communities	7	3	4	7	7
	Mountain Home, ID Glenns Ferry, ID Homedale, ID Marsing, ID Hines, OR Harney Basin, OR	LaGrande, OR Pendleton, OR Hermiston, OR	Willowdale, OR Millican, OR Beaty, OR Bonanza, OR		
Highways Crossed					
Interstate	1	1	0	1	1
U.S. Highways	6	1	3	6	4
State Highways	6	4	3	6	7
TOTAL	13	6	6	13	12

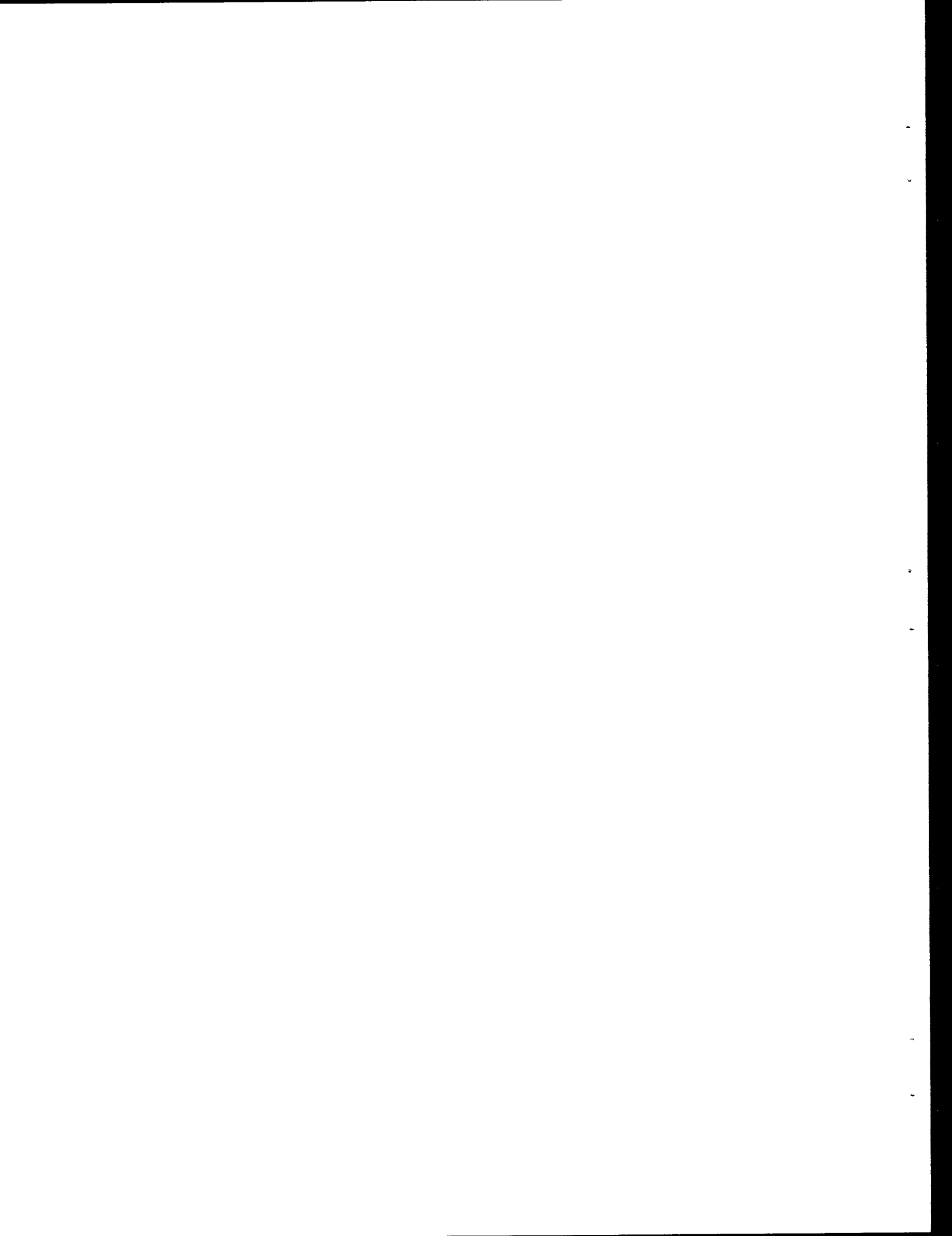


Environmental Comparisons Between BPA & PP&L Proposals
(continued)

	<u>Midpoint-Malin</u>	<u>Brownlee-McNary</u>	<u>Buckley-Malin</u>	<u>PP&L</u>	<u>BPA</u>
Recreation Areas Along Route	7	5	3*	7	7
	Snake River	Blue Mountains	Transmission Bikeway		
	Birds of Prey Nat. Area	Transamerica Bikeway	*previously listed		
	Stinking Water Mountain	Ladd Marsh Nat. Area	Cracked River		
	Fremont Nat. Forest	Hilgard State Park	Highway Wayside-N. of willowdale		
	Lost Forest Research Nat. Area	Powder City Wildlife Man. Area			
	Christmas Lake Valley Sand Dunes				
Historic/Archeo- logic Resources	Oregon Trail (analysis incomplete)	Oregon Trail Lower Powder River Valley Misc. Sites along route (analysis incomplete)	Misc. sites along route (analysis incomplete)		

Table 1 References:

1. Department of Interior, Bureau of Land Management Final EIS, Pacific Power & Light Company Proposed 500-kV Powerline Midpoint, Idaho-Medford, Oregon, October 1978.
2. Department of Interior, Bureau of Land Management, Program Decision Option Document, Pacific Power & Light Company Proposed 500-kV Electric Transmission Line, October 28, 1977.
3. Department of Energy, Bonneville Power Administration, Proposed Fiscal Year 1979 Program, Draft, Facility Planning Supplement-Southwest Oregon Service, January 1979.
4. Department of Energy, Bonneville Power Administration, Draft Location Supplement-Southwest Oregon Service: Brownlee-Slatt and Buckley-Malin (Unpublished Draft Materials), March 1979.



Response: You are correct in your interpretation that BPA endeavors to assure that its activities are consistent with state and/or local land use goals.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: It is appalling that BPA did not consider the obviously available alternative of wheeling over the lines of others to provide any necessary west to east power transfers to the Middle Snake region. In the last paragraph on page III-27, BPA "feels" that its proposal "provides a better solution to the electrical needs of the region," based on the "reasons" described on pages 2 and 3 of the DSEIS. But pages 2 and 3 contain nothing more than conclusionary and unsupported contentions. This exercise in circular reasoning has no place in a proper EIS.

Response: In evaluating the use of the existing transmission facilities into the area of Brownlee, Idaho, a determination was made that the contractual arrangements among the intercompany pool utilities for the capability of these facilities did not offer a firm transmission path over which BPA could continue to deliver the requirements of its loads in southern Idaho and Utah to the Idaho Power Company. In addition, the Idaho Power Company's share of the Boardman Coal Plant could not be transferred on a firm basis over these facilities. These two requirements and the possibility of additional interchanges, such as diversity and capacity exchanges and non-firm energy sales among the Pacific Northwest utilities and the utilities in Idaho, Utah, and surrounding areas, supported BPA's proposal to construct the Brownlee-McNary line segment.

This line segment, in combination with the Idaho Power Company system upgrade* and the Buckley-Malin line segment, would provide the necessary west-to-east transmission path and an east-to-west path which would allow the interchanges mentioned above, and also the transfer of PP&L's Wyoming generation to the Pacific Northwest and to southern Oregon over the Buckley-Malin segment. This latter facility, in addition to providing a transmission path over which service to Pacific's southern Oregon loads could be made, would provide backup to the current intertie facilities, and additional intertie capability.

* Idaho Power Company has recently indicated that it may delay its planned upgrading of the Midpoint-Brownlee section of its system. Such a delay would likely affect the sequence in which BPA builds its proposed new facilities, but it would not significantly alter what is built by BPA.



Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: In this first paragraph under "Summary of Plan of Service Analysis" heading, it is stated that "prediction of possible impacts are meant to facilitate comparison of the environmental aspects of alternative system plans." We submit that the DSEIS cannot possibly offer a rational comparison between the environmental impacts of the BPA lines and the PP&L line. The PP&L line has received the scrutiny of a full Final Environmental Impact Statement, and the cursory examinations performed of the DSEIS fail to offer any comparable analysis.

Response: See the comparison table for PP&L's proposal and BPA's proposal attached herein.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: Furthermore, the last paragraph of page III-29 suggests that BPA has already made a decision to pursue the Brownlee-Slatt Corridor No. 1. The DSEIS contains nothing to support that premature decision.

Response: Refer to various comments to Mr. Robert Moench and also to Alexandra B. Smith, USEPA-Region X contained herein. This information together with environmental and economic data was used in arriving at a plan of service decision. More specific information concerning environmental and economic data is included in the Draft Facility Location Supplements for Brownlee-McNary and Buckley-Summer Lake-Malin.

Robert W. Moench, Pacific Power & Light (March 12, 1979)

Comment: We do not offer any specific comments on the environmental impacts discussed in the DSEIS for the simple reason that the DSEIS is so generalized and non-specific as to be meaningless.

Response: Since the purpose of this document is to allow for determination of a plan of service proposal, environmental input has been kept at a generalized overview level. Those issues germane to a plan decision have been included. Once that decision is made, then more specific impact information is included for selection of a route location. Such information is available in the Draft Location Supplement for Brownlee-McNary and Buckley-Summer Lake-Malin.

Dick McCosh, Oregon State Parks (March 12, 1979)

Comment: The Brownlee-Slatt Corridor 1 route shown would significantly damage historic, scenic and recreational resources of state and national concern since it frequently parallels or crosses the nationally commemorated historic Oregon Trail route and the highly scenic Blue Mountain portions of the Interstate Highway 80N tourist route near several major state parks.

The report mentions the above items but grossly understates the significance of the resource values affected and the public impact damages involved.

Response: Along Brownlee-Slatt Corridor 1 there are numerous known historic sites associated with the Oregon Trail and there may be more unrecorded sites. However, there is a 230-kV line in this area which this route would parallel. The present line constitutes an existing long-term visual intrusion. Paralleling would constitute an additional intrusion, although forest screening would ameliorate this impact in certain areas. There may also be minor temporary impacts from construction noise, dust and slash burning.

Consultation will be made with the State Historic Preservation Office to determine the extent of impact this line would have on the Oregon Trail and to institute mitigation procedures where necessary.

At this time a precise route location has not been determined. BPA will coordinate its efforts with both the U.S. Forest Service and the Oregon State Forestry Department to minimize visual impacts through the Blue Mountain area.

Gary Rudisill, Oregon State Forestry Department (March 9, 1979)

Comment: As the timber supply decreases in western Oregon, eastern Oregon timber will experience greater demand. This situation has already occurred in central Oregon and is also expected in northeast Oregon. Due to this increased demand, marginal forest land will become more valuable, and intensive forest management practices will become more attractive. Thus the commercial value of northeast Oregon's forest is expected to increase in future years. The Department, would therefore, oppose any action that reduces the timberland base. We strongly urge using the existing transmission line. We therefore, agree with the philosophy behind the Brownlee-Slatt Corridor 1. However, this alternative still results in loss of commercial forest land. We feel that less damaging alternatives might exist, due to the present number of rights-of-way near your proposed route.

Response: As stated in your comment, the Brownlee-Slatt Corridor 1 attempts to mitigate impacts to forest areas by following an existing utility corridor. For this and other reasons the Brownlee-Slatt Corridor 1 has been selected as BPA's proposed plan of service. BPA will attempt to avoid or mitigate where possible any impacts to timber along this corridor during the location phase of this project

Sandra Roth (March 9, 1979)

Comment: However if the need for power is in southwest Oregon, why not explore some alternative methods of producing energy, some that can be developed there, instead of placing high voltage power lines across the entire state.

Response: See comment response for R. Kenton which follows.

Richard W. Kenton (March 11, 1979)

Comment: You'd better go back to the drawing board and help them develop geothermal power first.

Response: The geothermal resources of the Klamath Basin, as you suggest, may prove to be an important energy resource. Geothermal water temperatures in the basin, however, are not high enough to service electrical generation purposes. Water temperatures in the 300°F range are required to enable generation. Transport of geothermally heated waters of the Klamath Falls Basin (150°F average) to serve space heating needs in the Basin may ultimately displace electric usage, however, transport of this energy to the Medford area is not technically feasible. The need for improved electrical service to Medford and Rogue River Valley communities, thus is not displaced by the area's geothermal resources.

The proposed transmission lines will serve a transportative function. If generation were developed within the Klamath Basin, right-of-way impacts to forested areas would be reduced. Impacts associated with local generation and the transport of fuel (coal, for example) are considerations against which transmission line impacts must be compared.

R. E. Worthington, U.S. Forest Service (March 12, 1979)

Comment: In accord with our 1974 Memorandum of Understanding, we are taking this opportunity to state that your proposed utilization of the existing Brownlee-Slatt and Buckley-Malin utility corridors is greatly preferred over other new Brownlee-Slatt and Brownlee-Grizzly corridors shown in your draft. To minimize National Forest resource impacts, we may request minor changes in existing corridors when you begin detailed centerline location.

Response: As noted in BPA's plan of service proposal the Brownlee-Slatt Corridor 1 plan with a termination at McNary has been selected. The Forest Service will be contacted during the location phase of this project in an attempt to obtain a route location which avoids or minimizes any impacts to forest lands. Mitigation measures will be taken in accordance with the BPA-Forest Service Memorandum of Understanding.

Tim Lillebo (March 10, 1979)

Comment: First of all, this ridiculous intertie system within Wyoming's polluting coal fired plants has got to be scrapped. This power is not needed and BPA should be promoting energy conservation and not new environmentally damaging systems of energy consumption. This government overpowering of the public's needs and desires, must cease.

Response: The Department of Energy has an intensive voluntary energy conservation program. Studies have shown however that even with conservation, energy demands continue to rise. This rise in demand is caused by increasing industry and private citizen demands. Utilities and the Department of Energy would be negligent if they did not plan to meet such future needs. In addition, please see the Energy Conservation and Management section in the text.

Patricia Milliren (March 13, 1979)

Comment: I believe that it is time for us to learn to curtail our use of energy-period-and seek alternative sources which are more compatible with our surroundings.

Response: The Department of Energy has initiated energy conservation programs to reduce energy use. It also has large research programs in solar, co-generation, wind and many other forms of energy generation. Although the public would not stand still for mandatory curtailment of energy use, we do agree that conservation and other alternatives must be developed. In addition, see the response to Mr. Richard Kenton concerning alternative energy sources in southwest Oregon. Also see BPA's Role EIS for further information concerning alternative energy sources.

Billie Jean Lillebo (March 12, 1979)

Comment: Your proposed routes couldn't be put in any more prime territory. You are coming through timber resources as well as close to farmland, grazing lands, as well as through very much needed and used land by our wildlife here.

Response: Impacts referred to in your comment have been described in the EIS and were taken into consideration along with engineering and economic data in arriving at a plan of service decision. Based on these inputs, Brownlee-Slatt Corridor 1 with a present termination point of McNary has been chosen as the plan which is most economical, best fulfills system electrical needs, and causes the least environmental impacts of the options under consideration. For further details concerning this route location consult the Draft Facility Location Supplement EIS for Brownlee-Slatt.

Billie Jean Lillebo (March 21, 1979)

Comment: We have also experienced living where there have been this type of power line before and found that many people suffer some or complete loss of radio and TV reception.

Response: Television and AM radio reception in areas near the proposed line which are remote from broadcast transmitters may suffer interference during foul weather. However, if residents experience television or AM radio interference, mitigation in accordance with BPA policy will be undertaken to restore reception. These measures may involve a simple realigning or raising of the affected landowner's antenna, or they may involve the relocation of the antenna some distance away, to be connected by cable to the television receiver. Necessary corrective equipment is installed at BPA's expense.

Billie Jean Lillebo (March 21, 1979)

Comment: I believe the Bonneville Power Administration should be reminded to promote power conservation like the public is being reminded every day, rather than trying to construct and promote more power use.

Response: BPA has had an active conservation program for more than five years, providing leadership and assistance to utilities and power consumers of the region to help bring about voluntary load reduction. This program has successfully reduced the rate of load growth. The reduced load growth will continue to require new generation capacity and transmission lines, but at a slower rate than would otherwise be needed. For additional information see the energy conservation alternative discussed in this document, and BPA's Draft Role EIS, Part 1, Chapter IV.B.

Gary Gunderson, Mid Columbia Land Company (March 16, 1979)

Comment: If the new power line in fact does parallel the present line as it proceeded through our property, it would wipe out a portion of an existing residential sub-division, a shopping center, and worst of all would widen the distances between the new developments in Boardman, and that of the existing town. It would be my hope that some other route can be found with less of a detrimental effect on those whose path it crosses.

Response: BPA's proposed plan of service has been revised to terminate at the McNary Substation, near McNary Dam. Existing lines have been determined capable of transferring power from McNary to the Slatt Substation and on to Buckley. If at some future time additional transmission capacity is needed between McNary and Slatt, an attempt will be made to upgrade the existing transmission line right-of-way thereby eliminating the need for additional right-of-way.

Gary Gunderson, Mid Columbia Land Company (March 16, 1979)

Comment: I find it almost incredible that the planners of this line, while certainly crossing the small town of Boardman is insignificant to the total scope of the line, would plan something through a metropolitan area without consulting the property owners, and according to Jim Thompson, or the city through which it was crossing, and even inquire as to whether or not there might be an impact on that community. It's not my nature to file uninformed protests, but since I've not had the opportunity to review the documents prepared to date, or been invited to review them in anyway by your agency, I must just simply file this protest blind until I'm given the opportunity to make that review. I'm certainly not opposed to the power utility, or its growth, and the requirements for its expansion. I just simply feel that we have been, and are paying our fair share for that section of conduit presently crossing our land, and hope we are allowed the opportunity to have some voice in further expansion.

Response: As pointed out in the 'Note to Reviewers' page in the EIS, the planning supplement attempts to identify the need for a specific new transmission facility proposed as part of the Annual Program, and outlines in preliminary form the probable environmental impact of constructing the facility in accordance with a general proposed system plan and alternative plans. Once this plan of service is determined, then the actual location of the line is sought. It is at this point that BPA actively contacts landowners to determine specific locations for its transmission lines. However, in the case of the Brownlee-Slatt lines it was decided that existing lines from McNary to Slatt were capable of handling the extra electrical load. Consequently McNary became BPA's terminal point. No additional lines or alteration of lines through the Boardman area will take place at this time.

J. Thompson, City of Boardman (March 16, 1979)

Comment: First, it should be noted that we object to not having any notification of the proposed project and public hearing that was recently held in Hermiston. It is required by law that any public agency must notify affected property owners and affected governmental units of any major impact that a proposed project may have on an area. We note that all affected cities in Umatilla and Morrow Counties were not notified, nor were any adjoining landowners along the proposed corridors, except for a few Federal agencies.

Response: The Draft Environmental Statement on Southwest Oregon Service was approved by the Department of Energy and officially filed with the Environmental Protection Agency (EPA) on January 19, 1979. A notice of availability, indicating where and how copies of the EIS could be obtained, appeared in the Federal Register on January 24, 1979. An additional notice of availability (prepared by the EPA) appeared in the Federal Register on January 29, 1979.

Copies of the draft EIS were mailed to various Federal, State, and local agencies, and to interested groups and individuals within the area of potential environmental impact. In addition, copies were made available at a number of regional government depository libraries for public inspection. BPA's initial mailing of the EIS was completed on January 19, 1979. In all, approximately 250 copies of the document were distributed by mail.

BPA's mailing included the Executive Director of the East Central Oregon Association of Counties which functions as the regional clearinghouse for Umatilla and Morrow Counties. Copies of the EIS were also provided directly to the Board of Commissioners of Umatilla County and the Board of Commissioners of Morrow County. At this stage in our planning, corridors are very broadly defined and, because there are a number of alternative system plans, it is not practical to individually notify every property owner who would conceivably be affected by the proposed action.

Bonneville Power Administration also arranged for a series of public meetings to be held in communities in the vicinity of the proposed new transmission facilities required for Southwest Oregon Service. These meetings were held in Hermiston, La Grande, Klamath Falls, and Bend, Oregon, on March 5, 6, 7, and 8, respectively. A notice giving the times and places of these meetings was published in the Federal Register on January 31, 1979. That notice also indicated where copies of the EIS could be obtained. In addition to the Federal Register Notice, the public meetings and the availability of the EIS were announced in the following local newspapers on the dates indicated:

Bend Bulletin - February 2 and 17
Pendleton East Oregonian - February 2 and 17
Baker Democrat-Herald - February 2 and 17
Klamath Falls Herald and News - February 5 and 18

We believe that these efforts on our part represent a sincere and diligent effort to inform various agencies and individuals of BPA's proposed action. Agencies and the public will be informed once again as this project moves to the facility location phase in our planning process.

J. Thompson, City of Boardman (March 16, 1979)

Comment: While it appears that some attempts were made to notify counties through their planning departments, this cannot be construed by anyone to be adequate public notification.

Response: Methods used to inform the public of BPA plans and the public hearings which were held to discuss them are described above. BPA contacts with local planning departments are not intended to serve as a means of public notification, but rather serve coordinative purposes.

J. Thompson, City of Boardman (March 16, 1979)

Comment: We note that on Page III-19 under the potential impacts on urban and residential areas, the Boardman area is not even mentioned, even though it is the single most impacted city along the proposed route. This corresponds with the absence of Boardman on any of the impact maps in the document.

Response: The text has been revised to reflect the urban impacts to the Boardman area. No impacts to these resources will be evident since no additional lines will be built at this time and the present lines will not be altered.

J. Thompson, City of Boardman (March 16, 1979)

Comment: It is our understanding from the only public entity notified of these proposals, the Morrow County Planning Department, that a BPA representative indicated to him that BPA would either rebuild the existing lines along the existing corridor or obtain an additional two hundred feet of right-of-way for another tower.

Response: At this time BPA plans no alteration of the existing lines through the Boardman area. If at some future date BPA should need additional capacity between McNary and Slatt, an attempt will be made to upgrade the existing transmission line right-of-way.

J. Thompson, City of Boardman (March 16, 1979)

Comment: The possible expansion of the BPA right-of-way would completely destroy a land use plan that has been adopted by the Land Conservation Development Commission and followed by the city since 1975. Alteration of this plan would have tremendous financial effects on the city which I doubt BPA has taken into account.

Response: See comment response for J. Thompson which follows.

Deane Seeger, Morrow County Planning Dept. (March 15, 1979)

Comment: We therefore are proposing another route for your consideration, that of relocating the power lines across the top of the Navy Bombing Range, south of Boardman. This area is proposed as a main corridor for utilities and transportation.

Response: See comment response for J. Thompson which follows.

J. Thompson, City of Boardman (March 16, 1979)

Comment: It should also be noted that the City of Boardman formally requested BPA to move their existing lines south along the northern edge of the Boardman Bombing Range four years ago due to the esthetics and the interference with our land use planning program. Mr. Jerry Frick, area engineer from Walla Walla, came to Boardman and estimated that it would take over four million dollars to move the lines. It was, of course, impossible to think of moving them at that time. However, if BPA is going to this expense, we would like to propose that BPA examine re-routing their existing corridor south of Boardman and along the bombing range rather than any further thoughts of expansion, into an urbanized area.

Response: See comment response to J. Thompson which follows.

J. Thompson, City of Boardman (March 16, 1979)

Comment: It might be noted, and should have been checked, that two major subdivisions have been built within one hundred feet of the BPA right-of-way in Boardman, plus a planned major eighty foot arterial street program, plus one hundred seventeen acres of commercially zoned land.

Response: The text has been revised to reflect the urban impacts to the Boardman area. No impacts to these resources will be evident since no additional lines will be built at this time and the present lines will not be altered.

B. Perry, Umatilla County Planning Dept. (March 8, 1979)

Comment: Concluding, table 10 (opposite pg. III-30) within the impact statement, uses highly subjective values for intangibles and is therefore of dubious validity. We hope you apply more realistic documented criteria in the future when evaluating corridor impacts.

Response: See the comment response for R. Straw which follows.

Richard M. Straw (March 8, 1979)

Comment: Your goal in attempting to present comparative total judgments represented by numbers, as in Table 10, is in my opinion a good one. Such evaluations, even when only semi-quantitative, are often easier to understand and to defend than wholly qualitative, "we like this better", judgments -- assuming the former have some reasonable and objective basis. Unfortunately, I do not believe this table achieves the goal you set. The use of two variable columns, "weighting factor" and "degree of impact", without any clear constant base column leaves the resulting totals independent of one another and quite incomparable, even if each of the values assigned has some rational basis.

A short-cut solution to the problem of comparability would be to make the weighting factors the same for all four proposed or possible routes. It means making the judgmental evaluation (and being prepared to defend it) that, to use the weights you applied to the Brownlee-Slatt Corridor 1 column, impact on agriculture is more important (most to be avoided), thus weight 4, while impacts on hydrology and vegetation deserve much less consideration, thus weight 1. If this weighting vector were applied equally to all routes considered, with the degree of impact numbers in the table as presented, the totals of the products would have some comparable basis. This would say that the Brownlee-Slatt corridors would have high impact on agriculture but the Brownlee-Grizzly corridors would have very little, etc.

Response: Both the 'weighting factor' and the 'degree of impact' columns utilized a variable numeric system in order to allow the use of a more simplistic numbering scheme, while still allowing the multiplier effect to stress impacts where warranted. For example, the agricultural land use along one corridor may be very extensive and of high value whereas along another corridor it may be almost non-existent. A variable

weighting factor allows the value of this resource to be reflected per corridor. In addition, a variable 'degree of impact' rating allows an estimate of how extensively the resource will be affected. The multiplier effect applied to this system allows for stressing high or low impacts to high or low value resources along individual corridors and provides the basis for a comparative analysis. It also allows for grouping resources into natural and cultural categories to delineate whether overall impacts affect one type of resource group more than another.

Richard M. Straw (March 8, 1979)

Comment: I must say that overall the BPA has not presented a very convincing case for the Buckley-Malin line. If the PP&L Midpoint-Malin line could not contribute to the desired west-to-east transmission capability because southwestern Oregon is a load rather than a source area, there is no reason I can identify for thinking the Buckley-Malin addition would either. You can undoubtedly justify the Brownlee-Slatt line on that basis, of course, but I do find it curious that, even though your table 10 shows its corridor 2 to have the much lowest impact (your conclusions), you still have chosen corridor 1. If someone goes through a great deal of effort to compare several alternatives and then chooses an alternative that the analysis does not show is best, the whole exercise is cast into doubt -- it looks very much like window dressing in order to comply with (that is, to appear to comply with) the law requiring comparisons. It does not make BPA look like a properly objective public trust.

Response: The System Requirements Section of the Final Planning Phase EIS has been revised to more adequately discuss the requirements that will be met by BPA's proposal.

The Facility Planning Phase EIS does not present the total analysis that was the basis for BPA's preference for Corridor 1. It includes only the generalized engineering and environmental factors. In addition, costs, total line length, the extensive amount of new corridor in undisturbed areas, and the need to interconnect the line to Lower Snake Transmission and McNary Second Powerhouse Generation, were important considerations. The decision factors used in deciding between the Brownlee-Grizzly plan and the Brownlee-McNary-Slatt plan-of-service are presented in the "Plan-of-Service Decision" section of this Final Facility Planning Supplement EIS. CEQ Guidelines do not require that the total analysis be presented in an EIS (only the results of Environmental studies). The Draft Location Supplement presents a more detailed environmental analysis of the centerline route alternatives for both Corridor 1 and Corridor 2. Upon consideration of this location analysis and public comment, a final route decision will be made in August. These decisions will be announced publicly.

B. Perry, Umatilla County Planning Dept. (March 8, 1979)

Comment: The east leg of the corridor starting at Kamela near the east Umatilla County line is within forest lands and in the pathway of several proposed recreational subdivisions. Also visible and suspected paths of the Oregon Trail are in the vicinity of several realignment proposals near Meacham, Oregon. Coordination with appropriate agencies (e.g., State Forestry Department, State Highway Department) is recommended.

Response: The section of corridor referred to in your comment is now planned for additional new parallel right-of-way approximately 85 feet wide. This would undoubtedly eliminate some forest land adjacent to the existing right-of-way. Whether any proposed recreational subdivision would be affected is unknown at this time since their sites are not plotted yet. If these proposed subdivisions become a reality, BPA location engineers will work closely with the developers in an attempt to avoid or mitigate impacts. Information concerning the impacts to the Oregon Trail are covered in both the planning supplement and the location supplement for Brownlee-Slatt. In addition, see the response to the comment by Mr. Dick McCosh of the Oregon State Parks Planning Department.

B. Perry, Umatilla County Planning Dept. (March 8, 1979)

Comment: Near Emigrant Hill to the east of Pendleton the line traverses through the Umatilla Indian Reservation and suggest that communications and coordination be initiated between you and other planning offices.

Response: Contact has been initiated with the Umatilla Tribal Council. Two meetings with Reservation representatives have already taken place to inform the Reservation of BPA's desire to construct across the Reservation. Further meetings will be scheduled as BPA progresses with its line location process.

B. Perry, Umatilla County Planning Dept. (March 8, 1979)

Comment: South of Pendleton, east of Echo, and east of Stanfield, this corridor will pass through or be immediately adjacent to these cities' urban growth boundaries. Possible impacts should be considered and as early in the process as possible.

Response: The transmission line will be built parallel to present lines on existing corridor over the segments near Pendleton, Echo, and Stanfield. BPA already holds vacant right-of-way in these areas and will not require additional new land. Consequently, the additional line will not interfere with urban growth patterns or boundaries.

Lore Bensel (March 22, 1979)

Comment: My opposition however is not limited to monetary reasons. I also object to the project because of the high detrimental impacts it will have on wildlife, water, scenery, wilderness (roadless areas) and people; 500-kV lines produce such extreme damage to society and the environment that there is no excuse for constructing them.

Response: Transmission lines are utilized to transport large blocks of power from generation sites to areas of use. The alternative to long transmission lines is to locate generation near areas of use and transport fuels to these generation sites. In either of these cases, however, some high voltage transmission lines would be required.

The most significant impacts of transmission lines in BPA's experience are visual and/or forest related. BPA currently operates over 14,000 miles of transmission line throughout the Northwest and does not agree that they collectively have caused extreme damage to society. Transmission lines are necessary to serve society's electric power demands. BPA considers its program present and past as responsive to society's needs and demands.

Lore Bensel (March 22, 1979)

Comment: If BPA would spend as much money on conservation projects as they will on construction of the 500-kV lines, then the "need" would be greatly reduced. Solar and wind power is available in southwest Oregon if BPA would choose to develop it. You should, and thus supply the "needed" electricity. The electricity coming from Wyoming is "coal power." It is a polluting, raping type of power that many people like myself object to and would not want to use. Certainly "coal power" should not be encouraged by using it to supply the "need" in Oregon.

Response: BPA is presently, and has been for some period of time, studying the potential magnitude and availability of solar and wind power in favorable areas of the Pacific Northwest. Results of these studies to date indicate that it would be neither physically nor economically feasible to supply the additional electrical requirements of southwestern Oregon by solar or wind power as a substitute for the proposed 500-kV transmission line extending into that area.

Major power requirements of Oregon as well as the entire Northwest, over and above that made available by intensive conservation and from our extensive hydroelectric development, will of necessity be supplied by the major thermal resources--coal and nuclear--with as much supplement as can be reasonably obtained from solar, wind, biomass, and other available sources of energy.

B. Perry, Umatilla County Planning Dept. (March 8, 1979)

Comment: Probably the greatest adverse impact this project could cause is the obstruction hazard to the Hermiston Airport. Expansion plans indicate improvement opportunities only to the east where existing unobstructive sky space is available. The City of Hermiston is aware of the situation and should be in contact with BPA.

Response: Subsequent to the release of the Draft Proposed Fiscal 1979 Program (Southwest Oregon Area Service), BPA has investigated several relocations of the Brownlee-Slatt 500-kV transmission line to avoid conflicts with the Hermiston Airport. Generally, these alternates depart from the existing corridor northeast of Stanfield, head north along South Edward Road to the vicinity of the Union Pacific Railroad, then turn west and rejoin the existing corridor north of State Highway 207 near North Townsend Road.

This location involves a slight increase in the total line length of the proposal but minimum disruption to agricultural land and existing urban development. Since this alternate is a new alignment, new right-of-way would be required and several houses unfortunately removed. Locations further east would be difficult because of agricultural land, greater urban development along State Highway 207, and the Cold Springs National Wildlife Refuge.

Should the location of the existing McNary-Roundup 230-kV line need to be altered, negotiations between BPA and the Port of Umatilla can be discussed concurrently.

Coordination with the City of Hermiston, the FAA, and the Oregon Division of Aeronautics will be initiated prior to final route selection.

B. Perry, Umatilla County Planning Dept. (March 8, 1979)

Comment: Between Stanfield and the Hermiston Airport, the line may be impacted by a proposed irrigation project including canals and various pump station facilities. This project is very tentative to date but should be mentioned.

Response: As was stated previously, the proposed plan between Stanfield and the Hermiston Airport would be built adjacent to existing lines on right-of-way already held by BPA. No new lands will be required over this section. If and when the tentatively proposed irrigation system becomes a reality, BPA will certainly work in close coordination with the developers to avoid or mitigate impacts, where possible.

B. Perry, Umatilla County Planning Dept. (March 8, 1979)

Comment: The northwest leg passes through the City of Umatilla's urban growth boundary meaning existing or future urban impacts. In this same vicinity, the line passes near the Umatilla Game Refuge and goes through a proposed and rather large mobile home park (Haagen property). The park is currently in litigation and its likelihood of development is uncertain.

Response: The transmission line will be built parallel to present lines on existing corridor near Umatilla. BPA already holds vacant right-of-way in this area and will not require additional new land. Consequently the line will not interfere with the Umatilla urban growth boundary or the mobile home park. Impacts concerning the Umatilla Game Refuge are discussed in both the planning and location supplements for this project under the Wildlife section.

Edwin Stastny (March 7, 1979)

Comment: We as producers of food need more electrical power funneled into this valley as quickly as possible to take care of our present and future needs. The government cannot construct a new line in here any cheaper than a private company nor can the government operate it for less unless it sells power for a loss in which case it would be subsidized by the American taxpayer.

I would recommend that the Pacific Power & Light Company, a private company, be permitted to forge ahead as quickly as possible and complete its own line, already approved, from their coal-fired plant in Wyoming to the Klamath Basin.

Response: We agree that farmers and other consumers need more electric power, as quickly as possible, and at the lowest possible cost. That was the reason for the BPA proposal for this multipurpose project. The extension of the existing Federal Northwest high-voltage grid to a particular part of the region is more economical than the construction of an entirely new transmission line for a specific purpose. As described elsewhere in the EIS, the interconnection between Idaho and the Pacific Northwest would be needed in the very near future just to meet BPA's obligations to its customers in southeast Idaho. Its capacity to wheel power for southwest Oregon is a bonus benefit.

Experience has shown that BPA can construct power transmission lines at least as economically and as expeditiously as any other utility, private or public. BPA facilities are constructed by private contractors in much the same manner as is done by other major utilities in this area. The planning of multipurpose facilities, especially in existing corridors, minimizes environmental impacts and reduces the costs for the entire

region. As a result, for many years, BPA has been able to maintain lower electric power rates in the Northwest. The backup capability of the BPA system and the low wheeling rates have also contributed to reliable and relatively low-cost power.

By law, BPA rates are set so that they cover the operating expenses and return to the Federal Treasury not only the investment in electrical facilities with interest, but also a portion of the cost of the irrigation facilities used by farmers in the Columbia Basin.

Deane Seeger, Morrow County Planning Dept. (March 15, 1979)

Comment: The Morrow County Planning Commission and the County Court has reviewed the draft report on the "Brownlee-Slatt Corridor" and have concluded that the routes as shown are not compatible with our comprehensive plan.

Response: The comprehensive plan of Morrow County would not be affected because at this time BPA plans no alteration of the existing lines between McNary and Slatt. If at some future date BPA should need additional capacity here, existing right-of-way would be utilized.

The following series of responses have been prepared for a letter received from Alexandra B. Smith of the U.S. Environmental Protection Agency - Region X. Specific comments have been addressed individually. The EPA letter is printed in its entirety in this document.

Alexandra B. Smith, USEPA-Region X (March 22, 1979)

Comment: The supplement's Note to Reviewers indicates that need identification is a primary purpose of a facility planning supplement. We believe that this complex issue should be discussed in much greater detail.

Response: BPA has made changes in the System Requirements section of the document incorporating greater detail on the need for the project. BPA is hopeful that these changes, in addition to the other information provided will respond to EPA's request for additional detail.

Alexandra B. Smith, USEPA-Region X (March 22, 1979)

Comment: Subsequent to receiving EPA's comments on the Southwest Oregon Service planning phase EIS, BPA contacted EPA to determine the specific items on which EPA desires additional information. This discussion revealed that information on the following subjects is desired:

1. An historical discussion on BPA's planning related to the project, the need for the project, and its relationship to the Midpoint-Malin line which has been proposed by Pacific Power and Light Company.
2. Additional information on the system requirements which BPA's project is designed to meet in quantified terms where possible.
3. Alternatives to BPA's proposal.
4. Information on the timing of BPA's requirements and needs specifically addressing what BPA would construct if the Midpoint-Malin line is constructed.

Response: Much of the information requested by EPA is contained in the response to Pacific Power and Light's comments of March 12, 1979. (See responses for Robert W. Moench contained herein.) Further elaboration is given under the Introductory, Status, and Description of Proposal sections. Comments which were not appropriately addressed in the text have been individually responded to.

Alexandra B. Smith, USEPA-Region X (March 22, 1979)

Comment: The statement summary states that the proposed plan of service would not require any new ROW. However, maps of the existing BPA grid in the programmatic statements indicate transmission lines only as far west as LaGrande. The supplement should indicate, by either mileage or percentage, the extent of the use of existing ROW for each alternative.

Response: It is true that BPA lines would be paralleled only from LaGrande west. Southeast of LaGrande the new line would be parallel to the existing Idaho Power Company lines to Brownlee Dam. Brownlee Slatt Corridor 1 parallels existing lines for its entire length; Brownlee-Slatt Corridor 2 parallels to a point just south of LaGrande; and the Brownlee-Grizzly Corridors parallel only to the Baker vicinity. The Buckley-Malin portion of the project is all parallel to existing BPA lines.

Alexandra B. Smith, USEPA-Region X (March 22, 1979)

Comment: We feel that the effects of expanded use of an existing ROW should be addressed. The width of the existing ROW, the type of transmission lines present, and known problems along these corridors should be specified. The esthetics, agriculture, and wildlife impacts are some of the critical factors which would determine the acceptability of expanded use of existing corridors.

Response: Impacts for esthetics, agriculture and wildlife have been generally covered in the planning supplement, however, more specific information such as increased ROW widths, and site-specific effects on various resource categories are addressed in the location supplement. Such information can be found by consulting those headings in the Draft Facility Location Supplement.

Lore Bensel (March 22, 1979)

Comment: I have discovered recently that BPA wants to construct two 500-kV lines in eastern Oregon. You had a meeting in Bend on March 8, but you did not publicize it. I read "The Newspaper," Prineville's weekly, and did not see any notice of the intent of BPA to build the transmission lines or of the meeting. I would have attended that meeting if I had been informed of it. A project of this magnitude, environmentally and economically, should have received proper publicity. The BPA should have had news releases to all the newspapers, radio and television stations in Oregon. If a newspaper etc., chose not to write an article on the subject, the BPA should have purchased a small advertisement.

Response: See comment response to Jim Thompson concerning public notification.

Lore Bensel (March 22, 1979)

Comment: I must question whether the Final Environmental Statement is legal since local public input was not aggressively pursued on the Draft EIS.

Response: See comment response to Jim Thompson concerning public notification.

J. B. Haas, Oregon State F&WS (May 22, 1979)

Comment: Brownlee-Slatt Corridor 1 - This is the preferred route and in our opinion would have the least impact on fish and wildlife resources since it would occupy an existing transmission line corridor. This new power line, however, would require clearing an additional 90 feet of right-of-way creating a 250-foot path through the timbered areas. The wider corridor increases animal exposure and makes them more vulnerable to hunting or harassment. We recommend that vegetation be allowed to reach 15 to 20 feet high, and all disturbed areas be reseeded. Riparian habitat adjacent to creek and river crossings should not be disturbed except to remove a tree that would reach the conductors. Transmission towers and poles should be located at least 50 feet from any waterway.

Response: BPA's present clearing criteria calls for the removal of these trees and brush underneath the line which may grow close to conductors within 15 years. In addition, unstable trees adjacent to the line that could fall into the line are removed. Normally BPA does not cut low-growing vegetation under 500-kV lines which will grow no higher at maturity than 18 feet. Under special circumstances certain allowances can be made which supercede the normal growth limitation. Vegetation along streambanks is left intact for a minimum of 100 feet wherever possible.

In sensitive areas or where mitigation measures are necessary to reduce erosion, site restoration programs, such as reseeding are initiated to speed the reestablishment of vegetative cover. Retention of native vegetation as natural landscaping is BPA's main goal. Disturbed areas are seeded with native species (where available) as soon as possible to reduce erosion and restore natural appearances. Areas which are not sensitive and prone to rapid revegetation are allowed to recover through their natural successional processes. Normally this will mean that grasses and forbs appear first, followed by shrubs and brush, and finally a cover of trees.

J. B. Haas, Oregon State F&WS (May 22, 1979)

Comment: Brownlee-Grizzly Corridors 1 and 2 - These routes would impact deer and elk by removing thermal and hiding cover. Also, it appears that Corridor 2 will cross the Murderer's Creek Wildlife Management Area and could influence habitat development in the management area. Corridor 2 passes either near or through the Strawberry Wilderness and the esthetic impact would be considerable. These two routes are the least desirable from a fish and wildlife standpoint.

Response: See comment response for J. B. Haas which follows.

J. B. Haas, Oregon State F&WS (May 22, 1979)

Comment: Brownlee-Slatt Corridor 2 - This route would cross through some of the best elk range in northeastern Oregon. Considerable hiding and thermal cover would be removed significantly impacting wildlife and plant communities. Since this route would cross through semi-remote areas it would also measurably reduce recreational and esthetic values.

Response: Impacts referred to in your comment have been described in the EIS and were taken into consideration along with engineering and economic data in arriving at a plan of service decision. Based on these inputs, Brownlee-Slatt Corridor 1 with a present termination point of McNary has been chosen as the plan which is most economical, best fulfills system

electrical needs, and causes the least environmental impacts of the options under consideration. For further details concerning this route location consult the Draft Facility Location Supplement EIS for Brownlee-Slatt.

On March 29, 1979, BPA received a comment letter on the Brownlee-Slatt/Buckley-Malin Draft Facility Planning Supplement from the U.S. Department of Interior (enclosed in this document). Unfortunately, the letter was received too late to respond to each individual comment in the Final Facility Planning Supplement. It was felt, however, that the comments were of such a nature that they should somehow be accommodated. As a result, appropriate sections of the text in this Final Facility Planning Supplement have been altered where possible to respond to their input. The remaining comments concerning specific impacts will be addressed in the Draft Location Supplement for Brownlee-Slatt and Buckley-Malin.

Among the more salient concerns of the Department of the Interior were the following:

1. Specific information on various subjects such as timber removal and wildlife winter range was not detailed. As a result it was difficult for the DOI to compare BPA's proposal and PP&L's proposal.
2. The section on floodplains and wetlands should be updated to address recent changes in legislation to reflect the current situation.
3. Throughout their comments the DOI asked for site-specific information on impacts such as access road locations, critical resources actually affected, exact acreages disturbed and so forth.

Points 1 and 2 above were handled through alteration of the Final Facility Planning Supplement text. Most of the site-specific impact information indicated in point 3, however, is beyond the scope of the planning supplement and consequently not addressed. The planning supplement only identifies the project need, and based on that, outlines the probable environmental impact of implementing the generalized proposed system plan and alternative plans. Once a generalized plan of service has been chosen, the location supplement examines the specific impacts of the various location alternatives which meet the plan of service needs. Consequently, the site-specific information that DOI requested will be covered in the Draft Location Supplements on Brownlee-Slatt and Buckley-Malin.

COMMENTS RECEIVED DURING PUBLIC MEETINGS

A public information meeting was held in Hermiston, Oregon on March 5, 1979; LaGrande, Oregon, on March 6, 1979; Klamath Falls, Oregon, on March 7, 1979; and Bend, Oregon, on March 8, 1979.

Hermiston, Oregon

Fifteen people attended this meeting including representatives from BPA, BLM, Hermiston Airport Commission, the Press, East Central Oregon Association of Counties, and others.

Concern was expressed that the Brownlee-Slatt proposed line would interfere with planned expansion of the Hermiston Airport and a new airport to be developed 2 miles northeast of Boardman, Oregon.

LaGrande, Oregon

Nineteen people attended this meeting including representatives from BPA, BLM, USFS, CP National, Idaho Power Co., Pacific Power and Light Co., Isaac Walton League, private landowners and others.

A statement was made that Bonneville should be doing more to mitigate the impacts that our rights-of-way have on wildlife.

A Grant County landowner expressed concerns for the two southern routes and their impact on the forest, recreational activity, and esthetic values. An Idaho Power Company official read a prepared statement indicating the Company's strong desire to build the transmission line between Brownlee and LaGrande as part of BPA's proposal.

Klamath Falls, Oregon

Thirty-four people attended this meeting including representatives from BPA, BLM, USFS, Pacific Gas and Electric Company, Pacific Power and Light Company, Klamath County Commissioners, and others.

There were numerous questions from the audience regarding the comparability between BPA's proposed plan and PP&L's Midpoint-Malin transmission line proposal. An official from Pacific read a prepared statement which refuted BPA's proposal as offering an alternative plan of service for southern Oregon.

Several comments expressed opposition to Bonneville's project and claimed that the Government was competing and interfering with the PP&L Midpoint-Malin transmission line.

It was asked if the Buckley-Malin line would become part of a third AC intertie to southern California.

Several commented that the Federal government was making decisions and providing services that do not represent the desires of the local community.

Bend, Oregon

Sixteen people attended this meeting including representatives from BPA, BLM, USFS, PP&L, and others.

There were numerous questions concerning the comparability between Bonneville's proposal and Pacific's plan of service for southern Oregon. The discussion content included economic and technical comparisons of the plans.

Several expressed support for the PP&L-Midpoint-Malin line and opposed a Federal project as an alternative plan of service.

It was voiced that Bonneville is untimely with its proposal when Pacific is prepared to begin construction of their line.

There was discussion regarding a possible third AC intertie to southern California relating to the Buckley-Malin line.

Jim Johnson

Comment: On the lower part of your map, the orange line on that right hand map, the stuff below LaGrande, over to Brownlee, how does that relate to Idaho Power's proposals in that area?

Response: Idaho Power has proposed to strengthen their system into Brownlee Dam. They have scheduled it for interconnection with the Northwest Power Pool. This interconnection may be either at Brownlee or LaGrande (see IPC comment by Mr. Logan Lantham at the LaGrande Public Meeting of March 6, 1979). BPA's proposal would be to intergrate with IPC at Brownlee Dam, and build parallel to the IPC lines to LaGrande with connections parallel to BPA lines from there to McNary.* Ownership of the line from Brownlee to LaGrande may ultimately become IPC's even if BPA constructs the line.

Jim Johnson

Comment: Parallel? (To the ICP system between Brownlee and LaGrande)

Response: Yes. Idaho Power has proposed that they build that segment (of the Brownlee-McNary proposal).* It will end up being their responsibility to locate that section of line. I think they will probably parallel their existing lines rather than open up a new corridor. Our proposal is based upon paralleling for most of that line. There are some slight alternate locations. (In addition see IPC comment by Mr. Logan Lantham at the LaGrande Public Meeting of March 6, 1979). Depending on which utility builds the facility, the other would drop their proposal to avoid duplication of transmission capability over this segment.

Ray Costello - Oregon Aeronautics Division

Comment: Do you have any idea what the proposed heights of the towers through the John Day Valley would be?

Response: The single-circuit towers that would be used average 130 feet in height but could be more or less depending on terrain. Double-circuit towers average 180 feet.

* Idaho Power Company has recently indicated that it may delay its planned system upgrading between Midpoint and Brownlee. This would likely affect the sequence in which BPA would build and energize its proposed new facilities, however, the delay is unlikely to significantly alter what is ultimately built.

Ray Costello - Oregon Aeronautics Division

Comment: There is a new airport proposed east of Hermiston, which would appear may be impacted. I just mention that so you might keep it in mind when you start designing that line.

Response: See comment response for Joe Burns which follows.

Joe Burns - Hermiston Airport Commission

Comment: We would at this time support the corridor if the Hermiston Airport was avoided. If your lines could be moved eastwardly 2,000 feet, for example, then it wouldn't conflict with where we could expand. We are locked in to the west. We cannot expand the airport in that direction. So it is very important to us that this be given more consideration in your planning.

Response: See comment response for Joe Burns which follows.

Ray Costello - Oregon Aeronautics Division

Comment: The Hermiston airport has had a tremendous growth in the last five to seven years. As you know, it is a community airport at this time. It will become eligible under certain Federal fundings for dollars to provide the facility to accommodate the commuter air services for Hermiston and the region. It is becoming much more important than in the past obviously. The growth of aviation here has been rather explosive and certainly we want to protect the airport in order to accommodate growth.

Response: See comment response for Joe Burns which follows.

Joe Burns - Hermiston Airport Commission

Comment: I would like as a matter of record, to say that the importance of our airport in Hermiston is of deep concern for the future growth of the area and your Corridor 1 running just east of our airport would conflict directly with any expansion of the airport.

Response: Subsequent to the release of the Draft Proposed Fiscal Year 1979 Program (Southwest Oregon Area Service), BPA has investigated several relocations of the Brownlee-Slatt 500-kV transmission line to avoid conflicts with the Hermiston Airport. Generally, these alternates depart from the existing corridor northeast of Stanfield, head north along South Edward Road to the vicinity of the Union Pacific Railroad, then turn west and rejoin the existing corridor north of State Highway 207 near North Townsend Road.

This location involves a slight increase in the total line length of the proposal but minimum disruption to agricultural land and existing urban development. Since this alternate is a new alignment, new right-of-way would be required and several houses unfortunately removed. Locations further east would be difficult because of agricultural land, greater urban development along State Highway 207, and the Cold Springs National Wildlife Refuge.

Should the location of the existing McNary-Roundup 230-kV line need to be altered, negotiations between BPA and the Port of Umatilla can be discussed concurrently.

Coordination with the City of Hermiston, the FAA, and the Oregon Division of Aeronautics will be initiated prior to final route selection.

Ray Costello - Oregon Aeronautics Division

Comment: On the other routes, the only area that I see that probably needs attention is between the Umatilla and the Slatt station. The airports that are in that route will have to be accommodated in your future deliberation.

Response: Additional BPA electrical studies have indicated that existing lines between the McNary and Slatt substations are capable of handling the increased electrical loads from Brownlee. As a consequence, no alteration or addition of transmission lines will occur between Umatilla and Arlington. If BPA should require future capacity in this area, an attempt will be made to upgrade the existing right-of-way so that additional new right-of-way would not be required. It is BPA policy to work closely with any airfields near its transmission lines in order to avoid or mitigate possible impacts. In addition, the Oregon State Aeronautics Division and the Federal Aviation Administration are consulted for approval whenever BPA activities could interfere with aircraft operation or safety.

Logan Lantham - Idaho Power Company

Comment: The committee notes with particular approval that Bonneville Power Administration customers in southern Idaho are presently being served with long term wheeling arrangements with the Idaho Power Company and Utah Power and Light Company on terms satisfactory to Bonneville Power Administration. The committee also understands that Bonneville Power Administration has no intention to exercise the authority contained in S. 3362 to construct facilities that would duplicate or replace the facilities being provided by the companies pursuant to those arrangements, so long as the agreed services are provided by the companies pursuant to such arrangements.

Response: BPA's plan assumes continued use of existing transmission capabilities and upgrades of other contractual parties including the Idaho Power Company.* The current proposal only increases BPA's capacity connecting Idaho and the Federal System to enable BPA to make power available to Idaho for ultimate service to BPA loads in southern Idaho and Utah.

The Federal Columbia River Transmission System Act, Public Law No. 93-454 is one of the basic laws under which the Bonneville Power Administration operates. Within the scope of these laws, BPA plans for the electrical needs of the Pacific Northwest with the objective of providing maximum benefits to the region while minimizing the overall regional costs and environmental effects.

BPA's studies of the future transmission requirements are based on data which is available to all the utilities. These studies indicate a variety of alternative facilities that are planned in such a manner as to be capable of meeting the power needs of the future. The timing and selection of the feasible alternatives depend on the impending load growth and generation developments which are beyond BPA's control. When the studies show that certain transmission needs have to be met within the time period required to construct the facilities, BPA will focus on that problem, consider the alternatives and coordinate the program with other utilities in the region. BPA does not intend to duplicate facilities nor does it restrict its scope to single-purpose projects.

Logan Lantham - Idaho Power Company

Comment: In addition it states that, "nor shall he commence construction of any major transmission facility within the Pacific Northwest unless the expenditures of the funds for the initiation of such construction is specifically approved by Act of Congress."

Response: BPA views its proposal as a major transmission addition and all provisions of the Act referred to, will of course be complied with.

* Idaho Power Company has recently indicated that it may delay its planned system upgrading between Midpoint and Brownlee. This would likely affect the sequence in which BPA would build and energize its proposed new facilities, however, the delay is unlikely to significantly alter what is ultimately built.

Comment: In conclusion, it is our intention to construct transmission facilities from the Brownlee Dam to LaGrande, Oregon, to connect with the BPA's power transmission line from the Slatt Substation in Oregon. We would oppose the construction of the Grizzly-Brownlee transmission.

Response: During 1978, BPA contacted the Idaho Power Company regarding the power transmission between Brownlee and Slatt. The BPA Administrator, in his letter of February 14, 1979, to the President of the Idaho Power Company, has acknowledged the Company's interest in the Brownlee-LaGrande portion of the line and has offered to discuss the proposal with the Company's representatives. Additional negotiations are ongoing as to whether BPA or IPC will build that portion of line between Brownlee Dam and LaGrande.

Mark Cerny

Comment: Along corridor 2, there aren't a lot of towns to house construction crews. Izee doesn't even have a general store.

Response: As stated in the planning supplement (III-12) and again in the location supplement, construction crews are transitory as work along the line progresses. Numbers of workers concentrated in any one spot for any length is not reflected by the overall number of people expected to be employed on the project. Impacts to small local communities is expected to be negligible because the Brownlee-Slatt Corridor 1 has been selected as the plan of service. This corridor is near I-80N, a major thoroughway of the state with large urban centers such as Baker, LaGrande, Pendleton, and Umatilla within easy driving distance of construction sites. These communities have facilities capable of supporting a large number of transitory workers.

Mark Cerny

Comment: The environmental problems in that area (Grant County) include the subirrigated water that crosses a lot of ranchers' property which could be altered. It could be bad for a lot of people in that area, particularly on corridor number two.

Response: The Brownlee-Slatt Corridor 1 has been selected as the proposed plan of service. As a consequence Grant County will not be affected. However, in regard to subirrigated lands, normally these can be crossed with little impact with the use of mitigative measures available.

Mark Cerny

Comment: Brownlee-Slatt Corridor 2 passes through approximately 72 miles of Ponderosa Pine, and the impact statement indicates that that's one of the areas that is very free of the pine beetle at this particular time. The timber value is relatively high in that area.

Response: As previously stated the Brownlee-Slatt Corridor 1 will be BPA's proposed plan of service and the area mentioned will not be affected. In general terms, BPA construction through such areas would not promote the advancement of the pine beetle. During our construction practices logging and slash disposal are done simultaneously. Logs are hauled daily and no cold decks are allowed except in late fall. Logs are burned, often with air curtain burners.

The life cycle of the pine beetle is usually completed in one year. Endemic infestations are usually present, even in healthy timber stands. Attacks occur from April until cold weather in late fall. Overwintering adults emerge and attack from April to June. Adults from overwintering larvae emerge and attack in July and August. If an area is opened up to timber harvest during spring to fall and logs and slash are left on the ground, the following year the attack will change from endemic to epidemic.

Mark Cerny

Comment: Brownlee-Grizzly Corridor 1 goes through a lot of lodgepole pine and Ponderosa Pine. Also in Brownlee-Grizzly Corridor number 2 the Rare II Study is just now being formulated, and designates two wilderness areas. I think the environmental statement says that it goes through three of them. Would they be impacted?

Response: BPA has chosen Brownlee-Slatt Corridor 1 as its plan of service proposal. As a result there will be no impact to the above mentioned resources.

Mark Cerny

Comment: The visual impact in Grant County is going to be great. Grant County's slogan is that timber and farming is the backbone of the County. But an awful lot of the recreation and tourism that they are trying to promote is also going to be threatened, again because of people wanting to go out into wide open spaces and not look at high tension lines going through the wilderness areas. The Strawberry Wilderness is near here, and it would be going right around the perimeter of it. Esthetically, it isn't very good.

Response: BPA has chosen Brownlee-Slatt Corridor 1 as its plan of service proposal. As a result there will be no impact to the timber, farming, or tourist-related resources of Grant County.

Mark Cerny

Comment: Would the taxes that construction would bring in from individual contractors logging be the final taxes for Grant County?

Response: BPA has chosen Brownlee-Slatt Corridor 1 as its plan of service proposal. No change in the tax base or timber resource of Grant County will occur.

Loran Hughes

Comment: You mentioned a 300-kV plus line and that it could go as high as 500-kV. What about the line that goes through the Imnaha Valley out through Looking Glass into Umatilla County? What size line is that and would it be upgraded? Is there any future enlargement in that present corridor?

Response: The plan discussed above has been covered in the planning supplement under the "Other Alternatives Considered" section. It is referred to as the Brownlee-Walla Walla-Lower Monumental alternative on page 66. For further information on this plan consult either the draft or final planning supplement. BPA has no plans at present regarding expansion of that corridor.

Loran Hughes

Comment: The Brownlee-Slatt corridor 1 between LaGrande and Umatilla County, has been recognized as having the elk and deer herds diminished by half in the last ten years. These large corridors have a freeway, two pipelines with another one being built, and your Bonneville power lines. Now there is a chance of another Bonneville power line. The disruption for wildlife has been tremendous.

Response: While BPA's transmission lines may have had an overall contributory effect to the expansion of this multi-use utility corridor, we do not feel that the transmission lines per se have contributed to the demise of elk and deer herds. Studies have shown that transmission corridors in fact provide additional forage areas for deer and elk because of the nature of their cleared rights-of-way. Oftentimes the rights-of-way are more heavily used for feeding purposes than open

control areas. Studies have also shown transmission corridors have little or no noticeable effect on game movement and do not affect migratory routes of deer and elk. For further information, consult Big Game Movement Near a 500-kV Transmission Line in Northern Idaho, by John C. Goodwin, Jr., June, 1975. WICHE RDIP. Boulder, Colorado.

Loran Hughes

Comment: We can go look at the corridor between here and Pendleton, and the impact is serious. Why isn't there some deliberate regeneration done, just to give wildlife some corridor--some chance to migrate through the area?

Response: Present clearing plans, methods, and practices used by BPA are designed to minimize adverse effects. Brush blades instead of dirt blades are used in clearing operations where such use will help preserve the cover crop of grass, low-growing brush, and so forth. Retention of native vegetation as natural landscaping is a main goal of site planning. Such treatment normally reduces the need for intensive site restoration and landscaping, and provides a more natural setting for facilities. Disturbed areas, cut and fill slopes, areas important to wildlife or domestic stock, or other esthetically degraded areas are seeded as soon as feasible after construction to reduce erosion, provide browse, and restore the natural appearance.

Loran Hughes

Comment: We think that the power company people should look at the impact on vegetation in a different way. They could go through an area without skinning the right-of-way completely to the ground. They could leave some of it that wouldn't hinder operation of the line and bring about future regeneration naturally. They could spend some money on mitigation to reduce the impact that is made on wildlife.

Response: See previous comment/response to Loran Hughes regarding vegetative clearing.

Mark Cerny

Comment: When you described Section III, page one of the EIS, you said that your corridors are up to two miles wide. Is that the width of the clearing?

Response: The two-mile wide corridor referred to is the width of the area being considered in which to place the transmission line. A path approximately 125 feet wide would be located somewhere within the two-mile study area, only that 125 feet would be subject to clearing.

Loran Hughes

Comment: Do you have a way of calculating the impact of an additional 90 foot paralleling on already a 125-foot, which would be over 215-foot right-of-way? I think the game people have researched that. I hope that they will give you an idea of what that impact would be.

Response: See the previous comment response to Loran Hughes which addresses transmission line corridor impacts to wildlife.

Gordon Staker - BLM

Comment: Thus far Idaho Power has worked very closely with BLM. BPA's contact with BLM has been very skeletal, very limited.

Response: BPA has initiated actions to expand coordination with the Baker District Office of the Bureau of Land Management. A meeting between BPA personnel and the Baker District Office took place on March 14, 1979. Provisions to insure the involvement of BLM environmental specialists in the preparation of BPA's EIS were established at this meeting. Additional contact with the BLM, Oregon State Office, was resultant from the coordination meeting with the Baker District Office. A meeting to coordinate transmission planning between BPA and Idaho Power Company has been scheduled in late March, 1979.

Funk

Comment: How do you plan to get the power from Jim Bridger, the generation source in Wyoming, to Brownlee?

Response: There are three 345-kV lines from Jim Bridger to southeastern Idaho. The Idaho Power Company expects to complete upgrading its system east of Midpoint by 1979. The Company, in its January, 1979 report to the Western Systems Coordinating Committee (WSCC), had announced plans to upgrade the facilities between Midpoint and Brownlee in 1981 and 1982.

Funk

Comment: Would the Bonneville Power proposed line from Midpoint, Idaho to Malin be a duplication of the PP&L line or will it be built with the idea that the BPA's proposal replaces the PP&L line?

Response: BPA does not have a proposal from Midpoint to Malin. BPA's proposed Brownlee-Slatt line would enable BPA to continue to meet its customer's loads and other obligations in southern Idaho as well as to allow east-west power transfer. This line or its equivalent would be needed in the early eighties whether or not the Midpoint-Malin line is constructed. The Brownlee-Slatt and Buckley-Malin lines could postpone the need for the Midpoint-Malin line. The 436-mile Midpoint-Malin line would in essence serve the same loads as the 232-mile Buckley-Malin line.

Funk

Comment: What year do you plan on providing this power (from Brownlee)? And the new portion from Buckley down to Malin.

Response: Our proposal is to have the added lines from Buckley to Malin in service in the fall of 1982. The Brownlee-LaGrande-McNary line will be synchronized with Idaho Power Company's plans for construction. Current schedules indicate a fall 1985 energization date.

Strauf

Comment: If you build the line from Brownlee to Slatt, how does that get power from Buckley to Malin?

Response: The line from Brownlee will be integrated into the existing BPA transmission system. Existing lines will provide the connection between Slatt and the Buckley-Malin line.

Strauf

Comment: I don't understand why the weighting factors on your table 10 are different for each route. I understand why the impact factors might be, but not the weighting factors.

Response: Both the "weighting factor" and the "degree of impact" columns utilized a variable numeric system in order to allow the use of a more simplistic numbering scheme, while still allowing the multiplier effect to stress impacts where warranted. For example, the agricultural land use along one corridor may be very extensive and of high value whereas

along another corridor it may be almost non-existent. A variable weighting factor allows the value of this resource to be reflected per corridor. In addition, a variable "degree of impact" rating allows an estimate of how extensively the resource will be affected. The multiplier effect applied to this system allows for stressing high or low impacts to high or low value resources along individual corridors and provides the basis for a comparative analysis. It also allows for grouping resources into natural and cultural categories to delineate whether overall impacts affect one type of resource group more than another.

Henderson

Comment: Is BPA supplying the same power demand to Klamath Falls that PP&L is presently talking about supplying with their recent proposal?

Response: The BPA proposal would provide service to those PP&L loads which, according to the company, would be served by the Midpoint-Malin line. However, the multipurpose lines proposed by BPA also meet additional needs. The Brownlee-Slatt line or an equivalent system reinforcement would be needed in the early eighties to enable the BPA to continue serving its loads and meeting its other obligations in southern Idaho.

Henderson

Comment: How are you transmitting power from Malin to Klamath Falls? PP&L is building a line from Malin to Medford which is not part of your proposal. Would the PP&L proposal from Malin to Medford still be required?

Response: The Malin-Medford line, currently being constructed by PP&L, would transmit the power from Malin to the Medford area. The BPA line will deliver the power to PP&L Company at Malin.

Muldrin, Klamath River Ranch

Comment: My question is on the Buckley-Malin line; could you give us the specifications for the line length, tower width, and right-of-way width.

Response: Total length of the right-of-way from Buckley to Malin is 232 miles. Tower design would consist of single-circuit 500-kV "delta" configuration. Normally the tower bases will be 26 feet on a side and tower heights will range from 90 to 125 feet depending on topography and design. Towers span approximately 1,150 feet resulting in 4 to 5 towers per mile. Presently both BPA and PP&L own adjoining right-of-way along

the Buckley-Malin route. Bonneville would need to acquire an additional 77.5 feet of right-of-way to maintain minimum clearance between the new and old line.

Fowler

Comment: You stated that you plan to energize the Brownlee-Slatt line in 1982 then you said that the Idaho Power lines would not tie into the Bonneville system until 1985-86, so my question is, how the power generated at Bridger would get to southern Oregon.

Response: The completion dates would be coordinated with Idaho Power Company so that the required line construction would be accelerated. The company had informed the WSCC concerning its plans to upgrade its lines between Brownlee and Wyoming by the end of 1982.

Fowler

Comment: Can BPA wheel power from Wyoming after they buy it from PP&L cheaper than PP&L.?

Response: BPA's analysis shows that the cost of wheeling over BPA's system would be lower to PP&L than the corresponding cost over the company's proposed line. Wheeling does not involve the purchase of power.

Fowler

Comment: In the lower section of Klamath County, would Bonneville pay property taxes or other kinds of taxes on their property. In other words, their towers, wire and all this?

Response: Because Bonneville Power is a Federal agency it pays no taxes on property or equipment to state, county, or local governments.

Scholtes, District Manager, PP&L

Comment: The purpose of this hearing is to comment on a Draft Environmental Impact Statement on certain east-west transmission facilities in the Northwest Power Pool. The Statement purports to compare, as alternatives, transmission to be built by BPA in the northern portion of Oregon (the central corridor) with a 500-kV line now under construction by Pacific in southern Oregon. While additional transmission in the "central corridor" may well become necessary, it is in no way an "alternative" to the line Pacific is constructing.

Pacific is constructing a high capacity 500-kV transmission line running from the middle of the Idaho Power Company system through Burns, Malin and to Medford, Oregon. Authorizing Orders of the Oregon Public Utility Commissioner and the Idaho Public Utility Commission has been entered, and we expect that the Federal rights-of-way for which the required Final Environmental Impact Statements have been made, will be shortly issued. Towers have been fabricated and the conductor has been delivered. Both are ready for installation. Matters relating to BPA's interests are covered in a Letter Agreement between the Administrator and the Company of September 2, 1977.

The line was planned to be in service by last fall. During the extreme cold period at the turn of the year transmission capacity limited our ability to move power from Wyoming to Oregon where it was needed. Additional generation will become available in Wyoming later this year, but there will not be enough transmission until our line is in service in 1981, a very serious matter in view of the regional shortage of firm resources.

The BPA line is simply not an alternative to Pacific's line. BPA's Assistant Administrator Ralph S. Gens testified at the PUC hearing in Klamath Falls that the Brownlee-Slatt circuit would be needed by the middle 1980s to serve BPA loads in southern Idaho regardless of whether the Midpoint-Malin line is built.

The BPA line is not an economic alternative to Pacific's line, and Oregon's Public Utility Commissioner Charles Davis has so determined. Pacific's line will provide service considerably less expensive for its customers than the BPA line and will also provide service directly to southern Oregon.

The BPA line has just started the long process of environmental analysis and authorization. Our line has been authorized by the Idaho Public Utilities Commission in an order dated February 2, 1979; and the Oregon Public Utility Commission in orders dated May 26, 1976, June 1, 1978 and February 22, 1979. Sterling Munro, BPA Administrator, on February 24, 1979, said that Pacific's line enjoys a major advantage over any BPA alternative in that it has a final environmental impact statement completed and filed with the Council on Environmental Quality.

Pacific's line is needed now today. It has already been delayed far beyond urgent need. To consider the BPA line as an alternative is to put an intolerable burden of further delay on our customers.

The Oregon Public Utility Commission in his order of February 22 stated: "It is found that the BPA alternative is not satisfactory" and "Pacific has made the corporate decision to construct a line of its own at this time, rather than depend on BPA to provide facilities upon which Pacific

cannot rely for an indefinite period. That appears to be a rational decision which will not impose an undue burden on Pacific's customers."

Now that Pacific's line is approved, BPA should work with the Company in integrating it fully into the Northwest transmission system, as they have publicly said they would. BPA presented their case for their own line to the Oregon PUC, who found it wanting. To now pursue their ambitions will only further delay Pacific's line construction. It is time for BPA to assist in meeting the needs of the Northwest even if it does not further their own ambitions.

Pacific has further comments to make concerning the Draft Supplement and BPA's posture, but will make them by letter rather than further extend this statement at this time.

Response: Please refer to BPA's responses to Mr. Robert W. Moench's (PP&L) letter of March 12, 1979 contained in the earlier comment/responses.

Coeppen

Comment: You alluded to a powerline--an existing line that goes from Hanford through Buckley to Salem and that carries nuclear generated electrical energy. Could you perhaps comment on when this plan is completed, approximately what percentage of the power that comes from Buckley south to Malin would be from Hanford as opposed from the percentage from Wyoming.

Response: Since there is no way to "tag" the power from any one source, it is very difficult to say what percentage of the power reaching Buckley comes from Hanford. In effect, any given block of power flows through all parts of an interconnected network.

Unidentified

Comment: Are those coal plants going to be built regardless of anything, so we are looking for routes to give power to California and Southwest.

Response: The Brownlee-Slatt line will facilitate exchange of power between southern Idaho and the Northwest so that during periods of need in one region, the other region can help out. Any line built to Malin from Wyoming or the Northwest could contribute toward movement of power between the Northwest and California, but BPA is constrained by the law which allows only the power surplus to the Northwest to be sold out of the Northwest.

Unidentified

Comment: Idaho Power is talking about upgrading to 345-kV. Couldn't they upgrade their 230 line to tie into the 500 line.

Response: Current estimates indicate that the Northwest could be short of electrical energy during critical water conditions for the next twenty years. Without the Brownlee-McNary line, these possible shortages would be more severe. The 230-kV lines of the Idaho Power Company are tentatively scheduled for upgrading to 345-kV during 1981-82.

Kennedy

Comment: Since the Pacific Power proposal runs basically through range land, sagebrush, very little timber land, and very little agricultural land, isn't the impact just a fraction of what either one of your proposals would be?

Response: The response addressed earlier to Mr. Robert W. Moench of Pacific Power and Light contains comparison tables which reflect BPA's proposal as compared to PP&L's proposal.

Owens

Comment: Does funding for this project require Congressional approval?

Response: Funding for the project comes as a result of self-financing. BPA was authorized under the transmission act to sell revenue in the form of U.S. Treasury bonds, and also to do financing out of our revenues. Though BPA is self-financing, Congress must still give its approval for BPA proposals.

Kennedy

Comment: How much power loss do you have in your 500-kV lines for each mile of transmission? If you are going to run a line, an extra 100 or 150 miles around the country, you are going to lose an awful lot of power before it gets to southern Oregon where we need it.

Response: The transmission losses in a heavily loaded typical 500-kV line would be in the order of 1.5-2.0 percent per 100 miles. The losses are substantially higher in lower voltage lines. As the current increases in a line, the losses would also rise.

Though the apparent path from Wyoming to Malin seems greater according to the BPA proposal, it does not mean that the power actually travels the entire distance. Power is transferred by displacement. This means that the power scheduled from Wyoming normally goes to the closest loads while the southern Oregon load is served from the generation closest to it. Hence the net losses do not necessarily correspond to the physical length of a line when that line is a part of an integrated network.

Packston

Comment: If the BPA plans a line to Malin, and PP&L is planning a line to Malin, is it possible we can get both lines without needing them, if there is no coordination between the two companies.

Response: There is coordination between the two entities so that the facilities would not be duplicated. The Brownlee-McNary line or alternative arrangements would be required in the early eighties, since the Midpoint-Malin line would not have the capability to handle BPA requirements in southern Idaho.

Cheyne

Comment: I would like to support Pacific Power and Light's line into our area...for the simple reason that they can get here quicker.

Response: BPA has constructed more high-voltage transmission lines in the Northwest than any other entity and has acquired considerable expertise in coordinating the construction of high-voltage facilities. This experience, as well as the use of existing corridors and the shorter construction mileage, would enable BPA to complete its proposed facilities in the same time-frame as that of the facilities proposed by PP&L.

Ryder

Comment: Why wasn't BPA's proposal brought out ahead of time since PP&L has already involved themselves in a similar line.

Response: Please see the responses prepared to letters by Mr. Robert W. Moench, PP&L and Ms. Alexandra B. Smith, USEPA-Region X covering this same subject. In addition please consult the opening pages of the Southwest Oregon Final Planning Supplement for an updated history of the project.

Comment: The decision as to whether or not we are serviced by a private enterprise or Federal government is going to be made by Federal government, certainly not by private enterprise, and probably not by citizen involvement in a meeting such as this.

Secretary Andrus has already controlled the route that PP&L can use. He is in a position to withhold information which, in effect, allows BPA to proceed with their alternate route. PP&L has already expended substantial sums of money that could not be recovered if the BPA route is used. They have already purchased items. I am sure the government is not going to pay that back. The users of the power are going to pay, and in my opinion delays would be caused by the Federal government. If PP&L does complete their line into the Malin Substation by 1980, what is BPA proposing?

Response: The Federal government (BPA) is not, as is suggested, attempting to alter the manner in which customers are presently served. The transmission of large blocks of electricity from generation sites to loads is a separate issue from distribution and sale of electricity to consumers. The transmission system in the Pacific Northwest presently is planned and operated on a "one-utility concept". Transmission lines under this arrangement are available for use by all of the region's utilities and transmission additions are planned and constructed to meet the collective needs of these utilities.

This concept enables maximum efficiency with respect to transmission costs and avoids duplication of transmission facilities.

It is BPA's contention that the Midpoint-Malin line, considering the investment which is being contemplated, does not sufficiently meet the criteria for a multi-purpose facility. In essence, greater benefits to the Pacific Northwest are considered achievable through construction of alternative facilities with little or no additional cost.

BPA has made its proposal known to the State of Oregon and will soon submit it for authorization by the United States Congress. BPA actions are based on its concept of the public's interests, however, the region's state and Federal representatives will ultimately decide which facilities will be constructed.

Unidentified

Comment: Isn't Bonneville's main interest to intertie the northern portions of the state with Idaho and Wyoming rather than supplying power to the southwestern part of the state?

Response: Please see the responses prepared to letters by Mr. Robert W. Moench, PP&L and Ms. Alexandra B. Smith, USEPA-Region X covering this same subject.

Siegworth

Comment: You mentioned that BPA's proposal is an alternative to PP&L's proposed line. Who makes the decision between their alternative and this as an alternative, and if they choose the PP&L proposal, will any of this be built or a part of it?

Response: A considerable amount of investigation is involved prior to the selection of a plan to meet the needs of the power system. If the Administrator of the Bonneville Power Administration decides on a specific plan, it will be placed in the BPA budget. The Congress and the President would have the opportunity to approve or reject the construction of the facility.

BPA does not duplicate facilities. The PP&L option, however, does not provide the capacity to supply BPA loads and other obligations in southern Idaho. Hence, a substantial portion of the facilities proposed by BPA would have to be constructed even if PP&L constructs the Midpoint-Malin line.

Hellbusch

Comment: Why does BPA want to build rather than letting PP&L proceed?

Response: The multipurpose lines proposed by BPA would meet the needs of the Pacific Northwest with the lowest overall cost and lower transmission power losses, if lines between Brownlee and Midpoint were constructed as originally scheduled. The BPA plan is superior on the basis of regional benefits for the ratepayers of the Northwest.

Almost any non-radial transmission line that is connected to an integrated system, such as the one in the Pacific Northwest, affects the whole system irrespective of ownership. The reasons for the BPA proposal are described in the opening pages of this document.

Hellbusch

Comment: Would both proposals ultimately be needed? What I'm thinking, in the interim while nuclear power is still at a standstill and the alternative sources aren't available here and won't be for probably my lifetime, both of these are probably going to be needed, aren't they?

Response: BPA feels that both the proposals may be needed in the long run. However, the selection of a suitable alternative at this time may delay the need for the other, for a longer period than if the other alternative were chosen. The land irreversibly committed to a particular line would be available for other purposes for a longer period.

Baughman

Comment: What are the comparative wheeling costs going to be to the people in Medford between the BPA and PP&L proposal. If Pacific Power & Light builds the line themselves, there are some wheeling costs involved in Idaho; otherwise, it's all their own line and the costs are figured based on their own expenses. Has there been any economic impact study made of the difference?

Response: In addition to power transmission to southern Oregon, the BPA lines would be capable of fulfilling other needs of the Northwest power system. Hence, the cost of these facilities will be spread over several uses. As a result, the cost of wheeling power to Malin over BPA's proposed lines would be less than the corresponding cost if a single-purpose line were to be constructed. Economic studies also verify this conclusion.

Randall

Comment: You made the statement that the total miles of line to be constructed were about the same in either case. I have been looking at a map furnished by me by PP&L. It looks like at least another 150 or 160 miles of transmission is involved to get Wyoming coal power into southwestern Oregon as opposed to the route that you propose. Will the extra mileage increase the cost?

Response: The new construction proposed by BPA consists of a 163-mile long Brownlee-McNary line and a 232-mile Buckley-Malin line. This total length of 395 miles, in addition to supplying southwestern Oregon, provides the capacity for west to east transmission from the Northwest to southern Idaho. The length of the Midpoint-Malin line is 436 miles.

Olds

Comment: Considering BPA's interpretation of the preference clause, wouldn't PP&L be better off building their own line to assure transfer of their own power from Wyoming rather than to be dependent on BPA to transmit the power.

Response: The preference clause pertains to the availability of energy and power for sale, but not to the wheeling or selling price. Wheeling will be provided through firm contracts which are not related to the preference clause.

Olds

Comment: Years ago when I was in Wyoming they had a clause in legislation that was about the excess capacity of any line built which had to be given to the public or public agencies. That caused a lot of problems because you couldn't plan on the excess capacity of your own line being of any value to you in the future.

Response: The legislation you refer to is known as the Wheeling Stipulations which state that any excess capacity in non-federal lines crossing Federal lands should be made available to Federal marketing agencies on a wheeling basis. However, this excess capacity must be surplus to the constructing utility's needs and is to be made available for Federal use with the understanding that the excess capacity be relinquished to the line owner when needed by that utility for its own needs. This has the dual advantage of making maximum use of existing facilities and provides a source of additional revenue to the constructing utility. It does not deprive the utility of the use of its line, either currently or in the future.

Anderson

Comment: Is the north-south line to Malin considered a one-way flow like the one from Midpoint to Malin would be?

Response: No, the line is operated for two-way power flow.

Anderson

Comment: Why can't power travel either way on the Midpoint-Malin line?

Response: If there are strong generating sources at both ends of a transmission line, power can be induced to flow either way. When a line has a strong source at one end and a load area at the other, power tends to flow in one direction only, from generation to load.

Comment: I feel that when private enterprise is able, willing, and ready to go on construction of line to transmit their own power, generated from their own generators, that they should be permitted to do so. The only time I would be in agreement with the use of public funds would be where private enterprise didn't find it economically feasible.

Response: Under the self-financing act, BPA funds come from the revenues from sales of power and from the compensation for services, but not from taxes. BPA rates have to be set so as to recover not only the cost of power facilities, but also a portion of the costs of the irrigation facilities in the Columbia Basin. The relatively low wheeling rates charged by BPA have also enabled non-public utilities to hold down their costs. BPA has to plan its facilities to minimize the overall cost for all ratepayers in the Northwest rather than minimizing profitability for any one segment of society.

Cliches such as "able, willing and ready to --" often mask the reality that the facilities constructed by one party will affect others. As a government agency, BPA is expected to focus on overall regional interests.

Hellbusch

Comment: What was the reason that BPA would like to keep PP&L from building their line and build yourself? Why did the BPA study come up at such a late date.

Response: The multipurpose lines proposed by BPA would meet the needs of the Pacific Northwest with the lowest overall cost and lower transmission power losses, if lines between Brownlee and Midpoint were constructed as originally scheduled. The BPA plan is superior on the basis of regional benefits for the ratepayers of the Northwest.

Almost any non-radial transmission line that is connected to an integrated system, such as the one in the Pacific Northwest affects the whole system irrespective of ownership. The reasons for the BPA proposal are described in this document under the Description of System Requirements section.

The studies that led to the proposal for the Brownlee-McNary line were conducted over a period of several years. These developments have been described in the opening pages of this document.

Hartle

Comment: How do the impacts of the BPA and PP&L proposals compare?

Response: A table which compares the basic attributes of these plans is included in BPA's response to comments from Mr. Robert Moench, vice-president of PP&L. BPA believes it's proposal has less impact.

Anderson

Comment: Why is it that Brownlee-Slatt Corridor 2 has less impact according to table 10, yet you still decided to use Brownlee-Slatt Corridor 1?

Response: Impacts for the Brownlee-Slatt Corridor 1 were originally assessed for a line routing from Brownlee to Slatt. Since that time the line terminus has changed to McNary, thereby, eliminating potential impacts to urban and agricultural areas. Table 10 has been revised to reflect this change.

In addition, because of the change of the terminus to McNary, the Brownlee-Slatt Corridor 2 option no longer fulfills the plan of service needs.

Anderson

Comment: Is it possible that the PP&L proposal with completely new corridor might still have less impact than the BPA parallel corridors from Brownlee to Slatt and Buckley to Malin?

Response: A table which compares the basic attributes of these plans is included in BPA's response to comments from Mr. Robert W. Moench (PP&L).

Hartle

Comment: I don't know if I go along with the numbers BPA comes up with in Table 10 of Section 3. I don't understand how they can come up with a number so concise. Why isn't it something like 1.6?

Response: As explained in the "Summary of Plan of Service Analysis" section, the numbers used in the table exemplify relative degree or magnitude of impact expected on a particular resource rather than an actual numeric value. In an effort to keep the analysis as simplistic as possible, only whole numbers were used. These are representative numbers and only give insight to the relative importance and degree of impact of a given resource.

Hartle

Comment: What about costs? We have four different corridors. What would be the difference in the costs for building the whole thing?

Response: BPA's cost analysis shows that its preferred route and plan ranges from 5 percent to 30 percent less than the use of any other route alternative.

Anderson

Comment: Your rights-of-way were, I think, 125 feet. Do you need as wide a right-of-way when you follow an existing line as you would if you were building a new line?

Response: Average right-of-way is 125 feet for new right-of-way. In some very short sections, up to an additional 25 feet of right-of-way may be required to provide adequate clearance for towers. On parallel portions, right-of-way required would range from 85 to 105 feet depending on terrain and vegetation.

Baughman

Comment: What is BPA's construction policy now as far as right-of-way clearing is concerned?

Response: Clearing the right-of-way involves removal of all trees and brush within and adjacent to the right-of-way that could interfere with the safe operation of the transmission line. BPA's present clearing criteria calls for the removal of those trees underneath the line which may grow close to the conductors, normally within a 15-year time span, and the removal of danger trees adjacent to the line that could fall directly into the line, or within flashover distance of the conductors in 8 years or less growth.

Further and more specific information concerning BPA's right-of-way clearing criteria is in the Role Statement, Appendix B, Chapter V.A.3.

Chesley

Comment: Would this new line require or have any problems with station compensation?

Response: No series compensation will be needed at this time. Shunt reactors will be included with the terminal facilities.

Siegworth

Comment: Would the Buckley-Malin line have the flexibility to be used as a part of a third intertie system to California?

Response: The Buckley-Summer Lake-Malin line will backup the Intertie. If one of the existing Interties were disrupted, the new line would allow higher transfers than would be possible without it. The line could also facilitate the development of a third AC Intertie line.

Baughman

Comment: In the event that you did construct the third north-south 500 line as far as Malin, is there any consideration to team up with Pacific Gas again and strengthen that on further south for summertime displacements when power wouldn't be needed in the Rogue Valley area?

Response: As far as this particular project goes, that hasn't been a consideration.

INDEX OF COMMENT LETTERS

SOUTHWEST OREGON AREA SERVICE

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OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE

Intergovernmental Relations Division
Room 306, State Library Building
Salem, OR. 97310, Phone: 378-3732

PROJECT ACKNOWLEDGEMENT

APPLICANT: BPA

PROJECT TITLE: Dr Supplement to Final EIS Proposed FY 1979 progra

DATE RECEIVED: January 22, 1979.

PNRS #: 7901 4 580

Your project has been assigned the file title and number that appear above. Use this reference in all future correspondence regarding this project.

Initial 30-day State Clearinghouse review of your Notice of Intent began on the above date.

The 30-day State Clearinghouse review of your final application began on the above date.

Initial 30-day State Clearinghouse review of this HUD Housing project began on the above date.

Initial 30-day State Clearinghouse review of your Direct Federal Development project began on the above date.

The 30-day State Clearinghouse review of your final Environmental Impact Statement began on the above date.

Initial 45-day State Clearinghouse review of your draft Environmental Impact Statement began on the above date.

The 45-day State Clearinghouse review of your State Plan/Amendment began on the above date.

Your project must also be submitted to the affected area-wide clearinghouses for review.

If you have questions or need assistance, contact the State Clearinghouse at the above address and telephone number.

city
of
hermiston

295 EAST MAIN STREET / HERMISTON, OREGON / 97838

January 29, 1979

Mr. John Kiley, Environmental Manager
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Dear Mr. Kiley:

I just read the draft supplement for the Final Environmental Impact Statement - Facility Planning Supplement - Southwest Oregon Service Area which was supplied to me by the Umatilla County planning staff.

In this document I find that it is proposed to install a 500 KV transmission line following the existing BPA transmission line that is located directly northeast of the Hermiston Municipal Airport.

On page II-11 and also page III-19 reference has been made to a possible conflict between said transmission line and the Hermiston Municipal Airport.

Would you kindly put me on the mailing list for all documentations concerning the Brownlee-Slatt Corridor 1 proposed transmission line installation.

Sincerely yours,



L. T. Harper
City Manager

LTH/pat



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

FEB 6 1979

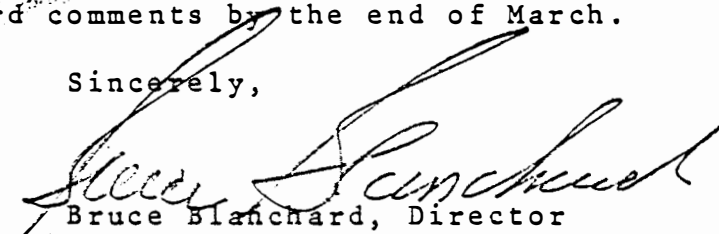
In Reply Refer To:
ER 79/143

Mr. John Kiley
Environmental Manager
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

Dear Mr. Kiley:

This is to inform you that the Department of the Interior will have comments on the draft environmental statement for the Proposed Fiscal Year 1979 Program, Southwest Oregon Service Area. However, we will be unable to comment by March 12, 1979, since we have just received sufficient copies. We plan to complete our review and forward comments by the end of March.

Sincerely,


Bruce Blanchard, Director
Environmental Project Review



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

FEB 13 1979

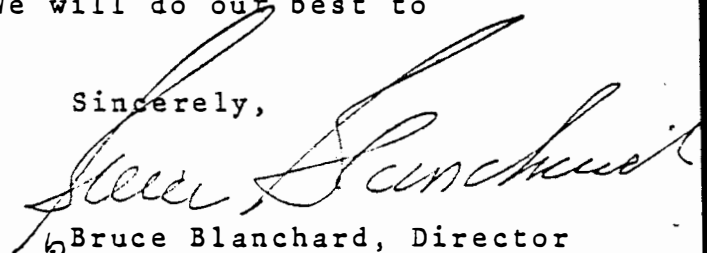
ER 79/143

Mr. John Kiley
Environmental Manager
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

Dear Mr. Kiley:

Enclosed is a copy of this Department's revised review schedule for the draft environmental statement on Southwest Oregon Service Area. We will do our best to see that it is met.

Sincerely,


Bruce Blanchard, Director
Environmental Project Review

Enclosure



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

FEB 13 1979

Memorandum

To: Director, Heritage Conservation & Recreation Service
Director, Fish and Wildlife Service
Director, National Park Service
Director, Geological Survey
Director, Bureau of Mines
Director, Bureau of Land Management
Commissioner, Bureau of Reclamation
Assistant Secretary, Indian Affairs

From: Office of Environmental Project Review

Subject: Revision of Review Instructions for draft
environmental statement on BPA's Southwest
Oregon Service Area (ER 79/143)

The Bonneville Power Administration has asked the Department to revise its review schedule on the subject project since they are bound by a tight production schedule of their own. Accordingly would you please have your comments in transit to this office by February 28, 1979. This office will then prepare the Department's comments by March 7, 1979.

The BPA has also asked that we inform you that a future Location Level Supplement will be prepared for this draft statement which will allow your bureau an additional review period. With this in mind we urge you to confine your review of the present document to issues of policy and legal jurisdiction for your bureau. Comments based on your special expertise are welcome in so far as the shortened time schedule will allow.

Bruce Blanchard
Director

cc: Assistant Secretaries
REO-Portland

CLEARINGHOUSE REPORT

To be used by all Clearinghouses, Committees, and agencies.
Please try to complete and send to addressee within one week.

1. RE: Notice of Intent PNRS Identifier # _____
 Environmental Impact Statement Date Reviewed 2/22/79
 Other _____

2. PROJECT: Name BPA Proposed FY79 Facility Planning Supplement
Location Portions of Eastern Oregon and Idaho
Applicant Agency Dept. of Energy, Bonneville Power Admin.
Contact Ray Foleen, Acting Administrator, Telephone _____
DOE, BPA, PO Box 3621

3. THIS REPORT IS: (Please check one) Portland, OR 97208

From County Clearinghouse _____

To East Central Oregon Association of Counties
Post Office Box 339, Pendleton, OR 97801

From East Central Oregon Association of Counties

To Applicant Agency

4. COMMENTS:

- () Project has no effect in this area and we have no comment.
- (X) Project has no adverse effect.
- () Project has adverse effects.
(See explanation below)
- () We require additional information
(See below)



GRANT COUNTY

CANYON CITY, OREGON

February 26, 1979

Environmental Manager
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Re: Draft Supplement, Final Environmental
Impact Statement, Proposed FY 1979
Program, Southwest Oregon Area Service,
U.S. Department of Energy, January 1979

Dear Sir:

We are in support of the application of Pacific Power and Light Company to build a 500-KV transmission line from the Idaho border to the Malin area. Therefore, our comments on the above-captioned proposal in no way place us in the position of favoring the BPA proposals as an alternative to the long-debated PP&L application.

There is major need for this east-west power intertie at the earliest opportunity, and the PP&L proposal promises prompt action if the current environmental roadblocks can be overcome. Oregon Public Utility Commissioner Charles Davis' decision of recent days properly recognizes the urgency of power needs in Southwest Oregon. We urge that PP&L be allowed to go ahead.

We, therefore, offer the following brief comments only in the event that the BPA plan is regarded as a supplemental transmission line to move power between Wyoming, the Pacific Northwest and the Middle Snake Region:

1. The BPA analysis indicates that the Brownlee-Slatt Corridor 1 plan of service appears to give the greatest flexibility for transferring large blocks of power between the regions and for utilizing power generated in the respective areas.
2. If either of the preferred alternatives (Brownlee-Slatt Corridors 1 or 2) are rejected in favor of Brownlee-Grizzly Corridors 1 or 2, we would ask that consideration be given to the following:
 - a. That serious consideration be given to stepdown transformation to existing transmission voltages serving Grant and Harney counties in order to provide increased reliability power sources for this important middle point of the Southeast Oregon region.

b. That care be given to delineating the path of Brownlee-Grizzly Corridors 1 or 2 to minimize the aesthetic impacts of transmission lines on both the public and private lands that would be affected.

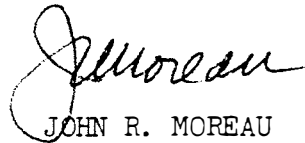
c. That the U. S. Department of Energy's and the Bonneville Power Administration's future energy planning recognize the power potentials of wood/wastes and forest residues in the forested areas of Oregon and make provision for allowing cogenerative power that might become available to be integrated into the power grid during non-peak-load intervals. The region of Eastern Oregon that both BPA transmission line alternatives traverse are high in potential for providing this additional energy source.

3. From an overall regional standpoint, known power flows, load forecasts and economic data may well warrant both the PP&L proposal and a new BPA east-west power intertie. We would not oppose this, particularly if comments 2.a. and 2.c. were kept in mind in considering the needs of Grant and Harney counties.

Should further analysis show the Brownlee-Grizzly plans to be the best for power transfer, we would appreciate the opportunity to comment further at that time as well as being a party to the line corridor location and selection.

Thank you for the opportunity to comment in this important matter.

Sincerely,



JOHN R. MOREAU
Grant County Judge

cc: Senator Mark Hatfield
Senator Bob Packwood
Gayle Gilmour, Salem Office of
Congressman Al Ullman
Harney County Judge Dale White

JRM:mln

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

March 2, 1979

NORTHWEST REGION
FAA BUILDING KING COUNTY INT'L AIRPORT
SEATTLE, WASHINGTON 98108



Mr. John Kiely
Environmental Manager
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Dear Mr. Kiley:

We have reviewed your draft supplement, Final EIS, BPA, Proposed FY-1979 Program, Southwest Oregon Area Service. We have no specific comments at this time; however, when you more precisely locate proposed transmission lines or propose to add height to existing lines in the vicinity of Oregon airports at Arlington, Boardman, Hermiston, and La Grande, we request an opportunity to further review your proposed projects.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dale F. Backman".

DALE F. BACKMAN
Chief, Appraisal and Planning Staff

"Natural Distribution Center of the Pacific Northwest"

PORT OF UMATILLA

505 Willamette Avenue
at McNary Center

Telephone (503) 922-3224

P. O. Box 871
Umatilla, Oregon 97882

March 1, 1979

Mr. Jerry Frick, Area Engineer
Bonneville Power Administration
Post Office Box 1518
Walla Walla, Washington 99362

Dear Mr. Frick:

The Port of Umatilla has reviewed the Draft Supplement of the "Final EIS, Facility Planning Supplement for the Southwest Oregon Area Service" portion of the BPA FY 1979 Program. We find we are able to strongly support the favored alternative.

However, we have two points of emphasis we must include:

(1) The Idaho Power Company has indicated a desire to construct and own a 500 kV segment of transmission line from Brownlee to La Grande. It is imperative that BPA cooperate to the fullest extent possible to facilitate Idaho Power's needs and to avoid duplication of service, additional expense, greater environmental affects, and delay in construction or beneficial occupancy of the proposed intertie.

(2) Paralleling the existing corridor, especially in western Umatilla County, makes good sense. Page III - 19 of the subject document speaks to a regional problem that would be compounded by the new line if an adjustment is not made in the existing corridor alignment. We speak of the proximity of the existing corridor to the Hermiston Airport. Planning for the new 500 kV line must include an eastward adjustment of both the existing line and the new line by at least 2000 feet further from the end of the runway. Final alignment should be coordinated with the City of Hermiston, the FAA and the Oregon Division of Aeronautics. If the new line is strung higher or strung on taller towers, then additional eastward movement of the corridor must be planned to compensate. The Hermiston Airport is currently land-bound at its western end. It would be incredibly unfortunate to preclude orderly development and expansion of the airport in the easterly direction by failing to re-align the corridor during the planning of this new transmission facility.

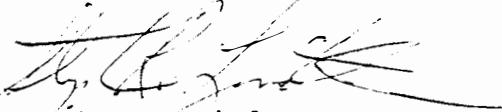
We hope you will seriously consider our concerns and incorporate them in your final plans. If you have any questions, please call.

Mr. Jerry Frick, Area Engineer
Page 2
March 1, 1979

Thank you for the opportunity to comment. Best regards.

Sincerely,

PORT OF UMATILLA



Stephen R. Lindstrom
Manager

SRL/hj

cc: ~~✓~~ Sterling Munro
City of Hermiston

To Whom It May Concern,

I am a resident of Grant county Oregon. I would like to exercise my opinion on the proposed 500KV power line plans for eastern Oregon.

I feel that the proposed Brown - Blatt corridor #1 is the best alternative as it would parallel or rebuild existing lines & would require the best new right of way. Also this plan would have low impact on the environment in most areas.

I am strongly opposed to the construction of any large voltage lines through Grant county. Environmental impact in Grant county would be moderate to high for soils, moderate to high for water & moderate to high for vegetation, high for wildlife.

I feel that the construction of 500KV lines through Grant county would only take from Grant county economical in terms of logging, ranching, hunting, & tourism.

Thank you,

Marta Hancock
P.O. Box 103
John Day, OR 97845

P.O. Box 341
John Day OR 97845
6 March 1979

The proposal to build two 500 kilovolt transmission lines across Grant County is nothing less than an economic and environmental disaster. I want to go on record as being in total opposition to this plan.

First, I feel the need for this corridor through Grant County has not been established. Pacific Power & Light's and BPA's plans for separate lines to serve the same area of concentrated population in southwest Oregon demonstrate a total lack of foresight and coordination and an incredible economic and environmental waste. Why denude huge swaths of Eastern Oregon unnecessarily and at huge cost? Why do the residents of Grant County have to pay the price for the failure of publicly responsible agencies to fulfill their responsibilities to assemble the necessary facts, put together some reasonable alternatives and present them to the public?

Second, the construction of the lines would result in totally unacceptable damage to timber resources, soil, water quality, integrity of drainages within the corridor, wildlife resources, and the natural beauty that is valuable to County residents and to the tourist industry. The small return in temporary local employment in no way balances the incredible economic and environmental damage the BPA is ready and willing to inflict on Grant County.

Sincerely,

Dean L. Hattepage



DEPARTMENT OF THE ARMY
NORTH PACIFIC DIVISION, CORPS OF ENGINEERS
P.O. BOX 2870
PORTLAND, OREGON 97208

NPDPL-ER

7 March 1979

Mr. Sterling Munro
Administrator
Bonneville Power Administration
Dept of Energy
P.O. Box 3621
Portland, Oregon 97208

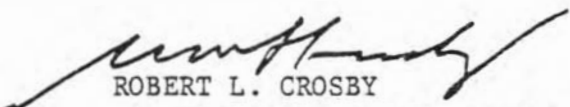
Dear Mr. Munro:

This is in response to your 19 Jan 79 letter requesting our review of your Draft Supplement, FEIS, BPA FY 1979 Program, Southwest Oregon Area Service.

The proposal does not appear to impact our areas of responsibility, i.e., flood control, navigation and hydropower. However the placement of fill material on wetlands would require a Department of the Army permit under Section 404 of the Clean Water Act of 1977.

We appreciate the opportunity to review and comment on the Draft Supplement. If you have any questions regarding any required permits please contact Mr. Don Lawyer, 503-221-4140 or FTS 423-4140.

Sincerely yours,


ROBERT L. CROSBY
Colonel, Corps of Engineers
Deputy Division Engineer

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101



REPLY TO M/S 443
ATTN OF:

MAR 8 1979

John Kiley, Environmental Manager
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Kiley:

The Environmental Protection Agency has received the environmental impact statement on the facility planning supplement to the Fiscal Year 1979 Program on January 23, 1979. Although comments are due to you from this Agency on March 12, 1979, EPA regrets that it will not be able to respond within that time.

We wish to inform you that our comments will be forthcoming by March 23, 1979.

Sincerely,

Alexandra B. Smith

Alexandra B. Smith, Chief
Environmental Evaluation Branch

cc: Section 309 Data Coordinator

To the Environmental Manager:

I am definitely opposed to the construction of power transmission lines in Grant County. The environmental impact is too great, both from a physical standpoint as well as the detrimental effects of electromagnetic radiation.

Alton Albin
Dayville, Ore.

P.O. Box 5
Dayville, OR 97825

CC: Max Simpson, Representative

Marta Black
PO Box 5
Dayville, Oregon 97825
March 7, 1979

Bonneville Power Administration
Environmental Manager's Office
PO Box 3621
Portland, Oregon 97208

To the Environmental Manager:

As a landowner in Grant County and an advocate for a sound, natural environment I strongly protest any plans that you have for the construction of high voltage transmission lines through this county.

In addition to the tremendous scar this project would leave across the landscape, it is my feeling that the presence of such high power lines has detrimental effects on plant and animal life in its vicinity, about which we are only beginning to learn.

Finally, I seriously question the necessity and the validity of disturbing the Montana and/or Wyoming environment to create power to be shipped to the Valley - when there is no real effort being made to cut down on the extravagant dependency on electric power, or to use the power of the sun and wind.

Once again, I am firmly against the construction of Bonneville Power Administration transmission corridors through Grant County and will actively participate in efforts to prevent such construction.

Sincerely,

Marta Black

Marta Black

cc: Max Simpson, Representative

P. O. Box 5
Canyon City, Oregon 97820

Bonneville Power Administration
Environmental Manager's Office
P. O. Box 3621
Portland, Oregon 97208

March 10, 1979

To the Environmental Manager:

We are firmly against the construction of Bonneville Power Administration transmission corridors through Grant County for the following reasons.

The presence of such high power lines has detrimental effects on plant and animal life in its vicinity; we are only just beginning to learn about these effects. These lines would jeopardize the quality of life in this county.

The environmental impacts of both Corridors 1 and 2 seem prohibitive. Wildlife displacement, visual impacts, new road construction, soil and stream damage are impacts which heavily outweigh any advantages of these Grant County sites. Corridor 2 would also disturb three Roadless Areas and come close to the southeast boundary of the Strawberry Wilderness. The erosion factor of Corridor 1 is reportedly high to moderate. Grant County would lose most or all of its wild quality were either of these sites chosen for construction.

Finally, we question the validity of disrupting the Montana and/or Wyoming environments to create power to be shipped to the Valley, when there is no real conscientious effort being made to cut down on the extravagant use of electrical power, or to use or develop sun and/or wind power.

We are very concerned about these proposed Grant County sites and hope that a site outside the county is chosen which would have far less detrimental impacts on the land.

Sincerely,


Jim and Candace Bahrenburg

cc Max Simpson, Representative

Julie Gatewood
611 S. Canyon Blvd. Apt. F
John Day, Oregon 97845

Environmental Manager
Bonneville Power Administration
P.O. Box 3621
Portland OR 97208

March 6, 1978

Dear Sir;

I have learned recently of your company's intent to run two 500 kilovolt transmission lines through Grant County.

This disturbs me very much, especially as the Grant County route is not even the most efficient nor effective of your choices.

It may appear that Grant County is largely inhabited by backwoods farmers and loggers. WRONG! There are concerned citizens here who will not sit still to see their county exploited.

Please reread the Environmental Impact Statement published by the Department of Energy concerning this action, and reconsider your choice of routes.

Thank you.

Sincerely,

Julie Gatewood

Winnable Power Admin.
Environmental Regs. Dept.
P.O. Box 3621
Portland, Ore. 97208

Dear:

We have been advised that two
500 kilovolt transmission lines will be
penetrating Grant County.

We had no idea this construction
was proposed and feel enraged at its
implications:

- ① It would be bad for the logging
industry
- ② Construction may alter the creek-ways
& therefore harmful to existing ranches.
- ③ the sheer ugliness of massive
appearance of power lines would be
intolerable in so many ways
esthetically, and what about the
tourist industry?
- ④ what about the elk, deer, and
antelope involved in this con-
struction? How can animals

... he expected to change their environment?

(5) I think the BPA itself admits that the laws that Grant Co. would not be as effective as other choices.

In summary, we feel Grant Co. would be the best in this most critical development — what about the stress situation affecting crops, animals, + people?

Please consider our protestations. We have interests in Grant Co. + surely feel more than involvement in what I like BPA plans for that County.

Sincerely

Jim Hartle
Dorothy Hartle
817 NW Earl Ave
Gresham Ore 97030

March 8, 1979

Sir:

I am responding to the Bonneville Power Administration proposed two 500KV transmission line corridors crossing Eastern Oregon.

I represent a family of five living in Grant County, Oregon. I am the owner of a small ranch in the John Day Valley and also an employee of the Malheur National Forest and therefore very familiar with the two proposed routes passing through this area.

If there is anything this county doesn't need, it is either of these two 500KV transmission lines. The economy of this area can not afford the loss of any productive timber land or the loss of one acre of its scenic values.

Right now this county is experiencing many problems of growth, unemployment and loss of timber due to infestations

of the Western Pine Beetle, we
don't need any more problems, and
matter of the two Brunner-Giggly
corridors are acceptable.

So I say keep them as far
from here as possible. U

Sincerely,
Roderick C. Kuhn
Roderick C. Kuhn
East Star Route
John Day, Ore.
97845

PACIFIC POWER & LIGHT COMPANY

920 S.W. SIXTH AVENUE · PORTLAND, OREGON 97204 · (503) 243-1122

Robert W. Moench
Vice President

March 12, 1979

Mr. John Kiley, Environmental Manager
Bonneville Power Administration
Post Office Box 3621
Portland, Oregon 97208

Re: BPA's Draft Facility Planning Supplement
(Southwest Oregon Area Service, Proposed
FY 1979 Program (DOE/EIS - 0005-DS-2))

Dear Mr. Kiley:

Enclosed herewith are Pacific Power & Light Company's
comments to the captioned document. We trust that these com-
ments will be given the serious consideration they deserve.

Very truly yours,



RWM:wg

Encl.

BONNEVILLE POWER ADMINISTRATION
DRAFT FACILITY PLANNING SUPPLEMENT
(SOUTHWEST OREGON AREA SERVICE)

TO

FINAL ENVIRONMENTAL IMPACT STATEMENT -
PROPOSED FY 1979 PROGRAM

DOE/EIS - 0005 - DS - 2

Comments of Pacific Power & Light Company

Pacific Power & Light Company (PP&L) respectfully submits the following comments, criticisms and suggestions with respect to the captioned Draft Supplement (DSEIS) prepared by the Bonneville Power Administration (BPA).

I - COMPLIANCE WITH LAW

At the very outset, we must seriously question the legal validity of BPA's proposal in view of the strictures placed on the Bonneville Power Administrator by the Federal Columbia River Transmission System Act (P.L. 93-454). This attempt by BPA to construct new federal transmission facilities to the exclusion of a privately developed project is clearly contrary to the intent of the Congress as set forth in House Report No. 93-1375 which accompanied S. 3362. In that report, it was stated that:

"In carrying out the provisions of this section, respecting initiation of new major federal facilities, the Committee on Interior and Insular Affairs has been assured, and expects, that the Administrator will scrupulously adhere to the past policy of conducting good faith negotiations with all non-federal electrical utilities that may wish to construct transmission facilities and/or provide

wheeling service over existing lines prior to its initiating construction of federal facilities. The Committee further expects that the Administrator will submit evidence of such negotiations to the Congress as part of his budget submission when requests for Congressional approval of expenditures for initiating construction of such major new facilities. (Emphasis added.)

"The Committee notes, with particular approval, that Bonneville Power Administration customers in Southern Idaho are presently being served through long term wheeling arrangements with the Idaho Power Company and Utah Power & Light Company on terms satisfactory to Bonneville Power Administration. The Committee also understands that Bonneville Power Administration has no intention to exercise the authority contained in S. 3362 to construct facilities that would duplicate or replace the facilities being provided by the Companies pursuant to those arrangements, so long as the agreed service is provided by the Companies pursuant to such arrangements." (Page 5813, Vol. 3, U.S. Code Congressional and Administrative News, 93rd Congress, Second Session, 1974.)

In attempting to preempt construction of the desperately needed east to west transmission facilities, BPA has totally avoided consideration of PP&L's "wish to construct transmission facilities." And in linking the proposed BPA lines to service to southern Idaho, BPA has failed to consider continuance or expansion of current arrangements with Idaho Power Company and Utah Power & Light Company as an alternative. Both of these actions are in conflict with the basis upon which the Congress approved self-financing for BPA, and lead to the conclusion that present BPA efforts may be unlawful. They also make it somewhat doubtful that the Congress will approve construction of these lines as required by Section 4 of the Federal Columbia River Transmission System Act (P.L. 93-454), and thus the BPA timetable for construction becomes even more speculative and unrealistic.

II - GENERAL COMMENTS ON THE BPA PROPOSAL

A. Pacific Power & Light Company: Pacific Power & Light Company is an investor-owned public utility serving over 600,000 electric customers in the states of Oregon, California, Idaho, Montana, Washington and Wyoming. Over 500,000 of these customers are located in the western portion of PP&L's system (Oregon, Washington and California). PP&L owns all or portions of, and operates, three coal-fired electric generating projects in Wyoming with a total capacity (upon completion of the fourth unit at Jim Bridger in late 1979) in excess of 3000 megawatts.

The facilities proposed by BPA in the DSEIS would purportedly provide transmission service to the "southwestern Oregon service area" from available generation in Wyoming. However, most of that southwest Oregon service area is served directly or at wholesale by PP&L, and virtually all the power to be transmitted from Wyoming is and will continue for the foreseeable future to be generated by PP&L's generating plants. Thus, when placed in its proper perspective, it becomes clear that BPA proposes to expend public funds to construct facilities to transmit PP&L power from PP&L generating plants in Wyoming to PP&L customers in Oregon. Because this is a function which PP&L is ready, willing and able to perform without the expenditure of public funds, it must be concluded that the BPA proposal has been hastily conceived with the only apparent purpose of preventing the construction of major transmission facilities by anyone other than BPA.

3. Purpose of the PP&L Line: PP&L has repeatedly stated that its Midpoint-Medford 500 kV transmission line is being

constructed to move energy from Midpoint, Idaho to southern Oregon and the Pacific Northwest. Any proposal which moves energy only from Brownlee to the Pacific Northwest omits a significant segment of transmission line required to permit the necessary energy transfers.^{1/} Contract negotiations with Idaho Power Company for the necessary added facilities will increase both the time schedules and cost requirements of the BPA alternatives.

Because of the Pacific Northwest's integrated transmission system, southwestern Oregon will share the energy deficits forecast for the entire Pacific Northwest Region by the early 1980s. PP&L's line will transmit power generated in Wyoming (which is surplus to Wyoming's needs) to the load centers of the Pacific Northwest in order to help alleviate those projected energy deficits. In addition to the shared energy deficits, however, southwestern Oregon is also experiencing a unique shortage of firm transmission capacity. In other words, even if the full amount of power and energy required by consumers in southwestern Oregon were available, there is at present no firm way of delivering that power and energy to southwestern Oregon without the construction of additional transmission lines into the Medford area.

Thus, PP&L routed its Midpoint-Medford 500 kV transmission line into the Medford area as a means of solving or alleviating two problems simultaneously -- (i) bulk generation from Wyoming

^{1/} Thus the BPA proposal will require construction of some 450 miles of new line on the BPA system, plus some 215 miles of new or upgraded 500 kV lines on the Idaho Power Company system. This is a total of approximately 665 miles as opposed to 436 miles under PP&L's plan. (The 92 miles of line between Malin and Medford are not included because they are common to both proposals.)

will be transmitted to the Pacific Northwest, and (ii) additional transmission capacity will be provided for southwestern Oregon.^{2/}

In order to portray its proposal as an alternative to PP&L's line, BPA becomes compelled to propose not merely a line from the western end of the Idaho Power Company main system to an interconnection with the Pacific Northwest transmission grid, but an additional "third intertie" (Buckley-Malin) along the route of the existing twin 500 kV Pacific Northwest-Pacific Southwest Intertie lines.^{3/}

C. Purpose of the BPA Lines: As stated above, the BPA lines have been hurriedly proposed as an "alternative" to PP&L's line in an attempt to deprive PP&L of the ability to serve its own customers in an economic and timely manner. But because BPA must assuredly perceive that it would experience difficulty in promoting a program of expending public funds to serve a function for which private funds are available, BPA has cast about for additional "benefits" to make its proposal more palatable.

It is in this context that BPA contends (without any supporting data or documentation) that its lines would "assure greater overall system flexibility by simultaneously providing much needed . . . west to east transmission capability."^{4/}

^{2/} The 1600 average mw of power to be transmitted into the new Meridian Substation at Medford is in excess of the loads in the southwestern Oregon area, and thus power now transmitted into that area from the generating facilities to the north will be displaced and, along with any excess, will be available for use in other portions of the Pacific Northwest Region.

^{3/} PP&L's line will parallel the intertie lines for some 76 miles, thus reducing the required length of a "third intertie" at such time as it might be necessary.

^{4/} See DSEIS, p. 2.

BPA has conceded,^{5/} and PP&L has demonstrated,^{6/} that PP&L's line will provide essentially equivalent east to west transmission capacity and other system reliability benefits. Furthermore, BPA has also conceded that its unsupported assertion of a need for west to east transfer capacity will not require construction of its Brownlee-Slatt line until the mid-1980s at the earliest,^{7/} and that both the Brownlee-Slatt/Buckley-Malin lines and the PP&L Midpoint-Medford line will eventually be required.^{8/}

The question must then be asked: Why is BPA rushing to build a line which will not be required for some time, when current needs can be met by a private project well under way? The answer is self-evident -- BPA wishes to arrogate to itself total domination over the Pacific Northwest transmission system in patent disregard for the requirements of the Region's independent utilities and their customers, and in contravention of applicable laws as described in Section I of these comments.

D. Project Comparisons: The BPA proposal is not a functional alternative to the PP&L line, and even if it were, it must be recognized that the PP&L line enjoys a number of advantages which mitigate against accelerated construction of the BPA lines.

^{5/} See testimony of Mr. Ralph Gens and Mr. Hector Durocher before the Oregon Public Utility Commissioner at hearings in Klamath Falls and Salem, Oregon, on November 27 and 28 and December 12, 1978 (In the Matter of the Application of Pacific Power & Light Company for a Certificate of Public Convenience and Necessity, Docket No. UF-3182).

^{6/} See testimony of Mr. Robert B. Lisbakken, ibid.

^{7/} See DSEIS, p. 2.

^{8/} See testimony of Mr. Ralph Gens, Fn. 5, supra.

First, it has been demonstrated to the satisfaction of the Oregon Public Utility Commissioner that the PP&L line will adequately serve its intended function at a lower cost to PP&L customers than would the BPA lines.^{9/} It is curious that not once in the DSEIS does BPA even mention the costs involved, as if cost of delivered energy were not a relevant factor in weighing true alternatives.

Secondly, the proposed BPA lines could not possibly be in service in sufficient time to meet the demonstrated need for this transmission service by late 1981.^{10/} Again it is curious that while BPA in other forums quite properly painted in bleak terms the anticipated serious Pacific Northwest energy shortages, it appears quite blithely willing to delay (by what will be certainly more than a year) construction of facilities which are desperately needed to help alleviate those shortages and which BPA has repeatedly testified are wholly appropriate to that need. This is merely indicative of the extremes to which BPA will go to achieve its ambitions.

Be that as it may, BPA asserts that it can have its proposed lines in operation by late 1982, only one year later than PP&L's line. This is unwarrantedly optimistic, but worse, is misleading. For instance, on page 1 of the DSEIS, BPA states that construction could start in the winter of 1981 and be completed by

9/ See Certificate of Public Convenience and Necessity issued by the Oregon Public Utility Commissioner; Orders Nos. 76-359, 78-375 and 79-112.

10/ Ibid, Order No. 79-112.

the fall of 1982. Yet on page III-13 of that same DSEIS, BPA states that the work force will be in place for 20 to 28 months, and Mr. Jerry Frich of BPA is reported to have testified at the March 5, 1979 Hermiston, Oregon DSEIS hearing to the effect that there would be a two-year construction period. We submit that it would be physically impossible to construct 450 miles or so of 500 kV transmission line (plus the 215 miles on the Idaho Power System) within nine or ten months even with herculean efforts and huge cost penalties.

Moreover, the BPA plans are only now in their early formative stages. BPA has not yet selected a route, developed a route specific environmental impact statement, performed wilderness reviews as required by Section 603 of the Federal Land Policy and Management Act (P.L. 94-579), conducted surveys or right of way acquisition, or ordered materials. BPA has not received necessary Congressional approvals as required by Section 4 of the Federal Columbia River Transmission System Act (P.L. 93-454), or even attempted any serious coordination with the various federal and State of Oregon agencies who may have an interest at the federal, state and local level.

On the other hand, the PP&L line has been through the entire regulatory and environmental review process^{11/} and construction has commenced. PP&L has received authorization from the

11/ BPA Administrator Sterling Munro has conceded as much. In a letter to Oregon Public Utility Commissioner Charles Davis, dated February 24, 1978, Mr. Munro stated that: "However, the Midpoint-Malin line timewise enjoys one major advantage over any other alternative. The right of way is already the subject of an Environmental Impact Statement (EIS) which has been completed and filed with the Council on Environmental Quality. Any of the other alternatives would be subject to completion of an adequate EIS."

Oregon Public Utility Commissioner and the Idaho Public Utilities Commission, has received approval of its EIS and the specific route from the Secretary of the Interior, has obtained most of the right of way, and has all necessary materials on hand.^{12/} It has taken PP&L about five years to arrive at this position, and it is irrational to assume that BPA could run the gauntlet of environmental, Congressional and regulatory review in less than two years.

As further evidence to support our contention that the BPA proposal is a sham, belatedly conjured up to block construction of the PP&L line, it must be noted that in spite of BPA's constant references to a 20-year planning horizon, the BPA lines do not appear on the 1978 edition of the Western System's Coordinating Council (WSCC) map of planned facilities for the Pacific Northwest, although all utilities (including BPA) routinely report all major facilities under serious consideration. In addition, BPA Administrator Munro testified, in connection with BPA's FY 1979 Budget Submittal, that there were to be no "major" transmission projects to be proposed for FY 1979 or FY 1980 except in connection with the Colstrip Project. Thus, it is clear that the BPA proposal was not conceived until sometime in 1978. The BPA lines first surfaced as an "alternative" to the PP&L line in the letter from BPA to

^{12/} PP&L has not yet obtained right of way from the Bureau of Land Management (BLM) for the Malin-Medpoint segment of its line because BPA has asked BLM to withhold such right of way until the line has been rendered compatible with the Federal Power Marketing Program through execution of contracts with BPA for interconnections at Malin. Despite PP&L's continued efforts to enter into such contracts in accordance with a letter agreement between BPA and PP&L dated September 2, 1977, BPA inexplicably has not tendered such contracts for execution.

Oregon Public Utility Commissioner Davis dated February 24, 1978 (see Fn. 11, supra), and we understand that the first meeting between BPA and the Bureau of Land Management did not take place until February 14, 1979.

E. Alternatives: The BPA DSEIS generally describes the PP&L line as an alternative to either no construction or the BPA "Northerly Route" with some route alternatives. This ordinarily would be quite reasonable because in view of the demonstrated need for an east to west intertie, only various route alternatives need to be considered.

But BPA has also advanced its scheme on a theory of an additional need for west to east transfers and has stated that without the Buckley-Malin line, the PP&L line would not carry as much power to the east. In his testimony before the Oregon Public Utility Commissioner on November 27, 1978, BPA's Mr. Ralph Gens testified that "The Brownlee-Slatt circuit would be needed by the middle 1980s to serve BPA loads in southern Idaho regardless of whether the Midpoint-Malin [segment] is built."^{13/} (Emphasis added.) It appears, however, that BPA has not considered any alternate methods of serving its southern Idaho loads, such as wheeling over the Idaho Power Company system,^{14/} and that BPA considers as realistic only those alternatives which entail its own ownership of all bulk transmission lines in the Pacific Northwest. This renders the DSEIS fatally defective.

^{13/} See also DSEIS, p. 4.

^{14/} Idaho Power Company is planning to upgrade many facilities within its system during the early and mid-1980s. There appears to be ample time within which BPA could coordinate its efforts with those of Idaho Power Company to avoid unnecessary duplication of facilities and to meet the purposes of BPA and Idaho Power Company.

F. Summary: The DSEIS is offered as a planning document to consider "the environmental impacts of two electrical plans of service."^{15/} But the DSEIS is clearly not an environmental impact statement. It quite cursorily discusses the environmental impacts on the basis of "generalized [impacts] relating to normal construction and maintenance efforts" and arrogantly suggests that the real environmental review must await final line location.^{16/}

On the other hand, the DSEIS is not even a valid planning document. It devotes the bulk of its 65-odd pages plus maps to generalized environmental factors, and only about ten pages to the planning considerations which led to this hasty proposal. It offers no facts or figures to support its allegations that the BPA line is needed or somehow better than the PP&L line. While it relies on PP&L's determination of need for west to east transmission capacity, it offers no more than unfounded assertions to the effect that the BPA lines will provide additional benefits to the Region, and does not even refer to any studies or data which might tend to support such assertions.

If BPA is to propose the use of federal funds to construct a project which can adequately be provided by private parties, it must first demonstrate that the public interest demands such action. BPA has failed to do this before the Oregon Public Utility

^{15/} DSEIS, p. 1.

^{16/} See DSEIS p. III-1. This is contrary to the intent of the new Council on Environmental Quality (CEQ) guidelines for the preparation of Environmental Impact Statements under the National Environmental Policy Act, which requires a thorough review of environmental considerations before commitment to a course of action.

Commissioner, and abysmally fails to do so in this DSEIS. This document should be withdrawn at this point, and BPA should take the time available to prepare proper documentation in support of its proposals at such time as the BPA lines (or alternatives) will really be required.

In the meantime, BPA should facilitate construction of a truly needed facility (the Pacific Power & Light Company Midpoint-Medford line) by negotiating in good faith the implementing contracts for the Malin interconnection, as it has repeatedly stated it is willing to do, in accordance with the letter agreement of September 2, 1977 between PP&L and BPA.

III - SPECIFIC COMMENTS ON THE DSEIS

A. Maps and Figures: The maps included in the DSEIS are woefully inadequate to inform the public of the salient factors involved in the BPA proposal. They do not show existing or planned generating facilities which are integral elements of the BPA proposal. They do not clearly depict Indian Reservations, wildlife refuges, parks, national forests and other areas of cultural, environmental, social, recreational and economic concern. Color contrasts on the maps are minimal and render some of the maps (especially figures 4, 5, 6 and 7) undecipherable.

B. Specific Comments:

1. Pages 2 and 3: The last paragraph on page 2 and the first paragraph on page 3 are self-serving, speculative, unsubstantiated and conclusionary. In particular, there is no basis for the assumption that the "BPA proposal would likely result in

less overall environmental impact" (especially in view of the absence of a route-specific environmental review), or for the assertion that BPA's proposal will provide greater long range economic benefits to the region. Such unsupported and conclusionary statements are contrary to the intent of the CEQ guidelines for preparation of Environmental Impact Statements, and should not be included in an environmental impact statement without substantiating data.

2. Page 4: Similarly, the second, third and last paragraphs on page 4 contain additional self-serving, speculative, unsupported and conclusionary statements. "BPA's concept" of multi-purpose transmission lines is not defined, and no studies or data are offered to support the assertions made in these paragraphs.

3. Page II-11: The third and fourth paragraphs under the "Urban and Residential" heading on page II-11 suggest that BPA is prepared to submit its lines to the jurisdiction of State of Oregon land use laws. We applaud this position and urge BPA to continue this policy.

4. Page III-27: It is appalling that BPA did not consider the obviously available alternative of wheeling over the lines of others to provide any necessary west to east power transfers to the Middle Snake region. In the last paragraph on page III-27, BPA "feels" that its proposal "provides a better solution to the electrical needs of the region," based on the "reasons" described on pages 2 and 3 of the DSEIS. But pages 2 and 3 contain nothing more than conclusionary and unsupported contentions. This exercise in circular reasoning has no place in a proper EIS.

5. Page III-29: In the first paragraph under "Summary of Plan of Service Analysis" heading, it is stated that "prediction of possible impacts are meant to facilitate comparison of the environmental aspects of alternative system plans." We submit that the DSEIS cannot possibly offer a rational comparison between the environmental impacts of the BPA lines and the PP&L line. The PP&L line has received the scrutiny of a full Final Environmental Impact Statement, and the cursory examinations performed the DSEIS fail to offer any comparable analysis. Furthermore, the last paragraph of page III-29 suggests that BPA has already made a decision to pursue the Brownlee-Slatt Corridor No. 1. The DSEIS contains nothing to support that premature decision.

6. We do not offer any specific comments on the environmental impacts discussed in the DSEIS for the simple reason that the DSEIS is so generalized and non-specific as to be meaningless.

BONNEVILLE POWER ADMINISTRATION
ENVIRONMENTAL MANAGER'S OFFICE

I AM WRITING IN CONCERN OF THE PROPOSED POWER LINES THROUGH GRANT COUNTY. THESE LINES WILL DO VERY LITTLE FOR OUR COUNTY - WHILE AT THE SAME TIME WILL BE A GREAT EYE-SORE. WHAT FEW JOBS (SHORT TERM) THIS WOULD CREATE DOES NOT COME CLOSE TO LONG TERM DAMAGE THAT WILL HAPPEN TO WILD LIFE & TOURISM. ALSO THE FINISHED PRODUCT WILL NOT AID GRANT CO. IN ANY WAY. I BELIEVE THERE ARE ALTERNATIVE ROUTES AND I SINCERELY HOPE THESE WILL BE USED. I KNOW MY FEELINGS ARE SHARED BY MOST PEOPLE IN GRANT CO. GRANT CO. IS A BEAUTIFUL PLACE TO LIVE AND WE WOULD LIKE TO KEEP IT THAT WAY. I SURE HOPE THESE ARGUMENTS WILL BE CONSIDERED WHEN CHOOSING WHICH WAY THESE POWER LINES WILL GO. COME TO GRANT CO. AND SEE THE DAMAGE THAT COULD BE DONE IF THIS PROPOSAL GOES THROUGH.

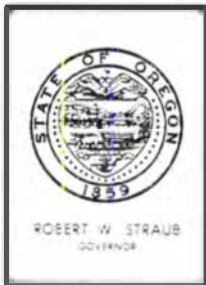
SINCERELY

Scott Cooper

P.O. Box 542

PRAIRIE CITY, ORE

97869



Executive Department

INTERGOVERNMENTAL RELATIONS DIVISION

ROOM 306, STATE LIBRARY BLDG., SALEM, OREGON 97310

March 9, 1979

Administrator
Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, OR. 97208

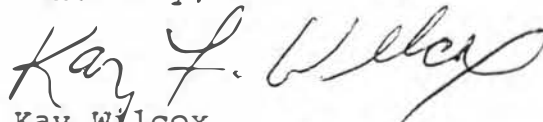
Dear Sir:

RE: Draft Supplement to Final
Environmental Impact
Statement - Proposal
FY 1979 Program
PNRS 7901 4 580

Thank you for submitting your draft supplement to the Final Environmental Impact Statement for State of Oregon review and comment.

The Departments of State Parks and Public Utility Commissioner have submitted additional comments. Any consideration you are able to give these comments will be appreciated.

Sincerely,


Kay Wilcox
A-95 Coordinator

KW:cb

Attachments



OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE

Intergovernmental Relations Division
306 Library Building, Salem, Oregon 97310
Phone: 378-3732

P N R S S T A T E R E V I E W

Project #: 7401

Return Date: 7/1/81

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

This is a final Environmental impact Statement and requires immediate action.

1. If you have comments, they must be received by the federal agency prior to the return date indicated above, or they will not be considered. Send your comments directly to the federal agency initiating the impact statement.
2. Send a copy of this form back to the Clearinghouse after checking the appropriate box, to complete our files.

ENVIRONMENTAL IMPACT REVIEW FINAL STATEMENT

- The environmental impact is adequately described.
- The comments we made on the Draft Statement have been adequately dealt with.
- The comments we made on the Draft Statement have not been adequately dealt with. (Give details below.)
- No comment.

REMARKS

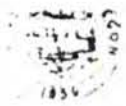
See attached letter.

Agency

Parks

By

A. Baker



TO Wally Hibbard, Manager
River Programs and Special Projects

DATE January 26, 1979

FROM Dick McCosh, Supervisor
Parks Master Planning

SUBJECT Review of Bonneville Power Administration
Draft Supplement Final EIS - 1979 Fiscal Program for
Southwest Oregon Service area

The Brownlee-Slatt Corridor 1 route shown would significantly damage historic, scenic and recreational resources of state and national concern since it frequently parallels or crosses the nationally commemorated historic Oregon Trail route and the highly scenic Blue Mountain portions of the Interstate Highway 80X tourist route near several major state parks.

The report mentions the above items but grossly understates the significance of the resource values affected and the public impact damages involved.



OREGON PROJECT NOTIFICATION AND REVIEW SYSTEM

STATE CLEARINGHOUSE

Intergovernmental Relations Division
306 Library Building, Salem, Oregon 97310
Phone: 378-3732



P N R S S T A T E R E V I E W

Project #: 7901 4 580

Return Date: MAR 03 1979

ENVIRONMENTAL IMPACT REVIEW PROCEDURES

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2. Send a copy of this form back to the Clearinghouse after checking the appropriate box, to complete our files.

ENVIRONMENTAL IMPACT REVIEW FINAL STATEMENT

-) The environmental impact is adequately described.
-) The comments we made on the Draft Statement have been adequately dealt with.
-) The comments we made on the Draft Statement have not been adequately dealt with. (Give details below.)
-) No comment.

REMARKS

OPUC Order 79-112 dated February 22, 1979 authorizes PPEL to construct a 500KV line from Midpoint (Idaho) to Malin (SW Oregon). This line obviates the need for BPA's proposal at this time.

Agency _____

OPUC

By _____

R L Colburn



United States
Department of
Agriculture

Soil
Conservation
Service

1220 S. W. Third Avenue
16th Floor
Portland, OR 97204

March 7, 1979

Mr. John Kiley
Environmental Manager
Bonneville Power Administration
Box 3621
Portland, OR 97208

Dear Mr. Kiley:

We have reviewed the draft supplement to the final environmental impact statement for the proposed fiscal year 1979 program, Facility Planning Supplement dated January 1979.

We have no comments to offer but we do appreciate the opportunity to review and comment on this draft.

Sincerely,

Guy W. Nutt
State Conservationist

Acting

cc: Director, Office of Federal Activities (Mail Code A-104) (5)
Environmental Protection Agency
Room 537, West Tower
401 M. Street, S.W.
Washington, D. C. 20460

Administrator, SCS, Wash., D.C.



3495 Ballyntyne Rd. S.
Salem, Or. 97302
March 12, 1979

Environmental Manager's Office
Bonneville Power Administration
P.O. Box 3621
Portland, Or. 97308

Dear Sir:

As Grant County landowners and future residents, we strongly object to the proposed construction of 500 kilovolt transmission lines through Grant County.

Our objection is based on conclusions drawn from an analysis of your final Environmental Impact Statement, Draft Supplement.

One, the proposed construction would be detrimental to the logging industry, cutting wide swathes of bare land through timber land that could not be reclaimed as a timber resource.

Second, necessary roadways and construction could alter the course of some creeks and possibly change subirrigation patterns. This would be very harmful to some ranches.

Third, the stark, massive appearance of 500 kilovolt towers and power lines would detract from the natural beauty of Grant County. This would hurt the tourist industry.

Fourth, the corridors necessary for the power lines cross several important elk, deer and pronghorn antelope habitats. Your own Impact Statement notes that damage would be high. If the wildlife ecosystem is damaged, resulting damage is also done to the hunting. Again, this results in damage to tourist industries.

Last, the Impact Statement notes that the lines through Grant County would not be as effective and would have more power loss than other possible corridors.

Economically, the construction of these power lines would only take from Grant County..in terms of losses to logging, ranching, hunting and tourism. The returns are almost nonexistent for the county. Grant County would be losing very important assets, only to provide power for a concentrated population in another part of the state.

Sincerely,

Adele and Mark Cerny

Adele Cerny
Mark Cerny

Jackson Oil Inc.

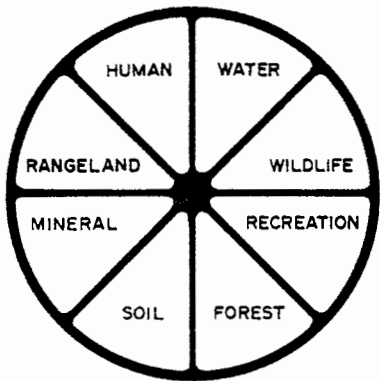
Gregory A. Jackson, President
P.O. Box 382
Canyon City, Oregon 97820
Telephone 575-1348

Bonneville Power Administration
Dear Sirs:

As a concerned citizen and resident of Grant County I am writing to you about the proposed power lines you wish to cross our county. I do not want the lines to cross our county. I feel the disadvantages associated with the crossing far outweigh the possibility and benefit from the crossing.

Thank you

Melody Jane Jackson



GRANT COUNTY RESOURCE COUNCIL
COURTHOUSE CANYON CITY, OREGON 97820

"Comprehensive Resource Management -
An Investment in Grant County's Future"

March 12, 1979

Environmental Manager
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Re: Draft Supplement, Final Environmental
Impact Statement, Proposed FY 1979
Program, Southwest Oregon Area Service
U.S. Department of Energy, January 1979

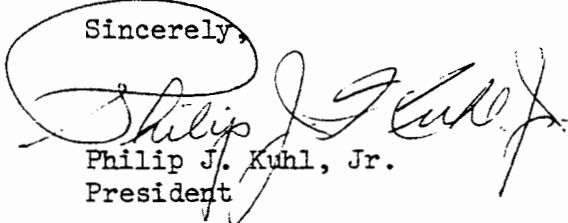
Dear Sir:

Concerns have cropped up regarding your proposed alternative routes through Grant County for your possible 500-KV lines from Brownlee Substation in Idaho to the Grizzly Substation in Crook County, Oregon.

The Resource Council wants to go on record at this time to impress upon you the concern we have as to the impact the two Grant County routes will have on our resource land base. Both routes pass through timbered country. The southern route will have the highest impact in lowering our timberland base.

We urge you to keep us posted as to hearings on your proposed routes so that we can provide needed input as to the most logical route.

Sincerely,


Philip J. Kuhl, Jr.
President



**FORESTRY
DEPARTMENT
NORTHEAST OREGON DISTRICT
OFFICE OF DISTRICT FORESTER**

ROUTE 2, BOX 2224 • LA GRANDE, OREGON • 97850 • Phone 963-3168

March 9, 1979

John Kiley
Bonneville Power Administration
P. O. Box 3621
Portland, Or. 97208

Mr. John Kiley;

This letter is in response to Bonneville Power Administrations proposal to construct a transmission line in Northeast Oregon. The Department's comments are directed only to alternatives designated as Brownlee-Slatt Corridor 1 and 2.

The Department of Forestry is deeply concerned with the future timber supply of Oregon. A 1976 report, "Timber for Oregon's Tomorrow", projected a timber shortage in Oregon by the year 2000. The Board of Forestry recognized the importance of the timber industry to Oregon's economy. Because of this, the Board of Forestry has adopted policies which preserve the timberland base, and encourage intensive forest management on both private and public forest lands. Their objective is to reduce the timber shortage, so as to minimize the adverse impacts to the State's economy.

As the timber supply decreases in Western Oregon, Eastern Oregon timber will experience greater demand. This situation has already occurred in Central Oregon and is also expected in Northeast Oregon. Due to this increased demand marginal forest land will become more valuable, and intensive forest management practices will become more attractive. Thus the commercial value of Northeast Oregon's forest is expected to increase in future years. The Department, would therefore, oppose any action that reduces the timberland base. We strongly urge using the existing transmission line. We therefore, agree with the philosophy behind the Brownlee-Slatt Corridor # 1. However, this alternative still results in loss of commercial forest land. We feel that less damaging alternatives might exist, due to the already present number of rights of ways near your proposed route.

Brownlee-Slatt Corridor # 2 results in an even greater timberland reduction, and the Department opposes this alternative entirely.

The Department recognizes that energy needs are a strong public demand, and BPA's proposal is necessary to meet these needs. We hope that through cooperation and coordination we can jointly achieve a satisfiable alternative. The land use

Planning process is one method of preserving the timberland base, and the Department appreciates this opportunity to respond to your proposal. For further information contact: Gary Rudisill, Route 2 Box 2224, LaGrande, Oregon 97850, 963-3168 or Jeff Schwanke, 1055 Airport Road, Pendleton, Oregon 97801, 276-3491.

Sincerely,



Gary Rudisill
Northeast Oregon
District Forester

cc: Harold M. Cantrell
Gary Rudisill
Fred Graf
Phil Brogan

Holly Porter

P.O. Box 592

John Day, Oregon

97845

March 10, 1979

To whom it may concern,

Myself and my husband and three children live and own 20 acres of land in Grant County, we are concerned about the proposed construction of the 500 kilovolt transmission lines coming thru our area. We are very much against the construction of these lines for many reasons. First the lines would be detrimental to the logging industry, cutting wide swaths of bare land through timber land. Second they are ugly and we strongly feel their presence would ruin the natural beauty of our area. We also understand that these lines through Grant County would not be as effective and would have more power loss than their other choices.

Thank you for your consideration

Respectfully

Holly Porter

51

P.S please keep me informed of any decisions made on this issue - thank you

PO Box 143
John Day Oregon
March 9, 1979

BPIA
Environmental Manager's Office
PO Box 3621
Portland, Oregon 97208

Dear Sir -

I would like to comment on the E.I.S. for the proposed 500 KV. transmission line ~~from~~ through Eastern Oregon. First, I question the need for such a project.

My most grave concern is the two southern route proposals. The fact that these proposals were even considered is an outrage!! The environmental degradation and impairment of the visual quality of Grant County is intolerable. I am a land owner in the John Day Valley and make my living from the resources of the land. The power line proposal would involve serious destruction of that resource base, including timber, soil, visual, wild life and watershed.

These two southern routes through Grant county would cost more financially and environmentally than they are worth

The impact statement it's self admits to the extensive destruction of wild life habitat and unretrievable loss of very valuable commercial forest land. The fact that The Brownlee Grady #2 goes through Broadless areas and is within such a visible proximity to the Strawn wilderness is enough justification to disqualify it on financial and environmental grounds.

We shouldn't have to make ^{such a} sacrifice here in Grant County for the benefit of people who won't have to live with it.

Thank you

Catherine Morrow



March 9, 1979

P.O. Box 143

John Day Oregon -
97845

BPA

Environmental Managers Office

P.O. Box 3621

Portland, Ore. 97208

To Whomsoever:

I object strongly to your ~~proposed~~ SCKV transmission lines proposed for Grant County. How can you even consider routes that are so damaging to our local area. Your own Impact Statements acknowledge the detrimental effects on the wildlife, soil erosion, loss of timber resources, etc. of the Brander. Gully 1 route were selected it would be insane. If Brander Gully 2 were attempted it would be criminal. Can you try and pass a 2 mile swath of procedure right-of-way near the Strawberry Wilderness and through B. Woodless areas, Bear Valley, Logan Valley, and Murders Cr. and you'll find yourself laced with court injunctions or whatever means it takes to stop you. I am a property owner in the John Day Valley and I won't stand for your brand of "progress". If the line must be run, take a northern route along the already existing heavy right of way. ~~It~~ I'd rather see a line along a populated route rather than run a resource area such as the John Day Valley.

Sincerely
Martin Merr

11 March 1977
Richard Kenton
Rt 2 Box 97B-1
Philomath, Ore
97377

Dear BPA,

I highly disagree with the proposed placement of the 500 KV line through the state of Oregon. Our forest lands have suffered enough destruction by the paths of transmission lines and it is time to end ~~the~~ further destruction. If the proposed Brownlee-Grizzly 1 or Brownlee-Grizzly routes were used they would put 53,760 ~~and~~ 60,160 acres of commercial forest lands out of production in Oregon alone, not to mention many more acres in Idaho & Wyoming.

Our society craves for more wood fiber & government agencies reply by taking more land out of production to put a power line to an area already high in energy, namely the geothermal area of the Klamath Basin.

You'd ~~B~~ better go back to the drawing board & help them develop geothermal power first.

Richard W. Kenton

March 9, 1978 Sandra Katz

P.O. Box 97B-1

Princeton, Or. 973

Bronville River Administration
Environmental Managers Office

P.O. Box 3621

Princeton, Or. 97208

Dear Sirs,

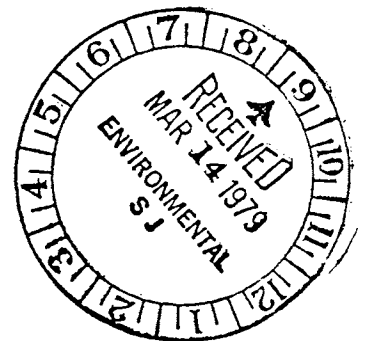
If you must choose a route for your power line I-80 seems the most logical since the highway is already there and the line would seem to do the least amount of damage ~~to the~~.

However, if the need for power in southwest Oregon why not explore some alternative methods of producing energy that can be developed there, instead of placing high voltage power lines across the entire state. These lines are detrimental to the logging industry, to ranches and farms and it would create destruction of needed elk, deer & pronghorn antelope habitats.

I am totally opposed to the ~~power~~ Bronville - Grizzly Corridor ~~as~~ proposal as that area is a refuge to many endangered species. I must state again that

an alternative source of energy needs
to be found for the area instead
of placing large destructive power lines
across the state??

Sincerely,
Sandra Both



Robert A. Hudson
P.O. Box 81
Bates, Oregon 97817

March 10, 1979

Bonneville Power Administration
Environmental Manager's Office
P.O. Box 3621
Portland, Oregon 97208

Dear Sirs:

We are terribly concerned with the rumours we hear of a BPA major power line being routed through the John Day Valley in Grant County Oregon. As far as we can see, there is not justifiable need to destroy a valley and a highway route that is now classified as Scenic and has had powerlines and telephone lines put under ground to keep it Scenic, when there are existing transmission line corridors in use both to the North and to the South of this beautiful yet unmarred route across Eastern Oregon. It is incredible that your Administration would consider this route in the light of the above facts. We sincerely hope that you will do all in your power to keep this power line from destroying the Scenic Values as well as the timber resources in this timber and agricultural dependent area as well as the impact on the Tourist Oriented businesses. Please keep us informed on what your decisions and route changes might be in the near future.

Sincerely,
Robert A. Hudson
Robert A. Hudson
Merle A. Archie
Merle A. Archie

25

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Region 6
P. O. Box 3623, Portland, Oregon 97208

1950

March 12, 1979

Mr. Sterling Munro, Administrator
U. S. Department of Energy
Bonneville Power Administration
P. O. Box 3521
Portland, Oregon 97208



Dear Mr. Munro:

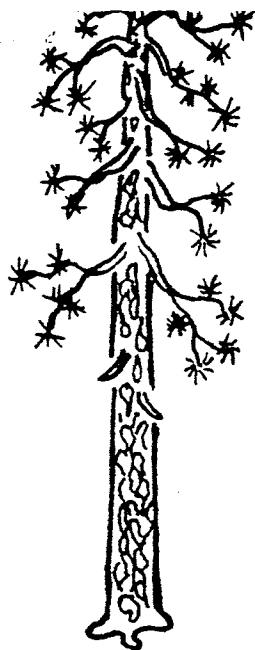
Thank you for the opportunity to review and comment on the Draft Facility Planning Supplement to your Fiscal Year 1979 Program Final Environmental Statement, covering the proposed facilities for Southwest Oregon Area Service (DOE/EIS-0005-DS-2).

In accord with our 1974 Memorandum of Understanding, we are taking this opportunity to state that your proposed utilization of the existing Brownlee-Slatt and Buckley-Malin utility corridors is greatly preferred over other new Brownlee-Slatt and Brownlee-Grizzly corridors shown in your draft. To minimize National Forest resource impacts, we may request minor changes in existing corridors when you begin detailed center line location.

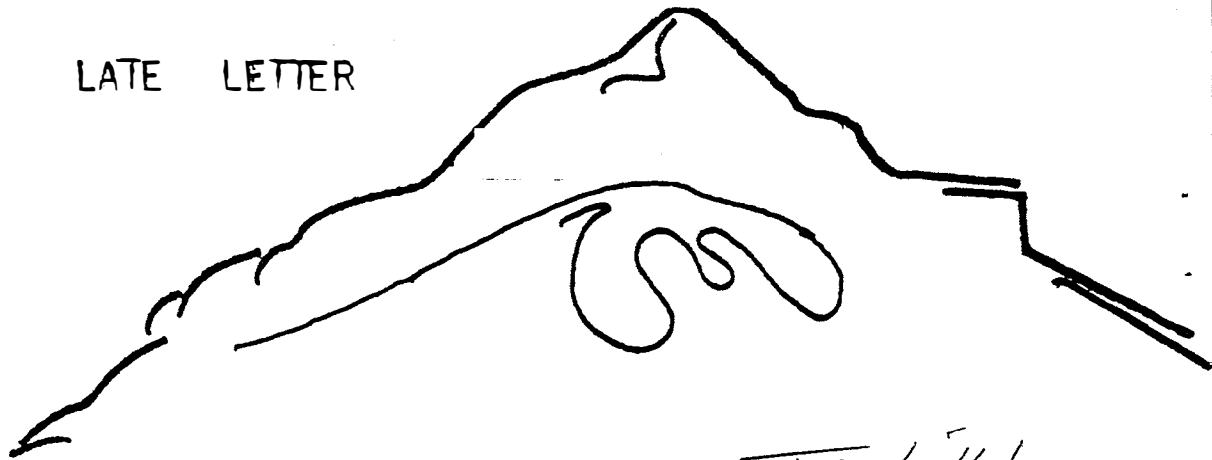
We ask that you keep us current as your studies progress.

Sincerely,

R. E. Worthington
for R. E. WORTHINGTON
Regional Forester



LATE LETTER



Tim Lillebo
Box 394
Prairie City, Ore
97869

March 10, 1979

Dear BPA,

I am a Grant County resident and land owner and have reviewed your Environmental Impact Statement concerning the proposed 500 KV transmission line from Brownlee dam to Slatt or Grizzly substations. I vehemently oppose construction of this unneeded powerline and oppose even the slightest consideration of the two proposed Brownlee - Grizzly Corridors.

First of all, this ridiculous interstate system with Wyoming's polluting coal fired plants has got to be scrapped. This power is not needed and BPA should be promoting energy conservation and not new environmentally damaging systems of energy consumption. This government overpowering of the public's needs and desires, must cease.

Secondly and most important, the environmental damage from construction of the Grizzly Corridor and resulting line would create uncalculable and unmitigated damage to Grant County's forest, wildlife, water, recreation,

LATE LETTER



★ Please send me a copy of
the permit to be put on
your mailing list, thank you

March 10, 79

agriculture and scenic qualities that are all far more valuable, economically and aesthetically, than any overbearing powerline. Any powerline would create problems for the fragile nature of the land in Grant County. A gross 500 kV line would completely destroy the quality environment found in the John Day Valley. The Valley is so narrow, the line would dominate the entire landscape and ruin the high scenic and casual flavor of this country. The Forest Grizzly Corridor would be harmful to many forms of wildlife and damage the quality of several roadless primitive recreation areas.

In short Grant County does not need a BPA powerline and we will not allow the line to happen and destroy the many values that make this country so attractive.

For once, don't let an outdated "progress" call destroy the very values that America prides itself on. Stop the line now and promote energy conservation. Thank you
Tim Lillebo

LATE LETTER

Box 453

Chapman City, Oregon 97322

March 13, 1979

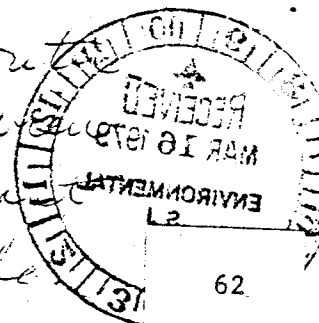
Bonneville Power Administration
Environmental Management Office
- Box 3621
Portland, Oregon 97208

Dear Sir:

Recognizing that I am a day late, I still wish to write a letter of concern about the proposed high voltage transmission lines to run through northeastern Oregon.

I have not had a chance to read the one Impact Statement available in John Day, and thus will not be able to comment on specifics. It seems obvious, however, that wildlife habitat and land with water resources will be disturbed in any of the alternatives. There is no doubt that the wildlife and water resources are far more important to people in Grant County than extra electricity — and personally the former are far more important ^{to me} also.

Secondly the visual effects would be disastrous — The power lines north of the Columbia remind me of giant robots from outer space — from an aesthetic point of view I simply do not want them in Grant County or in Pendleton — La grande



I believe that it is time for us to learn to curtail our use of energy - period - and seek alternative sources which are more compatible with our surroundings. "Messing up" the ^{semi-}dry and high country of northeastern Oregon to provide extra energy to western Oregon and/or points south has no merit or excuse as far as I am concerned.

A vote No to all the proposed lines from me -

Thank you for the opportunity to comment - I feel you should have more widely announced your proposals ^(earlier) and sent out more copies of the Impact Statement - Were you afraid to?

Sincerely,
Patricia G. Milliren

LATE LETTER

P.O. Box 9
Prairie City, Ore. 97869

March 12, 1979

Bonneville Power Administration
Environmental Manager's Office
P.O. Box 3621
Portland, Ore. 97208

Reference: Power Line Through Grant County

Dear Sirs:

I am very much opposed to any Power Line in Grant County; in a time when we are reminded every day to conserve power it seems the B.P.A. should be thinking the same way. Instead they come up with a fantastic way to use a lot more power, also we have to assume since its ending up on the California border our friends to the South will reap all the benefits and Grant County will get raped again. Grant County has nothing to gain and everything to lose, to mention a few; Wildlife Habitat, Timber resources, Ranch and grazing land, future jobs and economy would suffer, to say nothing of the Scenic value destruction.

We have a 160 acre place in Klamath County near the California line, where about 10 years ago a power line crossed, this place is still a devastated area! Things in Eastern Oregon just do not grow back like Western Oregon. It takes many years for the land to recover, and in the case of Power Lines it never will because they keep these areas cleared all the time.

Again I am strongly opposed to any power line in Grant County. Thank you for an opportunity to voice an opinion in this matter.

Yours truly,



Tom Lillebo

LATE LETTER

P.O. Box 9
Prairie City, Ore. 97866
March 12, 1979

Bonneville Power Administration
Environmental Manager's Office
P.O. Box 3621
Portland, Oregon 97208

Reference: Power Lines Through Grant County

Dear Sirs:

Since I am a resident of Grant County I would like to express some of my opinions as to why I'm very much opposed to this High Voltage Power Line going through our County.

Your proposed routes couldn't be put in any more prime territory. You are coming through timber resources as well as close to farmland, grazing lands, as well as through very much needed and used land by our Wildlife here. We are always fighting a losing battle with the timber sales and logging and now certainly don't need a 2 mile wide cut and unsightly power towers to take their toll on our watershed patterns.

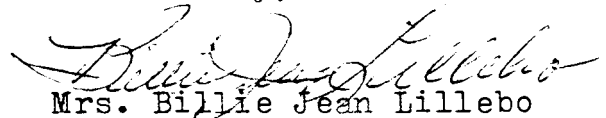
Being a land owner also with 160 acres in Klamath County we have experienced the construction of power lines across this property 10 years ago. It can never be reclaimed as they keep it constantly cleared making a devastated area and also taking up many acres of land that could be used otherwise.

It seems to me that a large construction proposal of this sort especially if its coming from Wyoming or thereabouts would go across desert land since its to end up down on the California border anyway without coming miles north taking its toll through our roadless areas, timber resources and grazing lands then ending up south to accommodate our neighbors, with more power loss than some other choices as admitted by the Bonneville Impact Statement.

We have also experienced living where there has been this type of power line before and found that many people suffer some or complete loss of radio and TV reception.

I believe the Bonneville Power Administration should be reminded to promote power conservation like the public is being reminded every day, rather than trying to construct and promote more power use.

Yours truly,


Mrs. Billie Jean Lillebo

MID COLUMBIA LAND COMPANY

LANDMARK SQUARE BUILDING
BOARDMAN, OREGON 97818101 KINKADE S. W.
P. O. BOX 49TELEPHONE
503 481-9411

March 16, 1979

Mr. John Kiley
Environmental Manager
BPA
P.O. Box 3621
Portland, Oregon 97208

Dear Mr. Kiley:

I was in Boardman today with Jim Thompson, the City Manager for lunch at the Boardman Commercial Club when he asked me if I had any knowledge of the BPA's plans for the new power line route through Boardman. I said no, that I hadn't heard anything about it, and he proceeded to briefly bring me up to date on the plans for this new power line. If according to what Thompson told me is true on the alignment it would take an additional two hundred (200) feet of right of way through our land, which presently now supports a three hundred and ninety five (395) foot right of way, upon which we pay taxes, assessments on land that is totally useless to us, and becomes strictly a burden. If the new power line in fact does parallel the present line as it proceeded through our property, it would wipe out a portion of an existing residential sub-division, a shopping center, and worst of all would widen the distant between the new developments in Boardman, and that of the existing town. It would be my hope that some other route can be found with less of a detrimental effect on those whose path it crosses.

I find it almost incredible that the planners of this line, while certainly crossing the small town of Boardman is insignificant to the total scope of the line, would plan something through a metropolitan area without consulting the property owners, and according to Jim Thompson, or the City through which it was crossing, and even inquire as to whether or not there might be an impact on that community. It's not my nature to file uninformed protests, but since I've not had the opportunity to review the documents prepared to date, or been invited to review them in anyway by your agency, I must just simply file this protest blind until I'm given the opportunity to make that review. I'm certainly not opposed to the Power Utility, or its growth, and the requirements for its expansion. I just simply feel that we have been, and are paying our fair share for that section of conduit presently crossing our land, and hope we are allowed the opportunity to have some voice in further expansion.

Very truly yours,


Gary GundersonGG:rjh
cc: Mr. Jerry Frick

LATE LETTER

City of Boardman

206 MAIN STREET NORTH
BOARDMAN, OREGON 97818
TELEPHONE (503) 481-9252

March 16, 1979

Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Attention: John Kiley, Environmental Manager

Mr. Kiley:

We in the City of Boardman would like to register a very strong vote of opposition to your recently published draft supplement for proposed transmission corridors.

First, it should be noted that we object to not having any notification of the proposed project and public hearing that was recently held in Hermiston. It is required by law that any public agency must notify affected property owners and affected governmental units of any major impact that a proposed project may have on an area. We note that all affected cities in Umatilla and Morrow Counties were not notified, nor were any adjoining land owners along the proposed corridors, except for a few federal agencies.

Although we realize that this is only a draft, it has been common practice that if a city has any comments concerning a major federal impact, it must make them in the preliminary stages or suffer the consequences.

While it appears that some attempts were made to notify counties through their planning departments, this cannot be construed by anyone to be adequate public notification.

We are opposed to this project for many reasons, the biggest being the location of the line in the middle of the community.

We note that on Page III - 19 under the potential impacts on urban and residential areas, the Boardman area is not even mentioned, even though it is the single most impacted city along the proposed route. This corresponds with the absence of Boardman on any of the impact maps in the document.

LATE LETTER

Bonneville Power Administration

March 16, 1979 - Page 2

It is our understanding from the only public entity notified of these proposals, the Morrow County Planning Department, that a BPA representative indicated to him that BPA would either rebuild the existing lines along the existing corridor or obtain an additional two hundred feet of right-of-way for another tower.

It might be noted, and should have been checked, that two major subdivisions have been built within one hundred feet of the BPA right-of-way in Boardman, plus a planned major eighty foot arterial street program, plus one hundred seventeen acres of commercially zoned land.

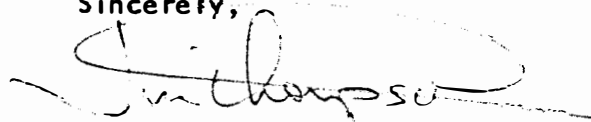
The possible expansion of the BPA right-of-way would completely destroy a land use plan that has been adopted by the Land Conservation Development Commission and followed by the city since 1975. Alteration of this plan would have tremendous financial effects on the city which I doubt BPA has taken into account.

It should also be noted that the City of Boardman formally requested BPA to move their existing lines south along the northern edge of the Boardman Bombing Range four years ago due to the esthetics and the interference with our land use planning program. Mr. Jerry Frick, area engineer from Walla Walla, came to Boardman and estimated that it would take over four million dollars to move the lines. It was, of course, impossible to think of moving them at that time. However, if BPA is going to this expense, we would like to propose that BPA examine re-routing their existing corridor south of Boardman and along the bombing range rather than any further thoughts of expansion into an urbanized area.

In summary, we are unalterably opposed to any further expansion of the BPA right-of-way in Boardman and propose a complete re-routing of the existing lines through Boardman.

Thank you.

Sincerely,



Jim Thompson
City Administrator

3942 La Marada Way
Klamath Falls, OR
8 March 1979

Mr. Jerry Frick, Area Engineer
Walla Walla Area Office
Bonneville Power Administration
P. O. Box 1518
Walla Walla, Washington 99362

Dear Mr. Frick:

It is in response to your request, expressed at the hearings on the BPA Southwest Oregon Area Service proposals held March 7, 1979, in Klamath Falls, that I comment on the development of the weighted evaluation scheme of table 10, facing page III-30, of the draft final EIS you presented.

Your goal in attempting to present comparative total judgements represented by numbers, as in Table 10, is in my opinion a good one. Such evaluations, even when only semi-quantitative, are often easier to understand and to defend than wholly qualitative, "we like this better", judgements -- assuming the former have some reasonable and objective basis. Unfortunately, I do not believe this table achieves the goal you set. The use of two variable columns, "weighting factor" and "degree of impact", without any clear constant base column leaves the resulting totals independent of one another and quite incomparable, even if each of the values assigned has some rational basis.

A short-cut solution to the problem of comparability would be to make the weighting factors the same for all four proposed or possible routes. It means making the judgemental evaluation (and being prepared to defend it) that, to use the weights you applied to the Brownlee-Slatt Corridor 1 column, impact on agriculture is most important (most to be avoided), thus weight 4, while impacts on hydrology and vegetation deserve much less consideration, thus weight 1. If this weighting vector were applied equally to all routes considered, with the degree of impact numbers in the table as presented, the totals of the products would have some comparable basis. This would say that the Brownlee--Slatt corridors would have high impact on agriculture but the Brownlee-Grizzly corridors would have very little, etc.

There are some real hazards, as you might expect, in making the judgements needed for such a weighting column, but there are also relatively objective ways of reaching consensus on those judgements if one decides to make them. Assessing the degree of impact in an objective way is much easier, however. It is not clear that the assessments in

Table 10 used any of the better methods, however.

You are probably familiar with the report prepared by William Blair of the Seattle consulting firm, Jones and Jones, relative to the Klamath Basin segment of PP&L's Malin-Medford line, just approved. While Blair's study suffers from the opposite defect from yours, having not carried his analysis to a useful composite evaluation equivalent to your Table 10, he did start out in a most commendable way. He established a variety of impact categories, more numerous than yours and in some cases more precise, and for each one defined several, usually five, levels of impact (very high, high, etc.). Using his set definitions, he then evaluated each alternative for the numbers of miles of the route that would have each level of impact in each category, resulting in a substantial set of tables. Unfortunately, he stopped there.

The next logical step would be to weight each impact level and establish a single impact value for each route and category, equivalent to your "degree of impact" values. While a simple linear weighting set is effective, I personally prefer an exponential system. That is, if one sets the weight of the highest of five categories at 2^4 , the next at 2^3 , etc., to 2^0 (which of course is 1), multiplies each weight by the number of miles in that level and sums the products, a single weight is obtained. To me this system has the advantage that it emphasizes the high-impact routes and segments, bringing to attention more forcefully the places or effects most likely to draw fire from the public. Either of these (and others possible) will result in the same ordinal ranking of the routes, of course. It is quite important that the impact levels assigned in each category all run in the same direction, say, from high (worst or greatest negative effect) to low, with the goal being to seek the lowest total, or the reverse if desired, so long as it is consistent. Note that in this case the use of a common rating system for each route and a common measure (miles) provides comparability. Although it is possible to use percentage of the route in each impact level, it seems to me best to use miles, on the basis that the shortest route can most likely have the lowest impact and cost and thus show up best. This is a good reason for the scale used going from high = worst to low = best also.

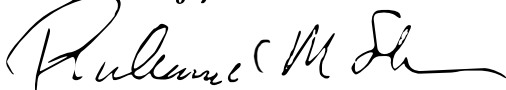
One might use the raw numbers for each route and category multiplied by the weights, or merely sum the raw numbers (which of course means weighting every category equally), but at this point I prefer to reduce the numbers to a linear ordinal scale. Some precision is lost, but so much judgement

has entered into the process already that whatever precision appears to be present is probably illusory anyway. It is best to divide the range between the highest and lowest values in each category into equal parts, the number being equivalent to the number of alternatives -- in your case, four. The lowest gets rank 1, the highest rank 4, but the others are assigned to whatever "box" they fall in. Using the totals in your Table 10, for example, Brownlee-Slatt Corridor 2 would get a rank of 1, but all the others would get rank 4, indicating their near-equality, which you pointed out in the meeting, rather than concealing it in simple linear ordering. These rankings could be used in the same manner as was suggested for the raw scores earlier.

When the totals are presented using this system, one can have some reason for thinking that the analyses were as reasonable and objective as possible rather than a posteriori rationalizations for a decision already made. It is possible to make bad judgements, but if the bases are clear they can be validated independently where necessary.

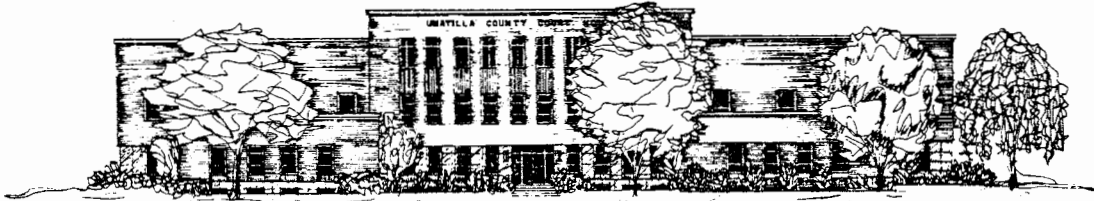
I must say that overall the BPA has not presented a very convincing case for the Buckley--Malin line. If the FP&L Midpoint--Malin line could not contribute to the desired west-to-east transmission capability because southwestern Oregon is a load rather than a source area, there is no reason I can identify for thinking the Buckley--Malin addition would either. You can undoubtedly justify the Brownlee-Slatt line on that basis, of course, but I do find it curious that, even though your table 10 shows its corridor 2 to have much the lowest impact (your conclusions), you still have chosen corridor 1. If someone goes through a great deal of effort to compare several alternatives and then chooses an alternative that the analysis does not show is best, the whole exercise is cast into doubt -- it looks very much like window dressing in order to comply with (that is, to appear to comply with) the law requiring comparisons. It does not make BPA look like a properly objective public trust.

Sincerely,



Richard M. Straw, Ph.D.
Consulting Biologist

Would it be possible for you to send me copies of the "Role EIS" and Appendix B, as well as the BPA FY 1979 Program Environmental Statement?



UMATILLA COUNTY PLANNING DEPARTMENT

Umatilla County Courthouse, P.O. Box 1427 Pendleton, Oregon 97801
Phone: 276-7111, Ext. 314

March 8, 1979

Southwest Oregon Area Service
Bonneville Power Administration
Walla Walla Area Office
P. O. Box 1518
Walla Walla, Washington 99362

Gentlemen:

The following comments are offered pertaining to the Brownlee-Slatt/Buckley-Malin 500 KV Transmission Line Draft Supplement Final Environmental Impact Statement, particularly Corridor I, passing through central and northwestern Umatilla County. Most of these concerns were verbally communicated to Dennis Maxwell of your Environmental Coordinator's Office in early February, 1979.

- (1) The east leg of the corridor starting at Kamela near the east Umatilla County line is within forest lands and in the pathway of several proposed recreational subdivisions. Also visible and suspected paths of the Oregon Trail are in the vicinity of several realignment proposals near Meacham, Oregon. Coordination with appropriate agencies (eg. State Forestry Department, State Highway Department) is recommended.
- (2) Near Emigrant Hill to the east of Pendleton the line traverses through the Umatilla Indian Reservation and suggest that communications and coordination be initiated between you and their planning offices.
- (3) South of Pendleton, east of Echo, and east of Stanfield, this corridor will pass through or be immediately adjacent to these cities' Urban Growth Boundaries. Possible impacts should be considered and as early in the process as possible.

- (4) Probably the greatest adverse impact this project could cause is the obstruction hazard to the Hermiston Airport. Expansion plans indicate improvement opportunities only to the east where existing unobstructive sky space is available. The City of Hermiston is aware of the situation and should be in contact with BPA.
- (5) Between Stanfield and the Hermiston Airport, the line may be impacted by a proposed irrigation project including canals and various pump station facilities. This project is very tentative to date but should be mentioned.
- (6) The northwest leg passes through the City of Umatilla's Urban Growth Boundary meaning existing or future urban impacts. In this same vicinity, the line passes near the Umatilla Game Refuge and goes through a proposed and rather large mobile home park (Haagen property). The park is currently in litigation and its likelihood of development is uncertain.

There are several other comments which we shall offer not discussed with Mr. Maxwell. We highly encourage use of common corridors with other utilities where they are located near each other. Common utility paths could be very useful near Meacham, where other major utility corridors exist and especially in light of your realignment plans here. Reduced amounts of timber would be taken out of production and private property would not be unnecessarily dissected and restricted of future land activity opportunities (eg. forest harvesting).

Corridor 2 runs through southern Umatilla County and would necessitate a new corridor. The only comment here is that for some reason(s) should corridor 2 be chosen the County would request ample time for review since County revenue generating timber would be removed from production.

Concluding, table 10 (opposite pg. III-30) within the impact statement, uses highly subjective values for intangibles and is therefore of dubious validity. We hope you apply more realistic documented criteria in the future when evaluating corridor impacts.

Thank you for the opportunity to respond.

Sincerely,



Bob Perry
Assistant Planner

cc: Board of Commissioners
Charles Davis, Transportation Planner, District 12

EDWIN J. STASTNY

STAR RTE BOX 24

MALIN, OREGON

PHONE 722-2338
723-4553

Mar 7, 1979

I am Edwin Stastny, Star Rte Box 24, Malin, Oregon
a potato, a grape grower, and game grower since 1937.

I hope this testimony will not fall on deaf ears
- some has in the past - where a majority of people
testifying has been superseded by inconscience to
a few game birds. One self proclaimed messiah whose
personal views have been taken above and in
reference to a majority of involved people who have
noted the areas for more than 50 years. I realize that
reference to this is not the object of this hearing
but I am trying to point out that the government
through its infinite "wisdom" is more interested in
dictating policies of their own making than supporting
the majority wishes and recommendations. It appears
our Secretary of Interior and Public Utilities Commission
have taken it on themselves to dictate to the majority
what is good for them in spite of testimony presented.

We as producers of food need more electrical
power funneled into this valley as quickly as possible
to take care of our present and near future needs.
The delays caused by do-gooders and investigations
have increased the already high costs of construction
of power lines into the valley. ~~and~~ Anyone can put
2 and 2 together and know that the consumer is the
one who will have to foot the bill. More costs - the
higher the rate - there is no way the power utility
will absorb the cost - they will pass it on.

Page 2

EDWIN J. STASTNY

STAR RTE BOX 24

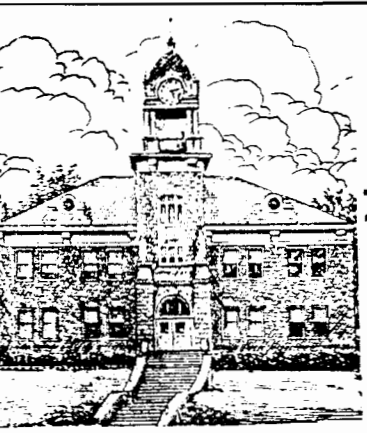
MALIN, OREGON

PHONE 723-2338
123-4533

The government can not construct a new line in the area cheaper than a private company nor can the government operate it for less money at such a price for a rate in which case it would be subsidized by the American taxpayer. Let's just suppose the government would build a line into the valley. The project completion date would be at least 2 years away. Time consuming surveys would have to be made, designs completed, impact studies made and finally approval of the project along with construction material purchases and other logistics and then include the slow, inefficient operation of our government bureaucracy. Add to this the mist of government contracts - attest the one with the Bureau of Interior Dept in the Klamath Basin whereby the farmers were to be free of the 160 Ac limitation if and when they paid their irrigation construction charges. The charges of many have been paid in full and the Interior Dept doesn't care to recognize their commitment. Much money and time have been spent in trying to get the government to fulfill its obligation.

I would recommend that the Pacific Power & Light Company, a private company, be permitted to forge ahead as quickly as possible and complete its own line, already approved, from their coal-fired plant in Wyoming to the Klamath Basin.

Edwin Stastny



MORROW COUNTY PLANNING DEPARTMENT

P. O. Box 541, Heppner, Oregon 97836
Phone 676-5030

DEANE SEEGER
Director

March 15, 1979

RE: Bonneville Power
Administration, 1979
Program, S/W Oregon

John Kiley, Environmental Manager
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

Dear Mr. Kiley:

The Morrow County Planning Commission and the County Court has reviewed the draft report on the "Brownlee-Slatt Corridor" and have concluded that the routes as shown are not compatible with our comprehensive plan.

We there-fore are proposing another route for your consideration, that of relocating the power lines across the top of the Navy Bombing Range, south of Boardman. This area is proposed as a main corridor for utilities and transportation.

I will be sending you maps and additional information to back up the policy statements of our legislative bodies.

Sincerely,

Deane Seeger
Planning Director

LATE LETTER

P. O. Box 32
Prairie City, Oregon
March 20, 1979

Walla Walla Area Manager
Bonneville Power Administration
P. O. Box 1518
Walla Walla, Wash. 99362

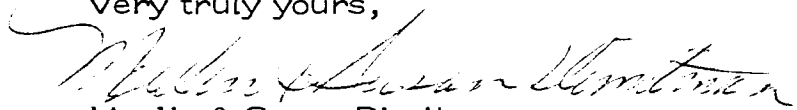
Dear Sir:

With reference to the proposed construction of two 500 kilovolt transmission lines, we are AGAINST BROWNLEE GRIZZLY 1 & 2 routes. Such a power line through Grant County would result in:

- Loss of commercial timber & consequent jobs/money;
- Adverse impact on wildlife;
- Cosmetic & visual loss -- especially along the John Day River-- important for tourism and fishing;
- Loss of integrity of roadless areas;
- Erosion of soil and its consequences.

The enclosed letter recently printed in the Blue Mt. Eagle expresses our feelings very well. We cannot afford these power lines in Grant County!

Very truly yours,



Merlin & Susan Dimitman

cc: Gov. Vic Atiyeh
Sen. Mark Hatfield
Sen. Bob Packwood
Congressman Al Ullman

No Power Lines

To the Editor:

Two past issues of *The Blue Mountain Eagle* have carried information about a proposed construction of two 500 kilovolt transmission lines. It is a very real and unpleasant possibility that one of these lines will go through Grant County.

The Environmental Impact Statement published by the Department of Energy indicates several conclusions.

One, the proposed construction would be detrimental to the logging industry, cutting wide swathes of bare land through timberland that could not be reclaimed as a timber resource. Corridors are up to two miles wide.

Second, necessary roadways and construction could alter the course of some creeks and possibly change sub irrigation patterns. The impact statement notes that "the impact on water resources would be moderately high to high because of encounters with surface water features, and the high potential for physical disturbance from construction." This would be harmful to many ranches.

Third, the stark, massive appearance of 500 kilovolt towers and power lines would detract from the natural beauty of Grant County. This would hurt the tourist industry.

Fourth, the corridors necessary for the power lines cross several important elk, deer and pronghorn antelope habitats. The impact statement reports that damage would be "high due to the sensitive wildlife areas crossed."

Last, Bonneville Power Administration admits, in its Impact Statement, that the lines through Grant County would not be as effective and would

have more power loss than their other choices.

Economically, the construction of these power lines would only "take" from Grant County - in terms of logging, ranching, hunting and tourism. The returns are very little for the county. It is estimated that 57 to 83 "local" people will be hired for a period of 20-28 months. However, "local" is referring to an area of 14 counties in eastern Oregon!

In summary, Grant County would be losing very important assets, only to provide power for a concentrated population in another part of the state. According to the Bonneville Power Administration map, this need is in southwest Oregon, and extends to Malin, on the California-Oregon border.

As a point of interest, farmers in the Midwest recently fought a similar battle. They believed that the power lines created a serious stress situation affecting crops, animals and themselves. They lost their battle.

Please send your concerns to the Bonneville Power Administration, Environmental Manager's Office, P.O. Box 3621, Portland, Ore. 97208. Also, let your local government know your feelings. The deadline is March 12.

Sincerely,

Mark and Adele Cerny
Concerned Grant County Landowners

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101REPLY TO
ATTN OF:

M/S 443

MAR 22 1979

John Kiley, Environmental Manager
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Kiley:

We have completed our review of the draft facility planning supplement, Southeast Oregon Area Service, to the Fiscal Year 1979 Program Environmental Statement. We have examined the supplement in conjunction with the overall programmatic environmental statements.

We submit the following comments for your consideration.

NEED IDENTIFICATION

The supplement's Note to Reviewers indicates that need identification is a primary purpose of a facility planning supplement. We believe that this complex issue should be discussed in much greater detail.

BPA's annual Program Statements generally reflect a long-range planning outlook. However, this supplement is the first time this proposed system addition has been mentioned. For example, Figure 1 of the Proposed FY 1979 Program FEIS indicated a number of main grid additions through 1996, but the new lines addressed in the planning supplement are not included. These lines will greatly expand the effective service area of BPA. In addition, it appears that these lines will also allow additional power transmission to all of California.

There is also some controversy as to whether additional power supplies will be needed to serve southern Oregon in the reasonable future. This may be a good place to implement Section 1502.9(a) of the new CEQ regulations. That section states that an agency shall make every effort to disclose and discuss at appropriate points in the draft statement all major points of view on the environmental impacts of the alternatives including the proposed action.

LATE LETTER

The supplement should discuss the impact of the various proposals on the regional power supply system. In quantitative terms, what capacity for power transmission is needed in which areas over what period of time? What assumptions have been made in this forecast? How do developing population distribution, energy usage and energy supply trends affect this forecast? The rationale for west to east transmission capacity needs should be discussed. How are the existing facilities currently dealing with these demands?

The information contained in the discussion of alternatives should be expanded. We have checked with BLM and no ROW permit has been issued yet for the PP&L line. We feel that BPA's EIS is an appropriate place to compare in detail the four BPA alternatives, (including an additional line for McNary Dam where necessary), the PP&L line, a combination of the PP&L line and some new BPA lines, and a no action or no new line alternative. This expanded comparison should include dollar costs, environmental and land use costs, and ancillary benefits, such as degree of system reliability.

RIGHT OF WAY

There are two aspects of the potential use of existing rights of way (ROW) that need to be clarified.

The statement summary states that the proposed plan of service would not require any new ROW. However, maps of the existing BPA grid in the programmatic statements indicate transmission lines only as far west as LaGrande. The supplement should indicate, by either mileage or percentage, the extent of the use of existing ROW for each alternative.

We feel that the effects of expanded use of an existing ROW should be addressed. The width of the existing ROW, the type of transmission lines present, and known problems along these corridors should be specified. The aesthetics, agriculture, and wildlife impacts are some of the critical factors which would determine the acceptability of expanded use of existing corridors.

SUMMARY

We hope that these issues will be addressed in the Final Planning Supplement. Please note that the issuance date for the final supplement was not indicated within the overall project schedule on page 1.

Because the supplement does not clearly define the needs nor completely evaluate the alternatives, we are rating this statement ER-2 (ER - Environmental Reservations; 2 - Insufficient Information). This rating

LATE LETTER

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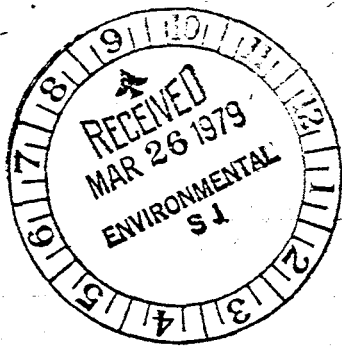
will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act, as amended.

We appreciated the opportunity to review this draft environmental impact statement. Please do not hesitate to contact me or Judi Schwarz of my staff, should you have questions or desire further information regarding our comments. We can be reached at (206) 442-1285 or (FTS) 399-1285.

Sincerely,

Alexandra B. Smith

Alexandra B. Smith, Chief
Environmental Evaluation Branch



LATE LETTER

Lore Bensef

220 S. Court

Pineville, Ore 97754

March 21, 1979

Dear Mr. Kiley,

I have discovered recently that BPA wants to construct two 500kV lines in Eastern Oregon. You had a meeting in Bend on March 8th but you did not publicize it. I read "The Newspaper", Pineville's weekly, and did not see any notice of the intent of BPA to build the transmission lines or of the meeting. I would have attended that meeting if I had been informed of it. A project of this magnitude, environmental and economically, should have received proper publicity. The BPA should have had news releases to all the newspapers, radio and television stations in Oregon. If a newspaper etc., chose not to write an article on the subject, the BPA should have purchased a small advertisement. All public agencies have the responsibility to inform the general population of activities that have effects on them even to the point of advertising. The responsibility is extended when an Environmental Statement is prepared. The BPA has failed miserably in this responsibility to the public concerning the 500kV lines. I must question whether the Final Environmental Statement is legal since local public input was not aggressively pursued on the Draft ES.

I work in the forest industry and so I am strongly opposed to removing any timber land from production for such a worthless

LATE LETTER

cause as 500kv transmission lines. My opposition however is not limited to monetary reasons. I also object to the project because of the high detrimental impacts it will have on wildlife, water, scenery, wilderness (roadless areas) and people. 500kv lines produce such extreme damage to society and the environment that there is no excuse for constructing them.

The BPA says that Southwestern Oregon "needs" the power. I do not think that this is actually true, but for the sake of discussion let us assume it is. If BPA would spend as much money on conservation projects as they will on construction of the 500kv lines, then the "need" would be greatly reduced. Solar and wind power is available in SW Oregon if BPA would choose to develop it. You should and thus supply the "needed" electricity. The electricity coming from Wyoming is "coal power" It is a polluting, raping type of power that many people like myself object to and would not want to use. Certainly "coal power" should not be encouraged using it to supply the "need" in Oregon.

Please send me any information you have on the 500kv lines project. I would also like a personnel response to this letter; reactions, and informing me of the BPA's attitude on the ideas, concerns, and objections I have presented in this letter.

Sincerely,

Lore Benschel

CONFEDERATED TRIBES

of the

Umatilla Indian Reservation

P. O. Box 638

PENDLETON, OREGON 97801

Area Code 503 Phone 276-3165

March 22, 1979

Mr. Harold M. Cantrell
Department of Energy
Bonneville Power Administration
Walla Walla Area Office
P.O. Box 1518
Walla Walla, Washington 99362

Dear Mr. Cantrell,

We have had our staff review the environmental impact statement dated January, 1979, for the Southwest Oregon Area Service Project and consider the information we received at our March 19th meeting with you and Mr. Frick.

The matter of greatest concern to us is the selection of the Brownlee-Slatt Corridor 1 alternative which would route the proposed new lines through the Umatilla Indian Reservation. It is our understanding that this alternative would require an 85 foot expansion to the existing right of way for a length of nine miles through the reservation at a minimum.

This alternative would impact some 27 Indian allotments involving some 150 owners as well as many parcels of fee land. Of obvious concern are the impacts the construction would have on timber, grasses, fences, roads, water quality and wildlife, especially big game animals.

Because the final route selection has not been made and because we understand that an impact statement will be prepared and released specifically on the selected routes, we would like to reserve any detailed comments until that selection has been made and we have an opportunity to review the impact statement.

LATE LETTER

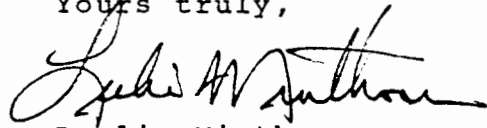
Mr. Harold M. Cantrell
March 22, 1979
Page 2

As was indicated at our meeting, tribal and Bureau of Indian Affairs personnel will be available to accompany your engineers on reconnaissance surveys on the reservation. Such coordination will greatly facilitate the preparation of our comments.

We appreciate your meeting with us on the 19th of March and would request that you keep us advised of progress on the route selection. Once the selection is finalized, perhaps we can again arrange to meet and discuss any concerns that we may have.

Thank you.

Yours truly,



Leslie Minthorn
Chairman

LM/pn

LATE LETTER

March 24, 1977

Donneville Power Administration
P.O. Box 3021
Portland, Oregon 97208

Dear Sir:

Speaking as a Grant County resident and
homeowner, I am opposed to any powerline
in the county. The 520 KV powerline
would be very damaging to the wildlife,
timber, watershed and scenic resources values
in the county. The damaging effects of
the proposed Brauner - Grizzly Corridor
was documented in the environmental
impact statement.

Any future powerlines should be built
along existing transmission line routes.
Also, the actual need for the power should be
carefully determined. Much less power would
be needed if conservation of energy was
promoted more by power companies.

Sincerely,

Ron Garcia
412 Hillcrest Park
John Day, Oregon 97845

LATE LETTER



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER-79/143

MAR 26 1979

Mr. Sterling Munro
Administrator
Bonneville Power Administration
Department of Energy
Post Office Box 3621
Portland, Oregon 97208

Dear Mr. Munro:

The Department of the Interior has completed its review of the draft environmental statement for Southwest Oregon Service Area. We have the following general and specific comments.

General

While we generally favor the maximum use of existing rights-of-way in order to minimize adverse visual and cultural resource impacts, it appears that BPA has picked a route and will present additional information on this route only in the later location supplement. We feel this is insufficient on a proposal of this magnitude. This document should contain such information at this time.

Where use of existing rights-of-way are not possible, the location supplement should carry a full explanation. In such cases, generally we favor paralleling existing rights-of-way to minimize adverse impacts. Where new rights-of-way are necessary, there should be a full explanation in the location supplement. We urge maximum use of the "PERMITS" system for locating new rights-of-way and of mitigation measures to reduce adverse impacts.

A complete lack of detailed information makes it difficult to weigh alternative routes or even compare BPA's proposal to PP&L's line. As an example, approximately 845 miles of power line are discussed, but only four pages deal with the wildlife resource. Similar skimpy information is provided for other resources.

No estimate is given on the amount of timber harvest that would be required. No economic analysis has been made of forestry, both from the short-range and long-range view.

No estimate is given for the miles of new road that would be required for various routes. No estimate is given on acres of critical deer and elk winter range near the routes nor estimated numbers of animals using these areas. In other areas the coverage of fish and wildlife is generally adequate. However, because of the lack of site-specific data, some conclusions relative to impacts on fish and wildlife may be underestimated. These shortcomings should be identified in the draft location supplement BPA has scheduled for review during the summer of 1979 (page 1). The location supplement will permit an analysis based upon site-specific construction criteria which can be related to fauna and flora and associates ecosystems.

It is noted that all route options cross streams and wetlands subject to special consideration under various regulations. Accordingly, our comments do not preclude an additional and separate evaluation by the Department's Fish and Wildlife Service, pursuant to the Fish and Wildlife Coordination Act (18 U.S.C. 661, et seq.), if eventual project development requires a permit from the U.S. Coast Guard and/or the Corps of Engineers under Sections 9 and 10 of the Rivers and Harbors Act of 1899 and Section 404 of P.L. 92-500. All such permits are subject to separate review by the FWS under existing statutes, executive orders, memorandum of agreement, and other authorities. In review of permit applications, the FWS may concur, with or without stipulations, or object to the proposed work, depending on specific construction practices which may impact fish and wildlife resources. Executive Order 11990 pertaining to the preservation of wetlands would also require careful planning to prevent the loss of these valuable resources.

There are no indications in the document that the requirements of 36 CFR 800 and Section 106 of the National Historic Preservation Act have been met as regards the assessment of the potential impacts to cultural resources.

There are no graphics or narrative referring to corridor miles of various resources impacted by the several corridors. Miles of forest, agricultural lands, range lands, private lands, scenic qualities, wildlife habitat, stream crossings, soil data, etc., are factors needed to weigh impacts on one route against impacts on another.

LATE LETTER

-3-

Site specific investigations should be made on all proposed major roadways and tower locations to minimize the disturbance and the results reported.

The text does not indicate if there are any areas of critical environmental concern. This would help in further assessment. The lack of detail and comparison of resources affected makes it impossible to weigh or evaluate the alternative routes. This situation is true not only environmentally, but economic comparisons are non-existent, as is a discussion of how well each proposal would fulfill the system requirements.

Of particular and immediate concern is the relationship between the various BPA proposals and the PP&L project. The discussion on pages 2 and 3 indicate the BPA plan is superior to PP&L, but there is absolutely no economic cost or environmental cost comparison between them. Both Idaho and Oregon PUC's have already granted certificates to PP&L, and the Department's Bureau of Land Management is close to granting rights-of-way to PP&L. If BPA's plan is indeed superior to PP&L's, the time to demonstrate it should be now before PP&L constructs their line. This draft supplement is severely lacking in this area.

Since there is a distinct possibility that the PP&L line will be built from Mid-point, Idaho, to Malin, Oregon, the draft supplement should discuss the effect such construction would have on BPA's overall proposal. The draft should also discuss the effect PP&L's construction would have on other features of BPA's proposal such as the Brownlee-Slatt or Brownlee-Grizzly connections, one of which BPA says must be built someday to reinforce the west to east power transfer in support of the Middle Snake Region's needs.

The document is too general in assessing the environmental impacts of the Brownlee-Grizzly Corridor 2 Alternative, which appears to cross the northern portion of BLM's Burns and Vale Districts. The scale of map, and lack of a land survey grid, makes it impossible to determine what parcels of public lands might be impacted by the corridor.

The Department's Bureau of Reclamation would like to point out that the approximate corridors identified in the subject statement could impact potential water storage sites or stream fishery habitat improvement measures presently under investigation in the Lower Deschutes, Upper John Day, Umatilla, and Grand Ronde river basins. Once the location supplements are received, we should be able to define more specifically the impacts on these studies.

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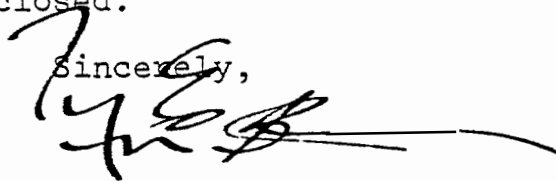
The statement should address the topic of groundwater and assess the potential for both direct and indirect impacts of the proposed project on groundwater resources.

The Umatilla Indian Reservation, which may be impacted by the Brownlee-Slatt Corridor 1 Alternative, has the following general concerns.

1. All disturbed areas should be reseeded to adaptable grasses as soon as practical after disturbance.
2. All existing closed roads that are opened and all new roads should be closed after construction.
3. All fences disrupted during construction must be repaired and placed in good working order.
4. All stream crossings should be coordinated with the Fish and Wildlife Service and sediment movement must be kept to a minimum.

Our specific comments are enclosed.

Sincerely,



Assistant Secretary
Larry E. Meierotto

Enclosure

LATE LETTER

SPECIFIC COMMENTS

Page 2, Description of the Proposal, last Paragraph. The BPA proposal would likely result in more, not less, overall environmental impacts than the PP&L proposal. The proposed BPA routes cross many forested lands which would require extensive clearing of rights-of-way. The PP&L proposal crosses range lands which would not require extensive clearance or major changes to the environment. The document is not adequate to base the observation that the BPA proposal would likely result in less overall environmental impacts than the PP&L proposal.

Pages 3-4, System Requirements. The final supplement should discuss the need for the proposed facilities in more detail. In particular, the discussion should explain the degree to which anticipated new industrial users have influenced load forecasts. The alternative of locating high industrial users, such as the aluminum industry, closer to power sources should be explored.

Pages 4-6, Proposed Plan of Service. For clarification, we suggest that all existing, proposed, and alternate rights-of-way be identified on one map in the final planning supplement. The location supplement should give locations and mileages showing where the proposed rights-of-way will: follow existing rights-of-way, parallel existing rights-of-way, and follow new rights-of-way. For the latter two situations, the location supplement should carry a full explanation.

Following page II-2. The map showing land ownership in the study areas of the Brownlee-Slatt and Brownlee-Grizzly Corridors (Figure 6) should be modified to include lands administered by the Department's National Park Service in John Day Fossil Beds National Monument.

Page II-3, Geology, Soils & Minerals. More information is needed on soils. Table 2, Physical Descriptions of Landforms, notes such things as "locally unstable areas," "erosion potential" or "locally high wind erosion" but goes no further to identify these areas.

Page II-4. Mineral recovery has been an important segment of the economy of some of the areas along the transmission line corridors. Although mining districts and mineral resources are briefly discussed, it would add to the report if mining districts and important mineral resource sites within five miles of the proposed corridors were shown on a map. In addition to the minerals listed on page II-4, manganese, asbestos, diatomite, stone, and sand and gravel have been produced. Our files show that production has come from 28 properties near or within the proposed corridors.

Page II-7, last 2 paragraphs. These paragraphs indicate that no endangered or threatened plant species are known to occur in the study areas. This does not adequately cover the endangered-threatened plant species issue since detailed surveys have not been conducted on the routes being considered. From the information available, the FWS has prepared a list of the proposed endangered plant species which occur on or near the BPA rights-of-way for the four proposed corridors. This list will be provided for preparation of the final planning supplement.

In addition, the final facility planning supplement should acknowledge that detailed planning will conform with requirements of the Endangered Species Act Amendments of 1978, Section 7(c), which requires Federal agencies, with respect to actions for which no contract for construction has been entered into and no construction has begun on the date of enactment, to ask the Secretary of the Interior in writing whether any proposed or listed species are present in the area of any such action.

If the agency is notified by the Secretary that listed or proposed species may be present, the Federal agency is required to conduct an ecological assessment. The assessment should concentrate on determining whether or not any proposed or listed species or their habitats are likely to be adversely affected by the agency action. The ecological assessment is submitted to the FWS upon completion.

Page II-8, Wildlife, paragraph 3. The Cold Springs and McKay National Wildlife Refuges should be included as in the general Brownlee-Slatt portion of the planning study area. The last sentence states that the Brownlee-Grizzly and Buckley-Malin corridors do not cross wildlife areas. The statement should be expanded to give comparable coverage to the two Brownlee-Slatt options and the relationship to National Wildlife Refuges (see page III-2, paragraph 1).

Page II-II, Forestry. We question the relationship of the stagnation theory of timber management to the powerline proposal.

Pages II-12 to 15 and III-20 and 21, Esthetics; and Figure 14, Visual Impact Map. The esthetics section is poorly addressed. Such comments as "Scenic quality is moderate to high" are inadequate. There should be specific areas noted that have A, B, C, etc., scenic quality so proper mitigation could be initiated. Where are the areas where skylining will be an intrusion? Where are the areas where new roads are to be built? Where are areas removal of vegetation will create

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high impacts, not only visual, but to soils and wildlife habitat? Where are the sensitive areas located where highways and large numbers of people will see these lines? The map (Figure 14) is too general.

Page II-15 (12) Malin Substation. The dominant vegetation is juniper with a scattering of pine.

Page II-16, Recreation. Reference to the National Trails System (third paragraph) should be corrected. The Oregon Trail recently has been designated the Oregon National Historic Trail and included in the National Trails System (P.L. 95-625, Title V, Subtitle B, Section 551(9)).

Pages II-16, III-21 to 23, Recreation. The discussions of roadless areas should have noted that BLM was in the process of identifying roadless areas as a preliminary to identifying areas with wilderness characteristics at the time the draft supplement was being prepared.

Maps of BLM-administered roadless areas are available for review in BLM district offices and the Oregon State Office. A printed version of the maps will be sent to BPA, other agencies, and the public this spring. We suggest the potential impact of the proposed project on these roadless areas be discussed in the final supplement.

Any transmission line proposing to cross one of BLM's inventoried roadless areas which has wilderness characteristics would be held up for lack of a right-of-way permit pending Congressional action on establishing or declining to establish the area as a formal wilderness. The Federal Land Policy and Management Act prohibits an intrusion which might affect the wilderness characteristics of BLM roadless areas until the Congress has had time to review and act.

Pages II-16 and 17, Historical/Archeological. The location of known archeological sites, historic sites, Indian and historic trails are not shown and should be.

Following page II-16. Recreational sites should be located on Figure 12. For instance, will Magone Lake be impacted by Corridor 1 if the Brownlee-Grizzly powerline proposal is chosen? Only the most well known sites are shown, but the lesser ones are not.

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Pages III-1 through III-31. The segment of the proposed corridor through the Blue Mountains should be considered as especially sensitive because of potential impacts on esthetics, recreation, and the Oregon Trail. We particularly urge maximum use of the existing rights-of-way here, together with other mitigating measures. The location supplement should contain a quantified, illustrated, and detailed description of impacts for both proposed corridors and should give particular attention to the Blue Mountain segment. Relative impacts of the proposed and alternate rights-of-way should be compared quantitatively.

Brownlee-Grizzly Corridor No. 1 appears to cross the Ochoco Divide Research Natural Area, a site identified as a potential National Natural Landmark. Impacts should be described in the final planning supplement and in detail in the location supplement. A description of the site taken from the Columbia Plateau, Biotic Theme Study, follows:

Ochoco Divide Research Natural Area

Location: Wheeler County, Oregon, Sec. 28, 29, 30, 31,
33-T12S-R20E Lawson Mountain Quadrangle

Size: 1920 acres (777 ha)

Natural Features: Vegetation types listed as included:
Juniperus occidentalis/Festuca idahoensis
Pseudotsuga menziesii/Calamagrostis rubescens
Abies grandis/Calamagrostis rubescens

Current Land Use: No destructive use permitted.

Vulnerability: Class D (None)

Recommendation: Class 1 (Highly recommended) Owing
largely to the inclusion of
Abies/Calamagrostis forest.

Source of Data: Franklin, J. F. et al. 1972.

Knowledgeable Person: Pacific Northwest Forest and Range
Experimental Station, Box 3141, Portland, Oregon.

Relevant Publications: None

Ownership: U.S. Forest Service

Page III-4. Although we generally agree with the evaluation that the transmission lines probably would not affect present or future mineral extraction in any of the mining districts, we believe it would be better to phrase it in terms of no impacts on known mineral resources in those districts. Also,

the statement to be consistent with the draft environmental statement for BPA's proposed FY 1980 program should say that known commercial deposits of low-unit value materials (e.g., sand and gravel) will be avoided whenever possible when selecting line or route locations.

Page III-7, Vegetation. The draft statement says that trees will be cut. This should be quantified.

Pages III-7 and 8, Vegetation. The assumption that all lands are overgrazed is incorrect. Also, the assumption that cheatgrass, rabbitbrush, and russian thistle dominate the vegetation is incorrect. Offroad vehicle use of existing roads will cause more soil damage than plant damage.

Pages III-8 and 9, Buckley-Malin Corridor. How many board feet of timber will be cleared from the right-of-way? This may not be minor to the Lake County economy. How many acres will be removed from timber production during the life of the facility?

Page III-9, Wildlife. This section indicates that no adverse impacts to "endangered or threatened" wildlife are expected. Because of the preliminary nature of the route, these conclusions are not warranted, especially in view of the values placed upon individual nesting sites, etc., of such species as the bald eagle. Similar conclusions for other wildlife could also be overly optimistic since final routing could identify areas where losses could be excessive. These possibilities should be acknowledged.

Page III-20, Esthetics. The draft supplement states that visual impacts associated with the Brownlee-Slatt Corridor 1 are the greatest encountered for any corridor. It is not clear whether this impact is already present because of existing transmission lines or if it will result entirely from the project. The final supplement and location supplement should distinguish between existing and new impacts caused by the project. The location supplement should describe these impacts in depth.

Following Page III-20. We do not agree with the "Common" rating given to visual quality for the entire study area (Figure 14). Portions of the proposed and alternate corridors, particularly those through the Blue Mountains and along the John Day River, should be upgraded to "Distinctive." The Brownlee-Grizzly Corridor 2 route has moderate sensitivity rating and visual impacts would be moderate to high in the section that traverses the BLM's Vale District (basically that part of the line in Malheur County).

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Pages III-21 through III-23, Recreation. Impacts of noise produced by proposed transmission lines should be described, particularly in the location supplement. The levels of sound should be quantified for different conditions and distances from the source. Impacts on recreation activities, particularly those in normally quiet "back-country" areas, should be described.

Page III-23, Brownlee-Grizzly Corridor 2. This proposed alternative route may pass through an inventoried roadless area in the vicinity of T. 16 S., and T. 17 S., R 38 E., W. M. Without a more detailed map it is impossible to assess whether or not the route will by-pass the roadless area.

Pages III-23 through III-26, Historical/Archeological. The draft supplement states that 36 CFR 800 procedures will be followed. However, the discussion fails to place enough importance on the Oregon Trail. Implementing 36 CFR 800 procedures must include identifying Oregon Trail segments and associated historic sites within the project's zone of influence that are eligible for inclusion in the National Register of Historic Places.

On page III-24, the supplement states that consultation with the State Historic Preservation Officer has taken place. We suggest that, pursuant to 36 CFR 800, a letter of concurrence from the SHPO be made a part of the final document. Also that results of the archeological survey (discussed on page III-25) be made a part of the final document.

On page III-24, last complete paragraph, is a statement that in most areas there are no visible signs of the Trail. This is a serious error. Through the Blue Mountains, where the proposed corridor closely follows and apparently crosses the Oregon Trail, discontinuous ruts still remain along five high-potential trail segments totalling 31 miles. Three of these were rated high and two were rated medium in scenic quality in the Oregon Trail Study Report and map supplement (Bureau of Outdoor Recreation, 1975; referenced in the draft supplement). All five segments were rated high in interpretive potential, and several trail-related historic sites are present in the area. These are described in the Bureau of Outdoor Recreation study report. Other high-potential Oregon Trail segments apparently will be crossed by the Brownlee-Grizzly alternative.

Page III-27, Midpoint-Malin-Medford 500-kV Line. Previous testimony of BPA supported PP&L's Midpoint-Malin proposal, but now BPA has changed, saying the BPA proposal serves energy needs better. There is no economic analysis to back up their claims or to even compare the impacts of the proposed route.

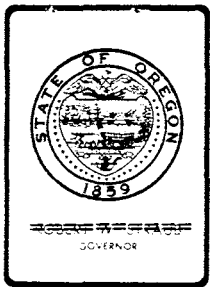
Page VI-1, Planning Coordination. In the listing of Federal agencies contacted by BPA, the Bureau of Land Management is listed. To clear the record, BLM was not consulted and, in fact, was not aware of the project until the proposed facility was shown on a map (Figure 1) in BPA's August 1978 draft statement for the Proposed 1980 FY Program, which was not received until October, 1978. We suggest the final statement correct this error.

LATE LETTER

Department of Fish and Wildlife

OFFICE OF THE DIRECTOR

506 S.W. MILL STREET, P.O. BOX 3503, PORTLAND, OREGON 97208



Victor Atiyeh
Governor

April 5, 1979

Environmental Manager
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Dear Sir:

We have completed our review of Bonneville Power Administration's Proposed Fiscal Year 1979 Program Facility Planning Supplement. The four corridor route options to transmit power from Wyoming to Southwest Oregon are of particular concern to us. Following are some specific comments we have regarding each proposed route.

1. Brownlee-Slatt Corridor 1 - This is the preferred route and in our opinion would have the least impact on fish and wildlife resources since it would occupy an existing transmission line corridor. This new power line, however, would require clearing an additional 90 feet of right-of-way creating a 250-foot path through the timbered areas. The wider corridor increases animal exposure and makes them more vulnerable to hunting or harassment. We recommend that vegetation be allowed to reach 15 to 20 feet high, and all disturbed areas be reseeded. Riparian habitat adjacent to creek and river crossings should not be disturbed except to remove a tree that would reach the conductors. Transmission towers and poles should be located at least 50 feet from any waterway.
2. Brownlee-Slatt Corridor 2 - This route would cross through some of the best elk range in Northeastern Oregon. Considerable hiding and thermal cover would be removed significantly impacting wildlife and plant communities. Since this route would cross through semi-remote areas it would also measurably reduce recreational and aesthetic values.
3. Brownlee-Grizzly Corridors 1 and 2 - These routes would impact deer and elk by removing thermal and hiding cover. Also, it appears that Corridor 2 will cross the Murderer's Creek Wildlife Management Area and could influence habitat development in the management area. Corridor 2 passes either near or through the Strawberry Wilderness and the aesthetic impact would be considerable. These two routes are the least desirable from a fish and wildlife standpoint.

In summary, all four routes cross the Blue Mountains and will impact deer and elk habitat. The Brownlee-Slatt Corridor 2 and Brownlee-Grizzly Corridors 1 and 2 will have the greatest impact on wildlife. The Brownlee-Slatt Corridor 1 and the proposed Buckley-Malin route follow existing transmission line corridors and should not significantly increase wildlife disturbance.

We appreciate the opportunity to review and comment on this impact statement and ask that further planning, route selection and construction of this facility be coordinated with our department.

Sincerely,



James B. Haas, Chief
Environmental Management Section

JBH:ek

