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Canby Area Service Project

Environmental Assessment

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ENVIRONMENTAL ASSESSMENT

CANBY AREA SERVICE PROJECT
Substation and Associated Transmission Line

U. S. DEPARTMENT OF ENERGY
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

February 1992

MASTER

APPROVED FOR THE DEPARTMENT OF ENERGY

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1.0 PURPOSE AND NEED FOR ACTION

Bonneville Power Administration (BPA) provides power to Surprise Valley Electrification Corporation (SVEC) in Modoc County, California. BPA uses PacificCorp's substation and transmission facilities between Alturas and Canby, California to transfer power to SVEC's Canby Substation. In the next year, SVEC expects increased industrial, agricultural, and residential electric loads on their 69-kV transmission system south of Canby. SVEC's substation can accommodate only about 10 percent of the expected additional electric load. BPA's proposed action is intended to meet SVEC's increasing electric load.

2.0 ALTERNATIVES

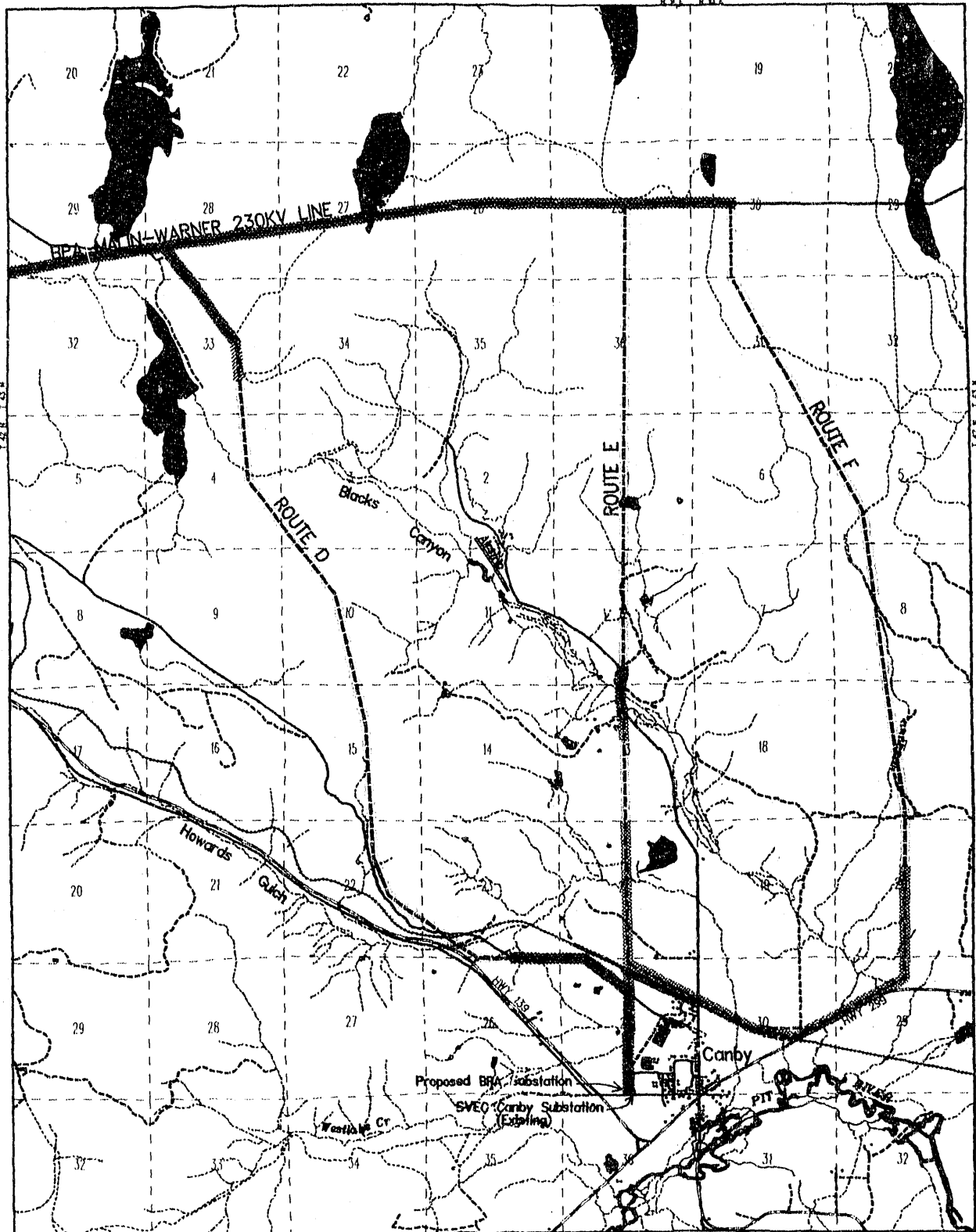
2.1 Proposed Action

BPA proposes to meet SVEC's increasing energy load by tapping into BPA's existing BPA Malin-Warner 230-kV transmission line, and building a 7.9-mile transmission line to a new BPA substation. BPA proposes to build the new substation next to the west side of SVEC's Canby Substation (Figure 1). This new substation will allow SVEC to move the additional power over their existing transmission or distribution lines.

To build the new substation site, BPA would purchase a 3- to 4-acre parcel of land. Substation equipment would be contained within a 190-foot by 300-foot (1.3 acre) fenced yard. The substation would include dead-end structures, switches, switch supports, two transformers, a control house, a circuit interrupter, and various buswork and pedestals. One transformer would hold 7,700 gallons of insulating oil; the other 180 gallons. Since the oil contains less than 5 parts per million (ppm) of polychlorinated biphenyls (PCBs), BPA considers it PCB-free. A system to contain any oil spilled would be built beneath the large transformer.





To tap into the existing Malin-Warner 230-kV transmission line, BPA proposes to install disconnect switches and supports on the line. From this tap, BPA proposes to build a new 230-kV transmission line on Alternative Route D, which runs southeast from the Malin-Warner 230-kV transmission line, east of Duncan Reservoir, to the new substation site (Figure 1). Route D is 7.9 miles long.

Except for the southernmost 2.8 miles of the transmission line, BPA would use wooden H-frame structures with three conducting wires. The south segment of the line would be supported by wooden single poles (see Figure 2). The section of the line that uses H-frame structures will require a 115-foot right-of-way. Single poles require a 75-foot right-of-way. Distances between structures would average 750-feet for the H-frame structures and 400-feet for the single poles. Therefore, fewer structures are needed on the H-frame section of the line. Single poles would be used in farmland because they minimize interference with farming activities and crop production. To provide lightning protection near the substation, an overhead ground wire would be installed on the structures from the substation north for one mile. To build and maintain the line, BPA would construct 5.1 miles of 12-foot wide access road with a cinder base surface (Figure 1).



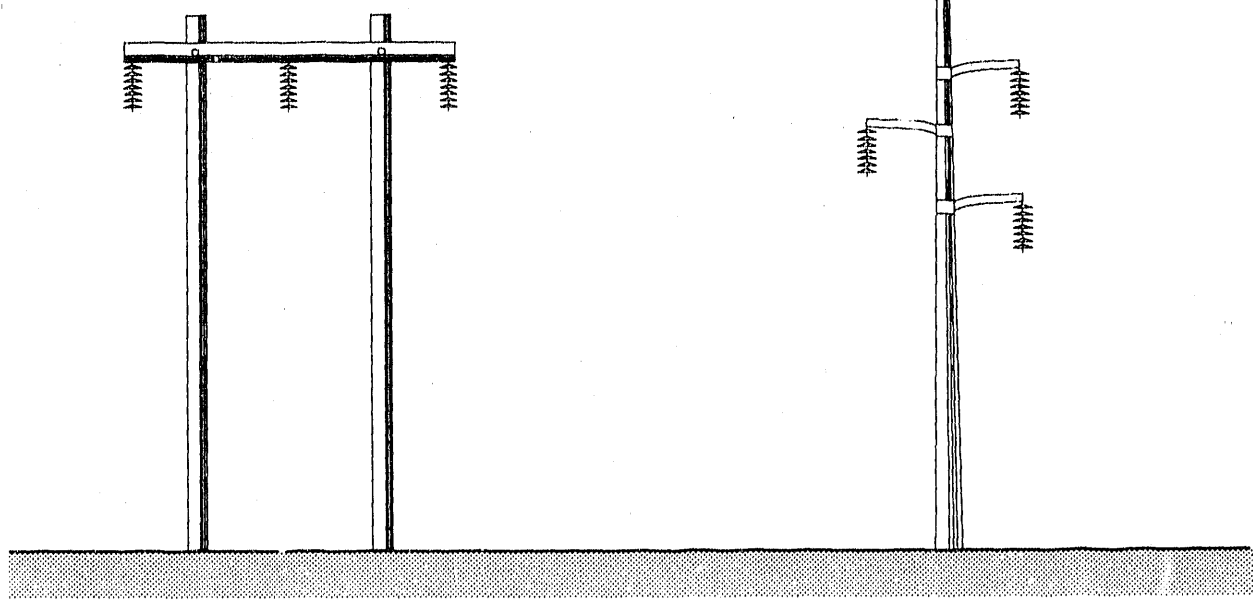
CANBY AREA SERVICE PROJECT TRANSMISSION LINE ROUTES AND ACCESS

Figure 1

- LEGEND**
- | | |
|---|---|
|  Build new road |  Improve existing road |
|  Build new road (no permanent surface) |  Use existing road |



Source: Bonneville Power Administration, 1991



230-kV wood H-frame

average height 70'
average span 750'

230-kV wood

average height 75'
average span 400'

Figure 2
Structure Types
Canby Area Service Project

BPA would use a helicopter to start stringing the conducting wires. A 25-person construction crew would complete the project using various trucks, truck-mounted equipment, and tracked vehicles.

The transmission line will meet load growth needs in the area. Similarly, the 3- to 4-acre substation site will be sufficient to meet future substation expansion needs.

2.2 Summary of Scoping and Identification of U.S. Forest Service Concerns

On April 23, 1991, BPA sent letters to potentially affected landowners and agencies asking for their concerns about the proposed project. BPA also held a public meeting in Canby, California on May 1, 1991. At this meeting, attendees reviewed the substation site and two preliminary transmission line routes (Routes D and E). They suggested three additional routes (Routes A, B, and C). BPA and the U. S. Forest Service (USFS) held Interdisciplinary Team (IDT) meetings on July 25 and August 15 to examine the proposal and alternatives. The USFS identified an additional route (Route F) to consider. On September 12, BPA held a second public meeting to accept comments from landowners and agencies on all six routes. On June 4, 1991, BPA also mailed a letter that described the project and requested comments to potentially interested groups, such as sportsmen's groups.

At the IDT meetings, BPA and USFS identified the following resource areas as critical: 1) visual, 2) wetlands, 3) threatened and endangered species, 4) special status plants and animal species (such as USFS-listed sensitive plants), 5) archeological and historical sites, 6) irrigated farmland, and 7) commercial timber land. The IDT also classified constructing access roads (with a potential for impacts on wildlife), and local residents' concerns about electromagnetic field effects (EMF) as critical issues. The landowners agreed with these issues and added trespassing, geologic constraints to construction, crop production loss, and their preference for siting the transmission line on public lands. Unique concerns on National Forest land are USFS visual quality classifications, a bald eagle management area, commercial timber land, sensitive plants, and new roads.

2.3 Alternative Substation Sites and Transmission Line Routes

BPA considered no alternative substation sites. Building the new substation next to SVEC's Canby Substation would provide the most efficient electrical service. The new substation would be built on the west side of the existing Canby Substation because there are inhabited buildings on the east side. Also, the landowner requests that BPA use the west side.

BPA initially developed two alternative routes for the transmission line (Figure 1). Alternative Route E taps the Malin-Warner line north of Canby and runs 6.5 miles south to the proposed substation site.

This route would use the same types of structures as proposed Route D. However, single poles would be used for only one mile on the south end of Route E. Four miles of access road with a cinder base surface would be built along the line's right-of-way (Figure 1).

Alternative Route F taps the Malin-Warner 230-kV transmission line, proceeds south, goes around the town of Canby, then follows Route E to the new substation site. Route F traverses 9.2 miles. The line would consist of 4.7 miles of H-frame structures and 4.5 miles of single poles. About 5.1 miles of cinder base road would follow the line's right-of-way (Figure 1).

2.4 No-Action Alternative

In the no-action alternative, BPA would take no action to address SVEC's need for new facilities. The existing substation and transmission line system would remain unchanged by BPA. BPA would not construct or upgrade transmission line or substation facilities. The no-action alternative may affect the local economy, but probably would not impact wildlife or other natural resources.

The no-action alternative would not meet the need for the project. Since SVEC is relying on BPA to build the project, it has not developed contingency plans and would be forced to develop a new plan of service.

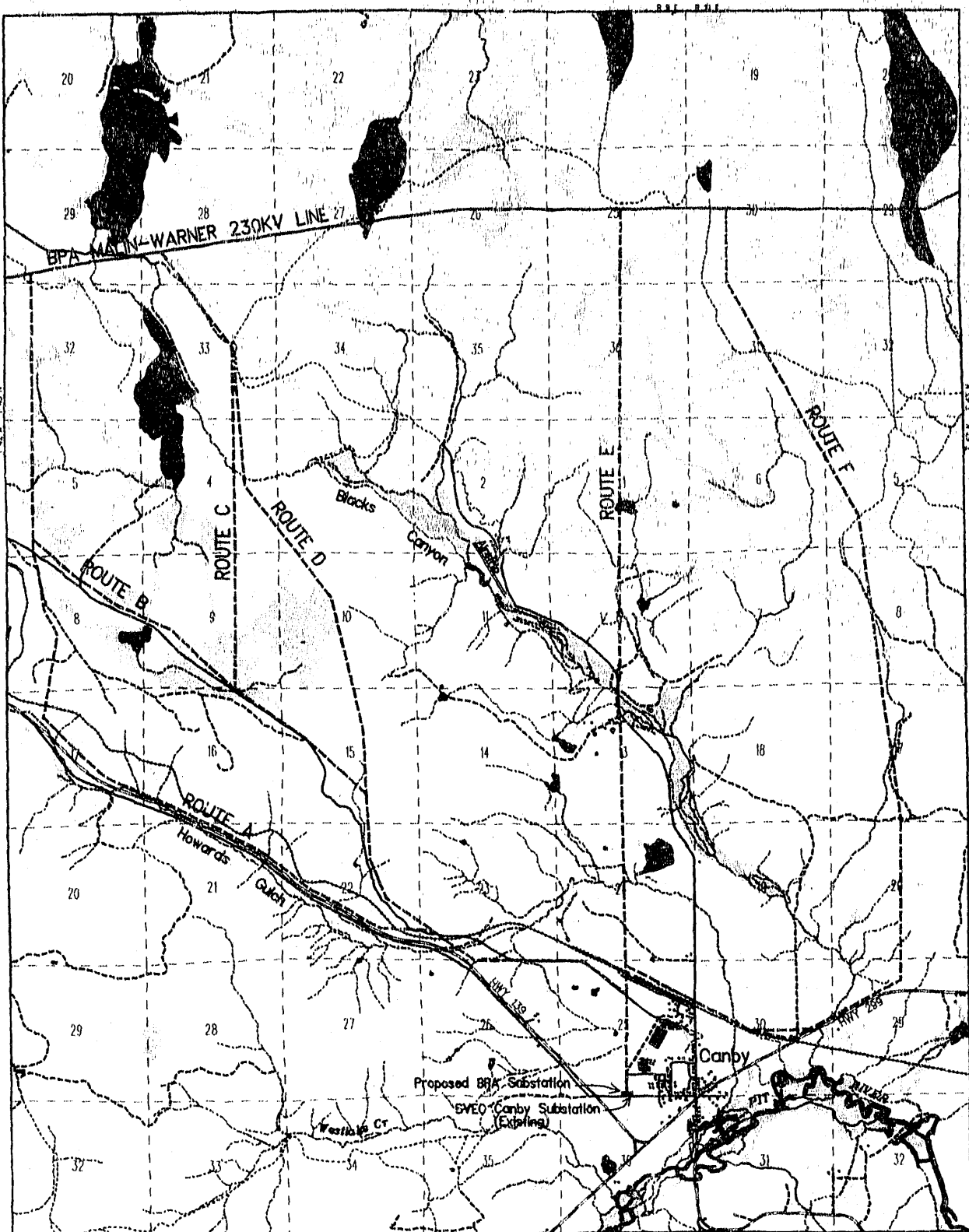
2.5 Alternatives Eliminated From Further Consideration

2.5.1 Transmission System Alternatives

BPA also evaluated six transmission system alternatives. These alternatives include building new transmission lines and new substations, or removing and replacing existing PacificCorp transmission lines with new double-circuit transmission lines. These alternatives were eliminated because they would require longer transmission lines, unreasonably increasing their expense. They would also create unreasonably greater environmental impacts (Appendix).

2.5.2 Transmission Line Route Alternatives

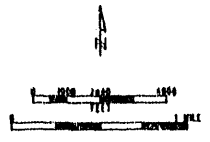
BPA considered three additional transmission line routes, Routes A, B, and C (Figure 3). After analyzing these routes, BPA eliminated them from further consideration. They were eliminated because they create unacceptable impacts to wetlands and visual resources, and offer no advantages over proposed Route D or Alternative Routes E and F. Transmission lines and associated roads along Routes A, B, and C would disturb Federally-protected wetlands (Figure 3). Executive Order 11990 (Protection of Wetlands) requires Federal agencies to minimize the loss or degradation of wetlands. Thus, impacts to wetlands should be avoided if practical alternatives exist. Furthermore, part of Route A lies within Modoc National Forest and a transmission line would not meet their Visual Quality Objective of Retention. These alternatives are summarized in the Appendix.



CANBY AREA SERVICE PROJECT TRANSMISSION LINE ROUTES WETLANDS

LEGEND
 Wetland areas

Figure 3



Source: Bonneville Power Administration, 1991



3.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

3.1 Critical Issues

3.1.1 Economic and Social

If the project is not constructed in a timely manner, the increasing industrial, agricultural, and residential electrical loads would not be met. The potential revenues lost by business owners, farmers, and residents could be large enough to negatively affect the local economy.

Building the transmission line along proposed Route D would cost an estimated \$1,470,000. Route E is estimated to cost \$1,245,000 and Route F is estimated to cost \$1,720,000. BPA's inability to conduct timely surveys along Routes E and F (see below) could create inefficient project designs, increasing the estimated line costs for these alternatives by 10 to 15 percent.

The distance of a route's tap point from a well-maintained, all-weather road influences the preference for a route. Since Route D's tap point is only 0.5 mile from this type of road, line operators could easily access the manually-operated switches. Route D is therefore preferred by BPA. The tap points for Routes E and F are over 4 miles from a good road and would be less accessible to operators.

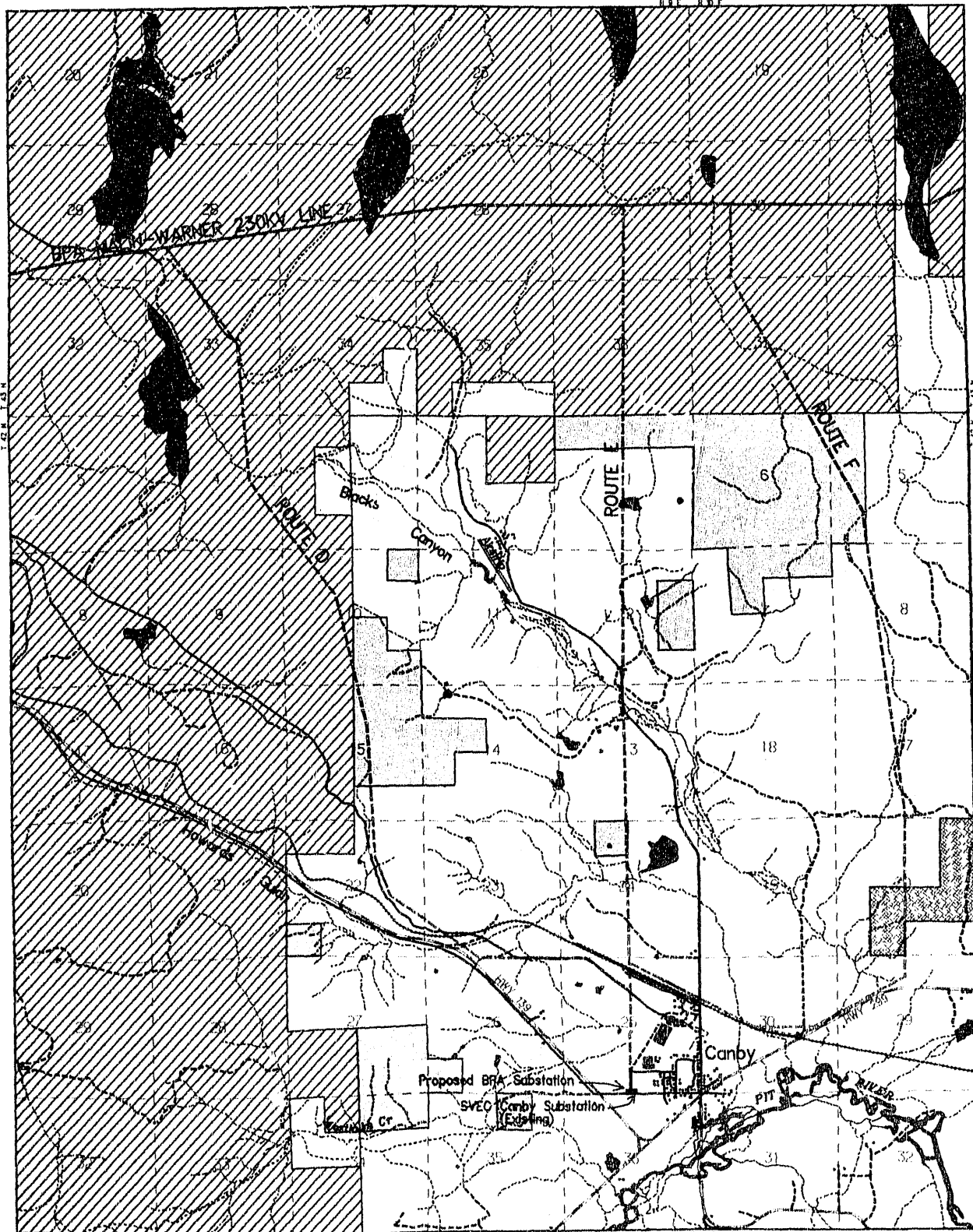
The alternative routes cross lands managed by the Federal government or owned by individuals (Table 1).

Table 1. Landowner or managers on alternative routes

	<u>Route D</u>	<u>Route E</u>	<u>Route F</u>
National Forest	3.5 miles	1.5 miles	1.7 miles
Bureau of Land Management	0.9 miles	0.5 miles	1.0 miles
Native American Trust	0.0 miles	0.0 miles	0.5 miles
Private	3.5 miles	4.5 miles	6.0 miles
No. of Private Landowners	4	5	8





Affected landowners generally favor Route D (Figure 4). The landowners along Route D have granted BPA permission to enter their property for engineering, archeological, appraisal, and plant surveys. They have assisted BPA in finding a mutually-acceptable line route and substation site. Furthermore, landowners appear willing to sell line rights-of-way and substation property.

Conversely, affected landowners are opposed to Routes E and F. A few have stated they will not allow BPA to conduct the necessary surveys on their property. The substation site owner has stated that he would not sell the site if Route E or F is selected. One landowner has written BPA several letters opposing Route E for environmental reasons. To build Alternative Routes E or F, BPA would probably be required to condemn affected properties.



LAND OWNERSHIP

Figure 4

- LEGEND**
- | | |
|---|---|
|  Modoc National Forest |  Native American Trust Lands |
|  Bureau Of Land Management |  Private |



GIS GEOGRAPHIC INFORMATION SYSTEM
 Bonneville Power Administration

Source: Bonneville Power Administration, 1991

Expected litigation in response to condemnation could delay the project by several months. Therefore, BPA would not be able to meet the scheduled energization date of June 28, 1992 and SVEC would not meet local demands for power.

The Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 (note)) requires the USFS to use existing rights-of-way or combine rights-of-way where practical. Since this requirement is not practical for this project (see Section 2.5.2 and Appendix), the USFS believes the length of any new right-of-way within Modoc National Forest must be minimized (J. Kaderabek, Modoc National Forest, personal communication, November 6, 1991). The USFS, therefore, favors Routes E or F over Route D.

3.1.2 Wetlands

Areas identified as wetlands for the purpose of determining areas regulated as "waters of the United States" under Section 404 of the Clean Water Act occur within the area (Figure 3).

Numerous vernal pools are present on the basalt plateau north of Canby. Vernal pools are seasonal wetlands occurring in shallow depressions subject to flooding in the spring. They support a unique wetland plant community. Also, wetlands along creeks and around springs occur along Blacks Canyon Creek, Howard's Gulch and other tributaries of the Pit River.

Since wetlands will be avoided or spanned, and access roads will be located to avoid impacts, impacts to wetlands would be negligible to slight for Routes D, E, and F. All three routes span small riparian wetlands. Route E also would span a 1,000-foot wide vernal pool located about 0.5 mile south of the Malin-Warner transmission line, and would cross a 1/5 mile wide wetland created by a reservoir on Blacks Canyon Creek. Route D is close to a large vernal pool south of Duncan Reservoir. However, since line and access construction will occur upslope of the wetland's drainage area, the line and access construction will minimally impact the wetland's drainage pattern and hydrologic regime. None of the routes would cause more than negligible impacts to the survival, quality, and natural and beneficial values of the wetlands, because BPA would employ standard water quality protection measures to prevent indirect impacts to wetlands.

3.1.3 Health and Safety

Safety concerns include the potential for electric shock if a person, or object a person is holding, comes too close to powerline conductors. BPA would construct this project to meet the National Electric Safety Code. This would reduce the shock hazard. Even so, it is important that persons not raise objects such as irrigation pipes into the air near a powerline.

Powerlines, like all electrical equipment, produce electromagnetic fields (EMF). The strength of these fields depends on the voltage and current on the line, and on the distance of an object or person from the line. EMF levels decrease in strength rapidly with distance.

There is ongoing controversy about whether these fields are harmful to human health. Most attention is focused on whether exposure to EMF increases the risk of cancer. The U.S. Environmental Protection Agency is currently reviewing this issue. BPA publishes a free booklet that describes in detail research conducted on EMF (Electrical and Biological Effects of Transmission Lines: A Review).

In 1988, because of scientific uncertainty and public concern about EMF, BPA adopted "Interim Guidance" for addressing this issue, including BPA's approach for assessing EMF on new projects. BPA's goal is to keep the public's and BPA employees' exposure to EMF from increasing if practical alternatives exist.

For this project, estimated electric and magnetic field levels for the year 2000 are compared with the no-action alternative for different line segments (Figure 5).

For segments a and c, increases in EMF are unavoidable since no lines exist in these areas. For segment b, the "Possible Future" option would result in only small increases in electric field levels and negligible differences in magnetic field levels (less than 1 milligauss). This effect is due to electrical and geometrical design considerations that can limit field levels to about the levels created by the existing 69-kV line.

For all segments, the EMF levels decrease rapidly for the "Possible Future" option as distance from the line increases, and approach ambient conditions at lateral distances within 100-feet of the lines. The term ambient refers to typical levels found in and around residential homes produced by home wiring, appliances, nearby distribution lines, etc. (about 2 milligauss or less).

There are no homes within 100-feet of the proposed transmission line corridors. Therefore, no one would be exposed to EMF levels greater than typical ambient levels. None of the alternative routes would increase long-term involuntary public exposure to EMF.

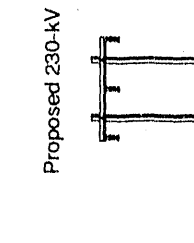


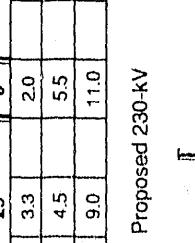
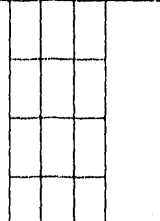
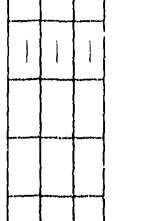
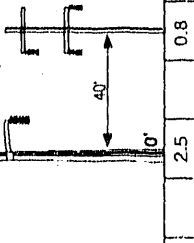

3.1.4 Agriculture

In general, agricultural land in the area produces irrigated hay and pasture or dry-farmed grains, hay, and pasture.

All routes would affect land designated by the U. S. Soil Conservation Service (SCS) as prime farmland and farmland of local importance (Figure 6). However, this project would comply with the Farmland Protection Policy Act (FPPA) (7 U.S.C. 4201 et seq.) because BPA has considered appropriate alternative actions which would lessen adverse impacts and would be compatible with state, local, and private programs and policies to protect farmland. Evaluating the alternative routes according to criteria set forth in the FPPA shows there are several reasons why lands affected by them should be given a minimal level of consideration for protection under the FPPA.

- Only a small percentage of the routes are being farmed.
- There would be little interference with agricultural operations on adjacent farmlands.

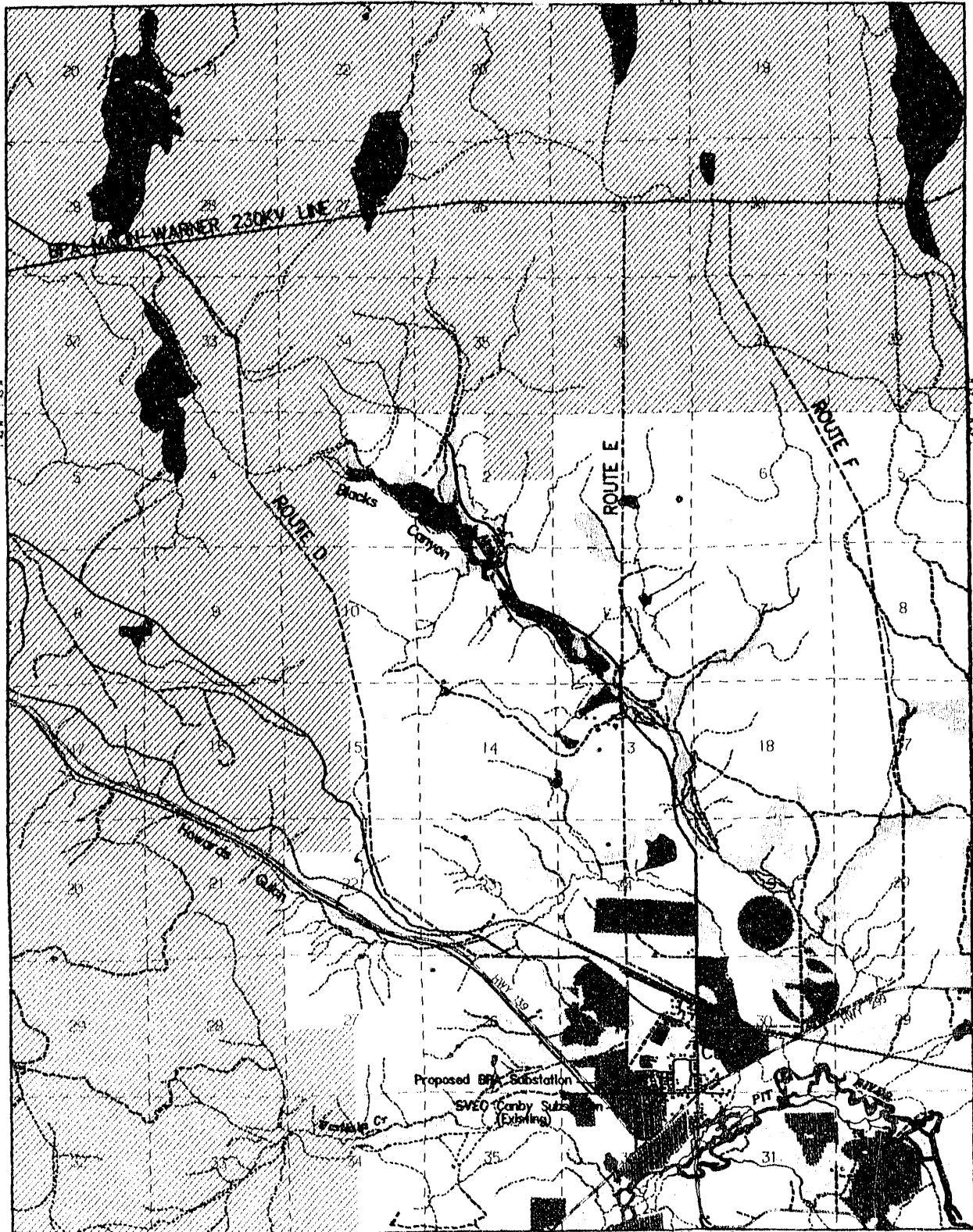
ESTIMATED ELECTRIC AND MAGNETIC FIELD LEVELS FOR THE YEAR 2000

Possible Future Option	No-Action Alternative	Possible Future Option																													
Segment a  PROPOSED CANBY SUBSTATION EPA Metric - Warning	NO EXISTING LINES Proposed 230-kV 	Proposed 230-kV 																													
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0.5	1.7	3.7	6.8	3.7	1.7	0.5																									
Segment b  PROPOSED CANBY SUBSTATION EPA Metric - Warning	Existing 69-kV 	Proposed 230-kV 																													
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">100'</td> <td style="width: 10%;">50'</td> <td style="width: 10%;">25'</td> <td style="width: 10%;">0'</td> <td style="width: 10%;">25'</td> <td style="width: 10%;">50'</td> <td style="width: 10%;">100'</td> </tr> <tr> <td>0.03</td> <td>0.1</td> <td>0.3</td> <td>0.5</td> <td>0.4</td> <td>0.1</td> <td>0.02</td> </tr> <tr> <td>0.2</td> <td>0.7</td> <td>1.8</td> <td>4.0</td> <td>1.5</td> <td>0.7</td> <td>0.2</td> </tr> <tr> <td>0.4</td> <td>1.4</td> <td>3.6</td> <td>8.0</td> <td>3.8</td> <td>1.4</td> <td>0.4</td> </tr> </table>	100'	50'	25'	0'	25'	50'	100'	0.03	0.1	0.3	0.5	0.4	0.1	0.02	0.2	0.7	1.8	4.0	1.5	0.7	0.2	0.4	1.4	3.6	8.0	3.8	1.4	0.4
			100'	50'	25'	0'	25'	50'	100'																						
			0.03	0.1	0.3	0.5	0.4	0.1	0.02																						
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100'	50'	25'	0'	25'	50'	100'																									
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0.5	1.7	3.7	6.6	3.7	1.7	0.5																									

\bar{E} (kV/m) = Electric Field (kilovolt/meter)
 \bar{M} Avg. (mG) = Magnetic Field Average (milligauss)
 \bar{M} Peak (mG) = Magnetic Field Peak (milligauss)

Note: 1. Peak magnetic field levels calculated using system normal annual peak loads for year 2000. Average levels estimated at 50% of peak load (0.5 load factor).
 Note: 2. Local distribution lines, such as that running a short distance parallel to Route F were not included in this study.





FIGURE 5



IMPORTANT FARMLAND

Figure 6

LEGEND

- | | | | |
|---|---|---|---|
|  | Prime farmland |  | Additional farmland of local importance |
|  | Additional farmland of statewide importance |  | Data unavailable |



Source: USDA Soil Conservation Service, 1980 Soil Survey of Modoc County, CA

- The project would not create substantial amounts of non-farmable farmland due to interference with existing land use practices.
- Routes D, E, and F cross about 4,200, 7,000 and 7,100 feet, respectively, of farmland as defined in FPPA. The relative value of the land affected is low according to the Land Evaluation Criteria applied by SCS.
- The project would not cause the agricultural use of adjacent farmlands to change, or jeopardize the continued existence of farm support services in the area.

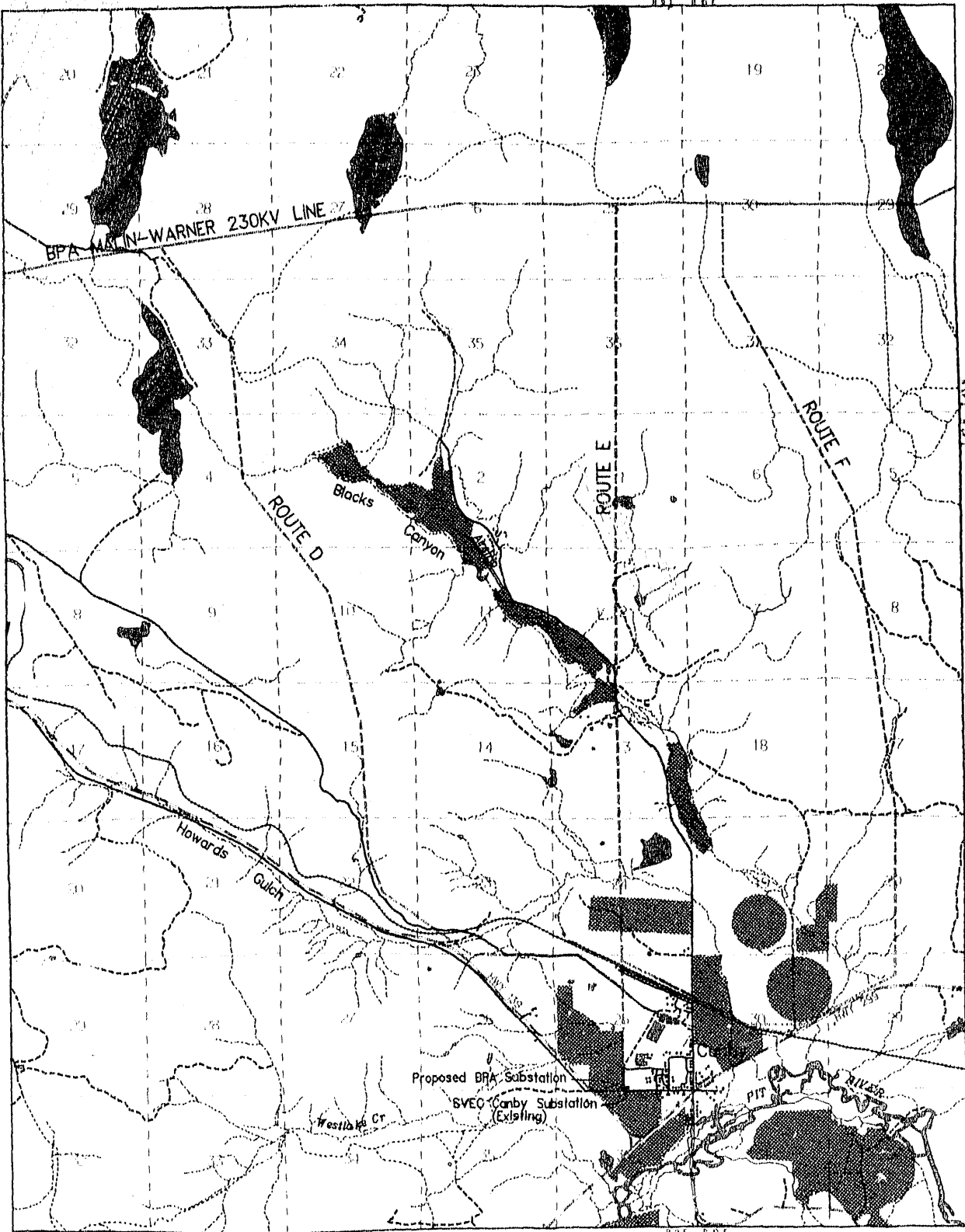
Although all routes cross cultivated land, impacts to agricultural operations would be limited and slight. None would remove more than 1.5 acres of farmland from production. Most of the agricultural land conversion would occur at the substation site. Proposed Route D does not cross any irrigated farmland; Routes E and F cross approximately 1,700 feet and 1,900 feet respectively. The substation would remove 1.3 acres from production and possibly interfere with irrigation patterns on the farmland adjacent to the substation (Figure 7).

Of the routes considered, proposed Route D minimizes impacts to farmland by following field boundaries and existing roads, thereby avoiding conflicts with existing irrigation and tillage practices. Route F also follows field boundaries. However, Route F would require temporary access through agricultural areas and would remove some irrigated lands (along 1/4 mile) from production due to new access roads and pole sites. Since access would be temporary and poles would generally follow field boundaries, only a small amount of cropland would be removed from production. Route E bisects a 1/4 mile irrigated field north of the proposed substation and would interfere with irrigation and other agricultural activities if the field is not spanned. Route E also crosses 1.5 miles of land zoned as agricultural-exclusive (Figure 8). The intent of this county zoning designation is to protect Modoc County's high quality agricultural lands, and lower quality lands that are an integral part of a ranch or farm operation.

3.1.5 Visual

The landscapes along the proposed and alternative routes are similar. Terrain and vegetation patterns vary, but no unique or outstanding features exist. Except for isolated areas, visual quality is moderate to low. The USFS has visual quality objectives for its land (Figure 9). Because of the diverse terrain and vegetation, opportunities exist to locate and/or mitigate impacts created by a transmission line to meet the USFS's partial retention category.


On private land, the landscape is similar to USFS land. However, individual landowners may have different management objectives than the USFS (Figure 9). Visual sensitivity levels are indicated by using distance from residences and highways. The visual sensitivity of most of the area crossed by the transmission line routes is low because the routes are mostly isolated and activities are not dependent on visual quality for their enjoyment (Figure 9). Visual sensitivity increases to moderate around Duncan Reservoir and



IRRIGATED FARMLAND

Figure 7

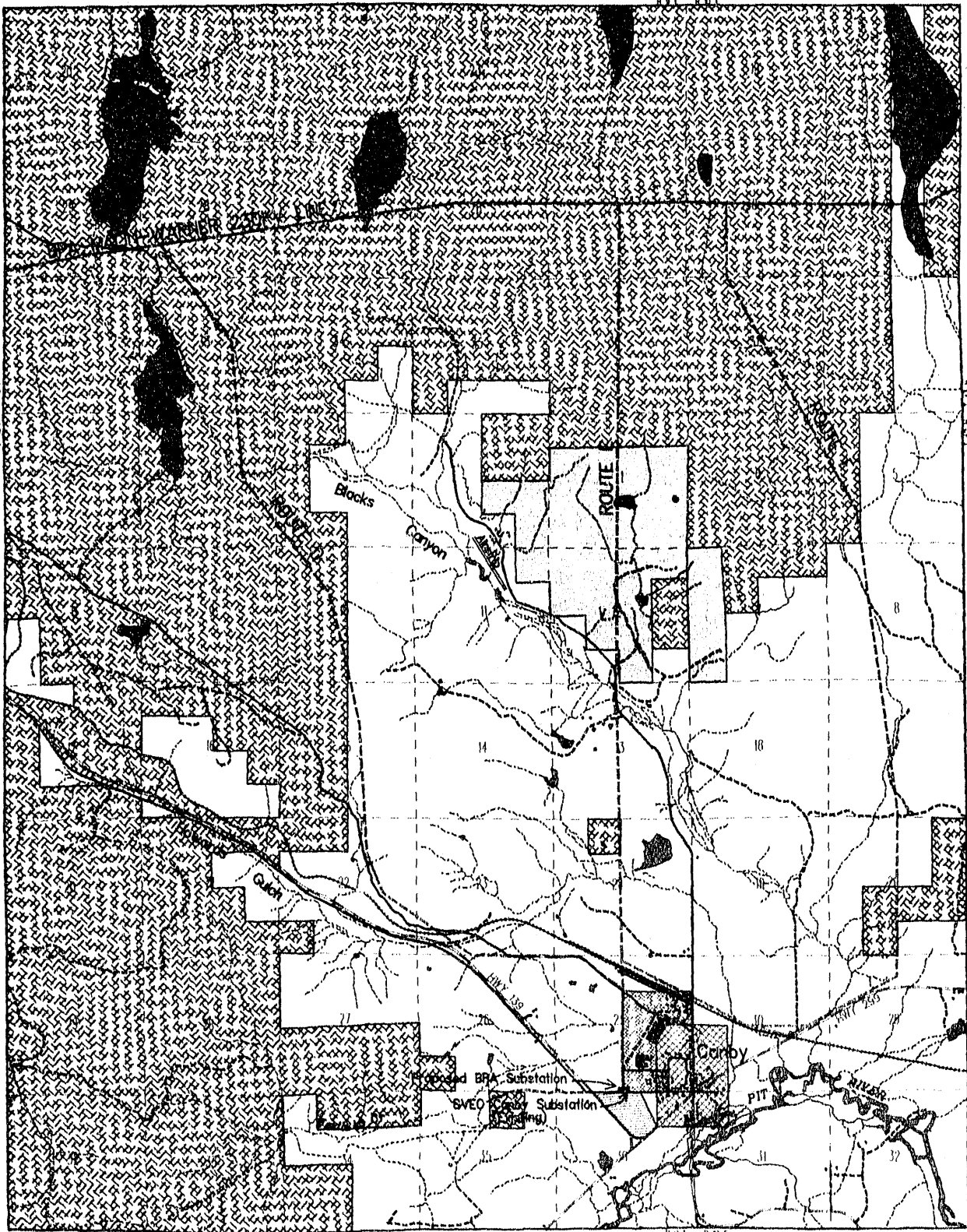
LEGEND

 Irrigated farmland









GIS GEOGRAPHIC INFORMATION SYSTEM
 Bonneville Power Administration

Source: Bonneville Power Administration, 1991



MODOC COUNTY ZONING CLASSES

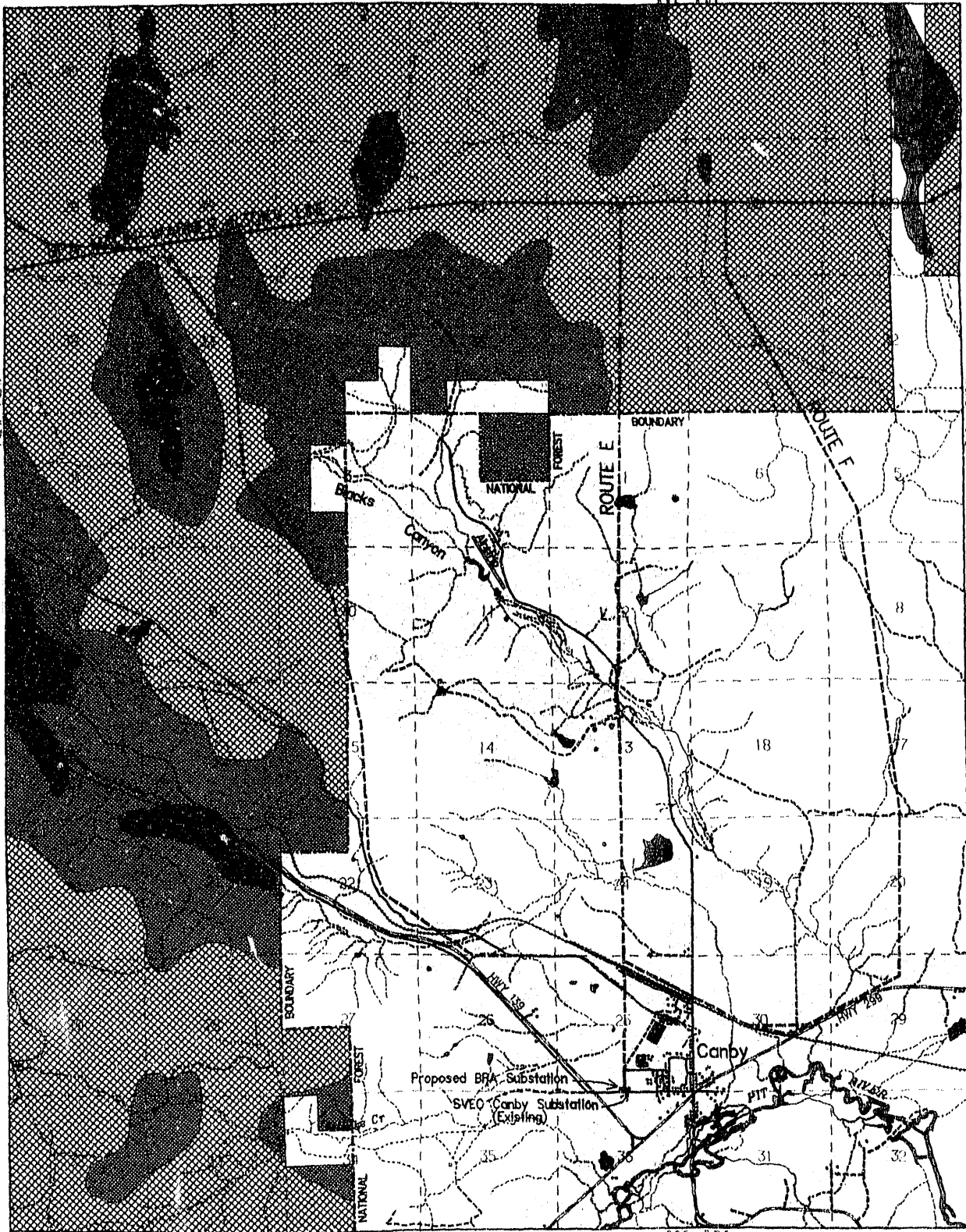
Figure 8

- LEGEND**
- | | |
|---|--|
|  Agricultural Exclusive |  Industrial |
|  Open Space Forestry and Grazing |  Mixed Urban |
|  Commercial |  Unclassified |

Source: Modoc County, CA, 1991

Scale: 0 1000 2000 Feet

GIS GEOGRAPHIC INFORMATION SYSTEMS
 Version 4.0 Administration






**VISUAL QUALITY OBJECTIVES (VQO) (National Forest)
VISUAL SENSITIVITY LEVELS (All other lands)**



LEGEND

Figure 9

VQO:

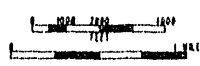
-  Retention
-  Partial Retention
-  Modification

SENSITIVITY LEVEL:

-  High sensitivity
-  Moderate - low sensitivity

Source: US Forest Service, 1991

Source: Bonneville Power Administration, 1991



adjacent to Highways 139 and 299. Visual sensitivity is considered high in Blacks Canyon and on portions of Highway 139. The California Department of Transportation may designate a portion of Highway 139 as a scenic highway.

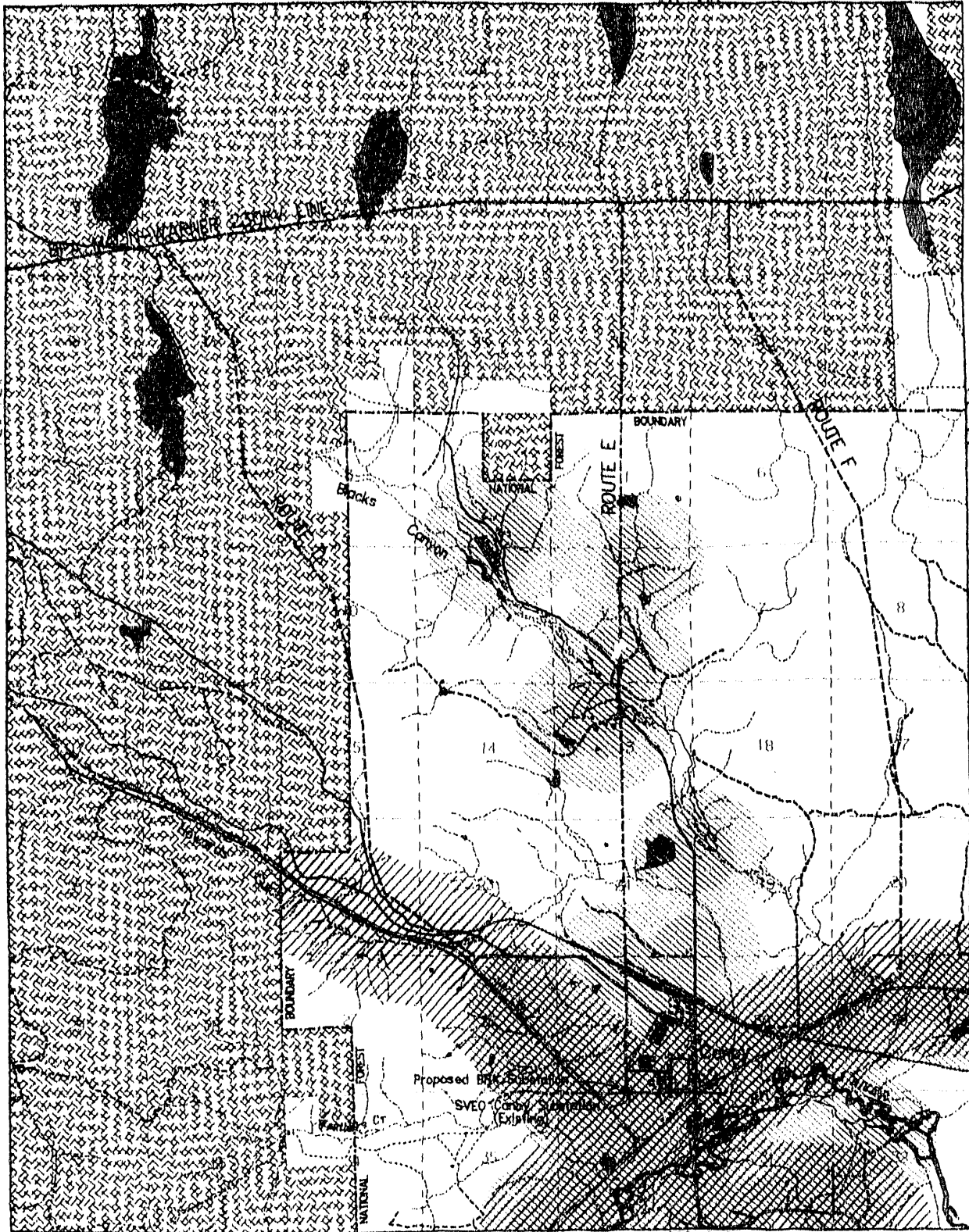
Visual impacts associated with the new substation would be low. Although larger than the existing substation, BPA will use a less obtrusive design for the new substation. The existing substation has already changed the visual character of the area; adding a new substation will have minor impacts.

Most of proposed Route D is isolated with few viewing opportunities. This route crosses land with a high capacity to absorb landscape changes, such as those from a transmission line. An exception is the area around Duncan Reservoir, a local recreation spot. This route would be visible from viewing areas around the reservoir. Trees would screen some of the line from view; however, many structures would be skylined. The distance to the structures and the recreationist's viewing angle would diminish the structure's prominence. Where the line is close to Highway 139, it would be highly visible to travelers. Impacts are somewhat moderated by the presence of existing local utility distribution lines.

Route E, like Route D, crosses highly compatible landscapes and is generally isolated. However, there are three homes within 1/4 mile of the line, and the line would be visible from the homes and/or access to them (Figure 10). The visual sensitivity of residents is high because the line would intrude on an otherwise unobstructed landscape and residents are permanent, not transitory (e.g., highway or recreational), viewers. Thus, this route has a higher overall visual impact than either Route D or Route F. The area near the substation is exposed to potentially more viewers but this area has been modified by existing facilities.

Route F crosses mostly isolated and highly compatible landscapes. The greatest impacts would be to travelers on Highway 299 and residents of Canby (Figure 10). This route skirts around Canby but would remain in view from many vantage points including some homes and streets. There also would be foreground views to travelers on Highway 299 because the line parallels it for about 3/4 mile. Travelers would have direct views going either direction.






In summary, visual impacts for the alternative routes are low to moderate. Route E is close to ranch houses and/or access to them. Route D would have a moderate visual impact to people using Duncan Reservoir, the only public recreation in the project area. Also, recreationists using existing public access would see the northern part of Route D. Although the southern part of Route D and all of Route F are less visible to recreationists, they are both highly visible to highway travelers. However, Route F has the greatest exposure because structures parallel the highway for a greater distance, and Highway 299 is more heavily traveled than Highway 139. Also, along Route F there are more viewing opportunities for residents and commuters in and around Canby.



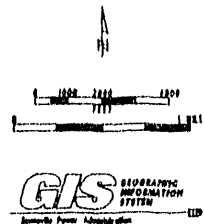
VISIBILITY ZONES

Figure 10

LEGEND

- | | | | |
|---|---|---|--|
|  | 1/2 mile visibility zone - Secondary Highway |  | Seldom Seen |
|  | 1/2 mile visibility zone - Residence |  | Data Unavailable
(National Forest land) |
|  | 1/4 mile visibility zone - Residence or Secondary Highway | | |

Source: Bonneville Power Administration, 1991



3.2 Critical Issues That May Occur On National Forest Land

3.2.1 Threatened and Endangered Species

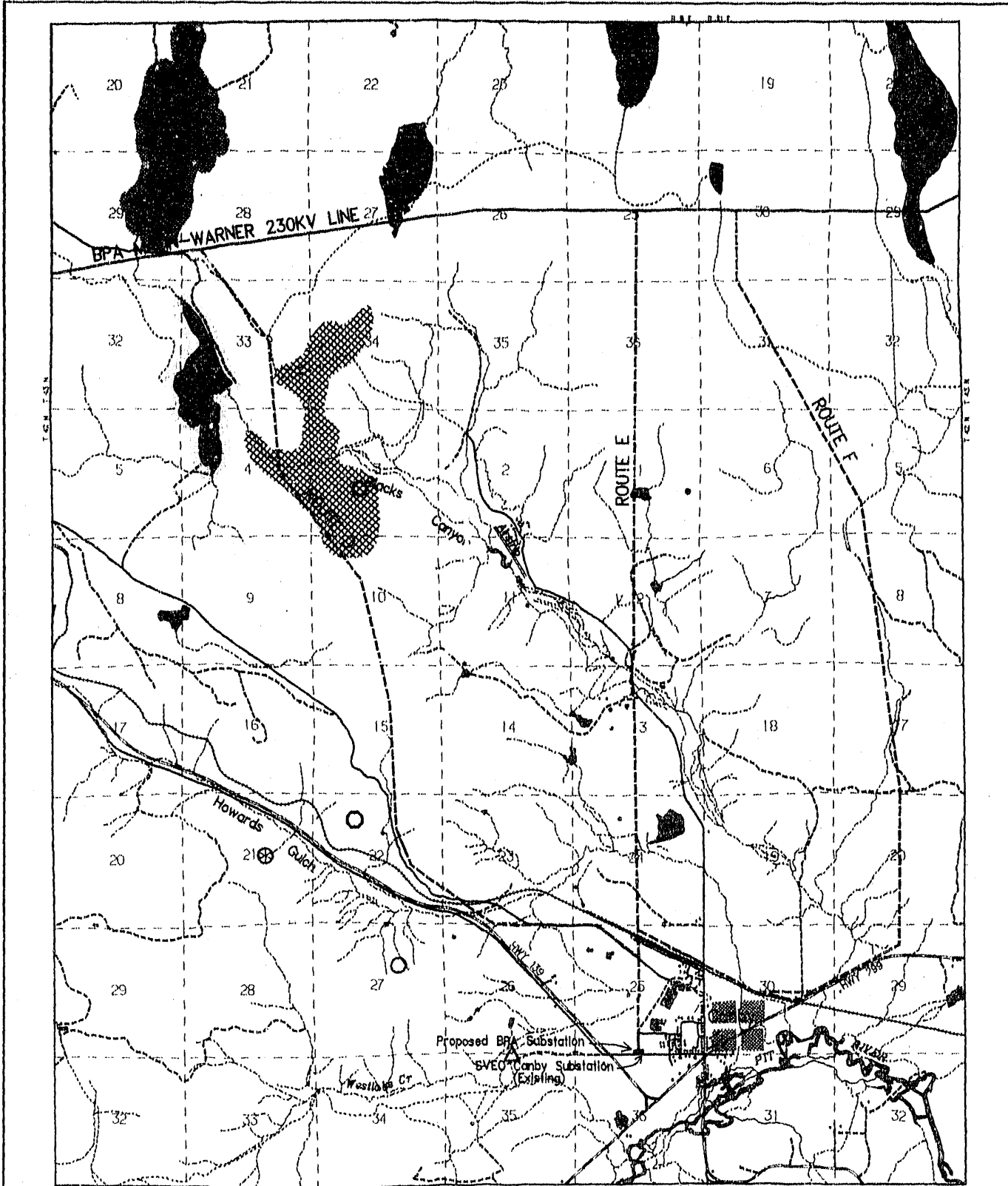
Under Section 7 (a) of the Endangered Species Act, agencies of the Federal Government are to ensure that their action does not "jeopardize the continued existence of any endangered species or threatened species." On May 12, 1991, BPA requested from the U.S. Fish and Wildlife (USFWS) a list of threatened or endangered plant and animal species that might occur in the project area. In their letter of June 12, 1991, the USFWS listed the bald eagle as the only threatened or endangered species in the area. No critical habitats were listed. BPA completed a Biological Assessment (October 2, 1991) and determined that proposed Route D would affect about two acres of an area managed by the USFS for eagle nesting (Figure 11). Since fewer than six potential nesting trees would be removed, the Assessment concluded that the bald eagle would not be affected. The USFWS concurred with this finding in a letter dated December 9, 1991. Only Route D crosses an eagle management area. Therefore, it has a higher potential for impacts than Routes E and F.

Should any project changes occur that could affect a listed species, or if any other species known to occur in the project area becomes officially listed before BPA completes this project, BPA will reevaluate its responsibilities under the Act.

3.2.2 Other Wildlife

The proposed substation site is within identified antelope summer range (Figure 12). Because summer is not a critical time for antelope to remain undisturbed by humans, impacts to summering antelope from the substation are not anticipated.

All alternative routes cross the winter ranges of deer and pronghorn antelope (Figure 12). The entire project area is antelope summer range. Small amounts of these ranges would be removed by transmission line and access road construction (Table 2). Since none of the routes would remove more than 0.05 percent of ranges within the project area, deer and antelope would be unaffected by range loss.



SENSITIVE BIRD SPECIES HABITAT

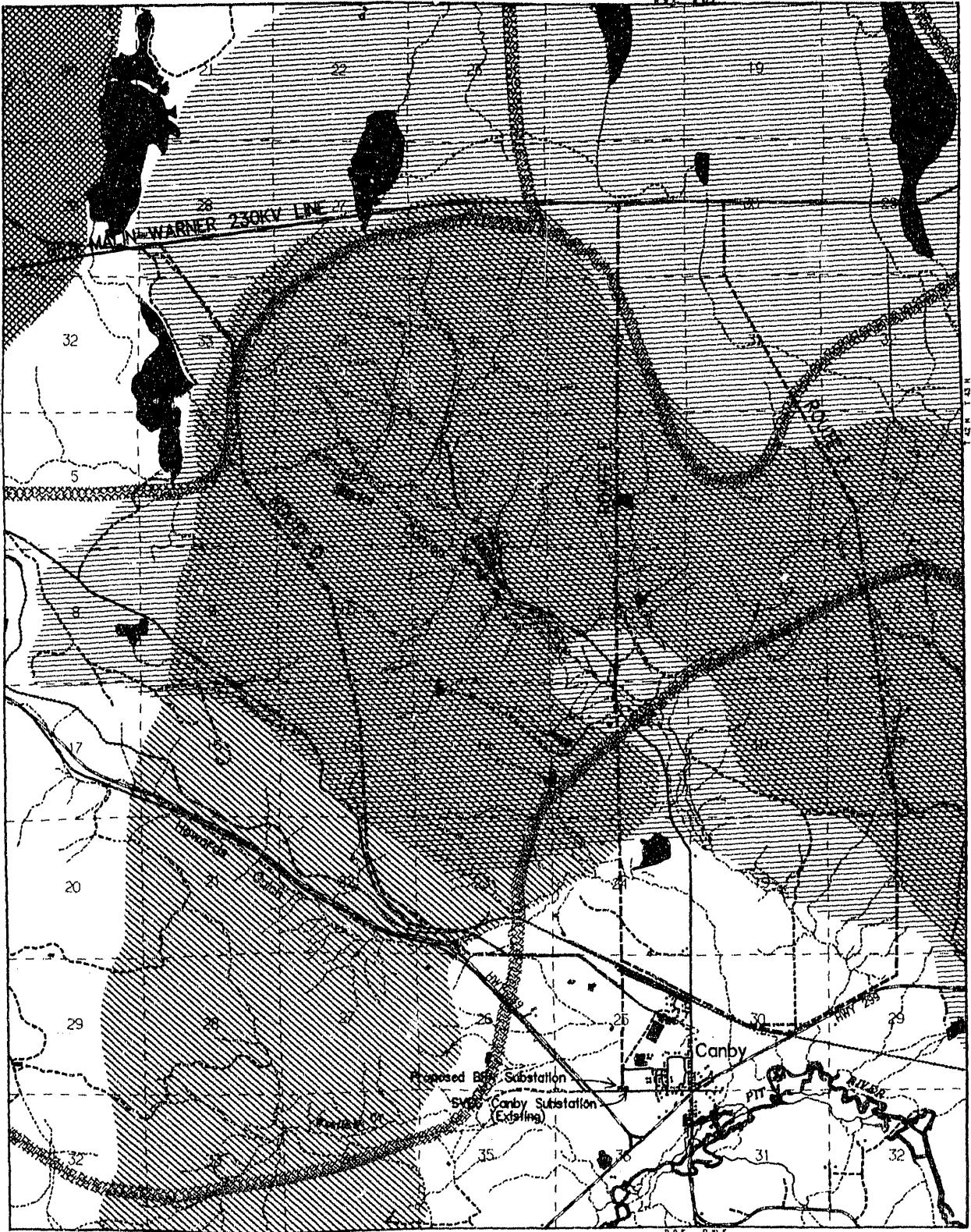
Figure 11

- LEGEND**
- | | | | |
|---|------------------------------|------------------------------|----------------------------|
| Osprey and Bald Eagle Foraging Area | Sandhill Crane Nesting Areas | Active Golden Eagle Nest | Active Prairie Falcon Nest |
| Bald Eagle and Osprey Nesting Area | Allornate Golden Eagle Nest | Sage Grouse Strutting Ground | |
| Potential Osprey and Eagle Nesting Area | | | |

Source: US Forest Service, 1991; CA Dept. of Fish and Game, 1991

Scale: 0 1000 2000 4000 Feet





GIS GEOGRAPHIC INFORMATION SYSTEM
Bioscience Resource Project



BIG GAME RANGES

Figure 12

LEGEND

- | | |
|---|---|
|  Antelope Winter Range |  Deer Winter Range |
|  Antelope Migration Routes |  Foll Deer Holding Range |

Note: Entire Project Area is Antelope Summer Range

Source: US Forest Service, 1991; CA Dept. of Fish and Game, 1987, 1991

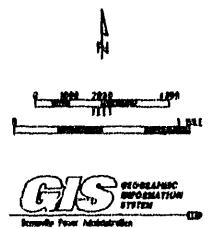


Table 2. Effects of transmission line and access roads on deer and antelope ranges.

RANGE	Route D		Route E		Route F	
	New Roads (miles)	Range Removed ¹ (acres)	New Roads (miles)	Range Removed (acres)	New Roads (miles)	Range Removed (acres)
Deer Winter	4.8	11.6	2.8	7.3	3.2	7.7
Antelope Winter	3.5	10.1	4.0	10.7	5.1	12.7
Deer Fawning	0.0	0.0	0.0	0.0	0.0	0.0
Antelope Kidding	2.3	5.8	0.9	2.8	0.9	1.5

¹ (Road Length X Road Width) + (Acres removed by structures)

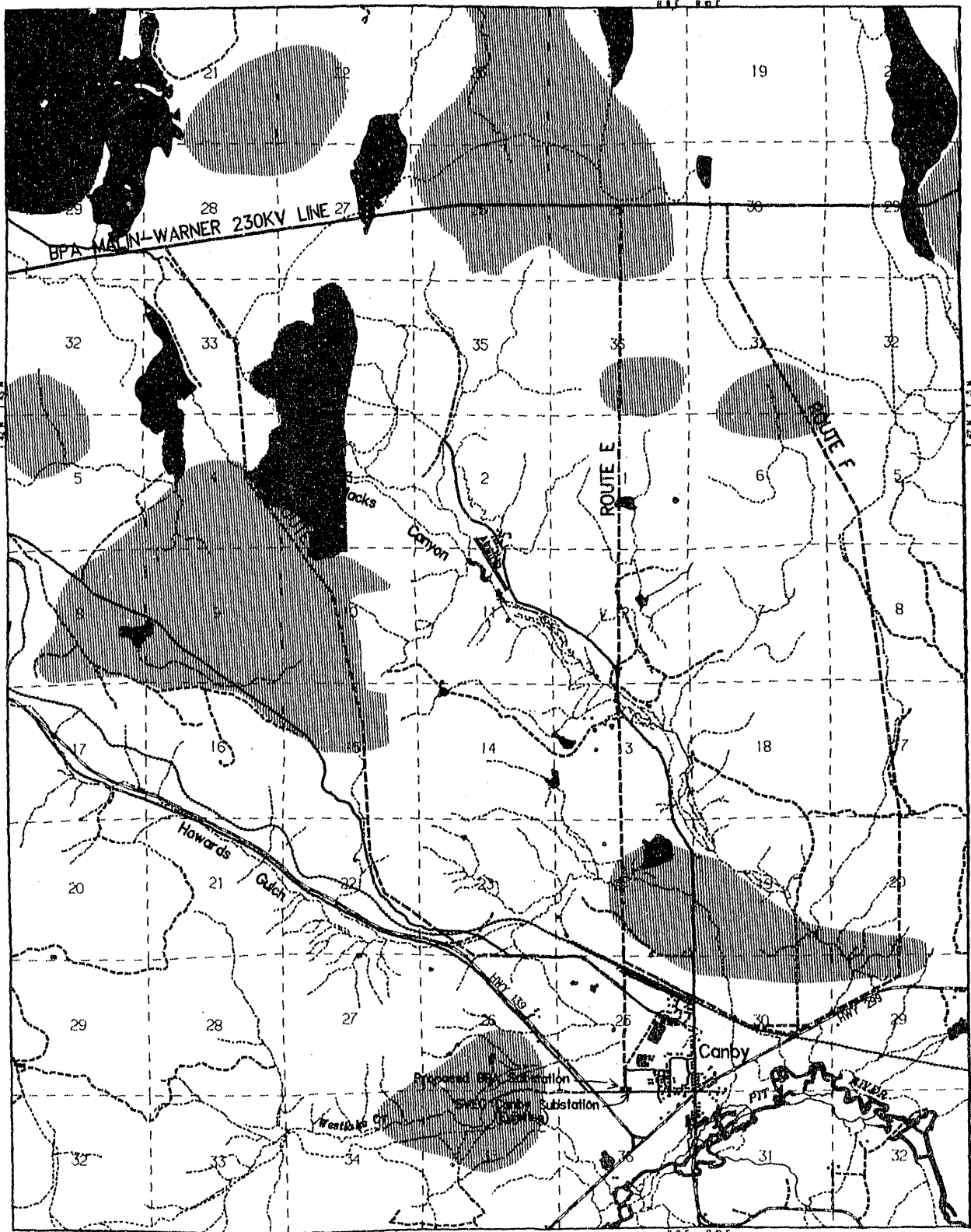
Where: Road Width = 12 ft., 13 single poles/mile, 7 H-frames/mile, 0.02 acre/single pole, and 0.15 acre/H-frame.

Route D would require the most roads (4.8 miles) in deer range and Route F would require the most roads (5.1 miles) in antelope range. New roads in the winter ranges could increase human activities there. Increased activities such as poaching could be detrimental to deer and antelope populations. However, BPA would limit public use of the roads by installing gates. Opportunities for effectively gating access roads exist for all routes. Therefore, human disturbance of wintering deer and antelope would be minimal. Since summer is not a critical time for antelope to remain undisturbed by humans, impacts to summering antelope are not anticipated.

Deer using a fall holding area (Figure 12) would be only minimally affected by access for Route D. The project would not noticeably change existing road use. All alternative routes would cross, but not affect, antelope migration routes.

None of the routes would affect mule deer fawning areas (Table 2). Route D would create the most roads in antelope kidding range (2.3 miles), while Routes E and F would put fewer roads (0.9 miles per route) in kidding range (Figure 13). Only negligible amounts of range would be removed. With effective gates, BPA could reduce the potential to disrupt antelope kidding. BPA does not plan to construct the line or access roads when antelope are using the areas for reproduction (May 15 through June 15).



All alternative routes are one-half mile or more away from known golden eagle nests and sage grouse strutting grounds (Figure 11). Thus, no impacts to these species would occur. A prairie falcon nests less than one-half mile from Route D; however, the rugged topography would serve as a buffer between the nest and construction activities. Since no records of Ferruginous hawks, Bank swallows, or Willow flycatchers exist for the project area, BPA assumes these species are uncommon. No impacts to them are expected. Ospreys use Duncan Reservoir and Reservoir "F," but would be unaffected by the

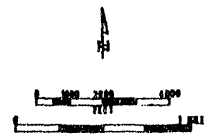


BIG GAME REPRODUCTION AREAS

Figure 13

LEGEND

-  Antelope Kidding Range
-  Deer Fawning Range



GIS GEOGRAPHIC INFORMATION SYSTEMS
 Bentley Map Application

Source: US Forest Service, 1991; CA Dept. of Fish and Game, 1987, 1991

alternatives. Swainson's hawks have been observed twice in the project area. Due to raptor behavior that minimizes collisions with transmission lines, and the small amount of habitat affected by this project, Swainson's hawks would be unaffected.

Sandhill cranes nest just east of Canby and some may nest in the Blacks Canyon Creek drainage (Figure 11). They forage in an area 1 mile northwest of Canby and in meadows associated with Blacks Canyon Creek. Other foraging habitats are probably associated with the Pit River.

Habitat loss caused by the project would be minimal and would not affect cranes. There is, however, a potential for cranes to collide with transmission line wires. This potential is considered low for the following reasons:

- 1) Well-defined flight paths that cross alternative routes are not evident. No crane surveys have been conducted.
- 2) Along most of all alternative routes, H-frame structures would place conducting wires in the same plane (Figure 2). This arrangement would reduce the collision hazard as compared to the three planes of wires specified by the single pole design.
- 3) Omitting the overhead groundwire (except for 1 mile north of the substation) removes the greatest collision hazard. In poor light conditions, this small diameter wire may be invisible to flying cranes.

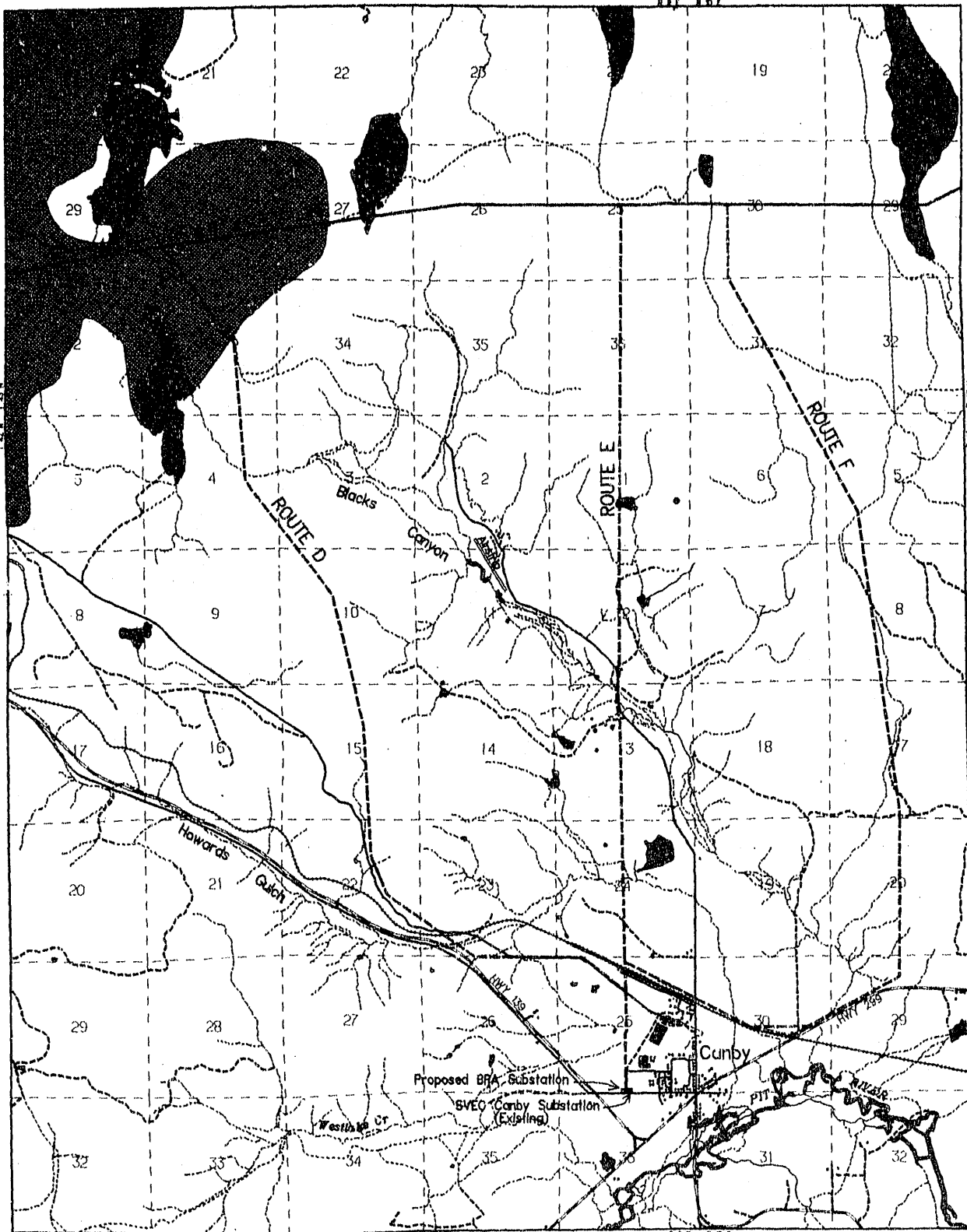
Although low, Routes E and F create greater collision hazards than Route D. Route E bisects crane habitats along Blacks Canyon Creek. If cranes fly between Blacks Canyon Creek and the Pit River, the final 4.5 miles of Route F (where single poles are proposed) would create a collision hazard. Also, Route F may place three planes of wires between foraging areas.

3.2.3 Sensitive Plant Species

The project would not affect plants listed as sensitive by Modoc National Forest (MNF) or the California Department of Fish and Game (CDFG). After the substation, selected centerline, and roads are staked, a BPA botanist would examine them for sensitive plants. The examination would be conducted during a time specified by MNF and CDFG. If any sensitive plant populations are found, BPA would move the structures or roads to avoid them. If relocations are not feasible, BPA would cooperate with the USFS or the CDFG to develop other mitigation measures.

3.2.4 Commercial Timber and Other Trees

The substation would not require any tree clearing. BPA estimates that Route D would require clearing 10 acres of USFS commercial timber land (ponderosa pine) from the right-of-way and 12 acres from outside the right-of-way (Figure 14). The off right-of-way clearing, conducted immediately after line construction, would remove "danger trees." Danger trees are trees that could fall into the transmission line. Routes E and F would not affect commercial timber land.

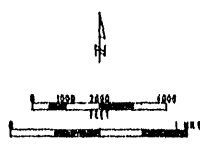


COMMERCIAL TIMBER LAND

Figure 14

LEGEND

- Commercial timber land (U.S.F.S.)



GIS GEOGRAPHIC INFORMATION SYSTEMS
Bureau of Land Management

Source: US Forest Service, 1991

Although juniper woodlands are not USFS commercial timber lands, junipers are used for firewood and posts. Route D would require cutting 7 acres of juniper. Route E would require cutting 32 acres of juniper and Route F would require cutting 40 acres of juniper. Junipers would not be allowed to regrow after they are cleared from the right-of-way.

3.2.5 Cultural Resources

Several Federal laws and regulations protect the nation's historical, cultural, and prehistoric resources. These include the National Historic Preservation Act, the American Indian Religious Freedom Act, the National Landmarks Program, and the World Heritage List. These regulations safeguard historical and archeological resources and religious sites, and ceremonial rites of American Indians.

The effects of any Federal action on these resources must be evaluated. To study cultural resources, a one-half mile corridor was delineated for all three routes. An archaeologist reviewed published reports and site records from Modoc National Forest and the Northeastern Information Center at California State University, Chico. He found eight archaeological sites listed for Corridor D, one site listed for Corridor E, and one site listed for Corridor F. None were evaluated for potential eligibility to the National Register of Historic Places (NRHP). All corridors cross landforms that have a high potential for unrecorded archaeological sites.

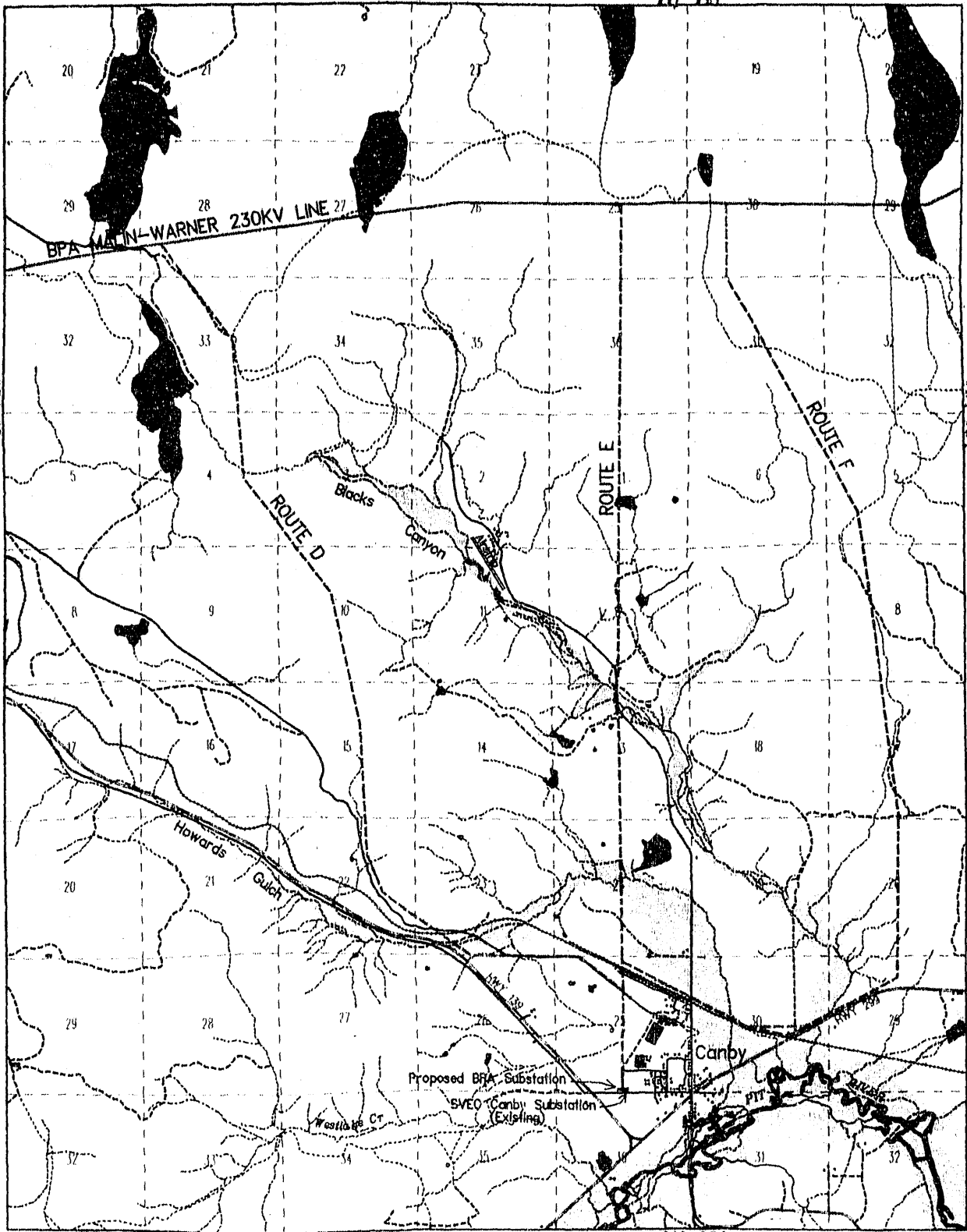
BPA requested information about the project area from representatives of Native American groups and from the Bureau of Indian Affairs. They did not note any special sites or concerns.

Once BPA stakes pole locations and roads for the selected route, BPA will do an intensive survey of the project. This survey will insure that BPA complies with Section 106 of the National Historic Preservation Act. As BPA evaluates cultural resources, BPA will consult with the State Historic Preservation Office as appropriate, concerning their significance and eligibility for inclusion in the NRHP. If necessary, BPA will request a determination of effect. If, after construction starts, BPA identifies any cultural resources that would be affected adversely by the project, construction in the immediate vicinity of the resources would be halted, and Section 106 consultation procedures would be followed. Construction would not resume until the procedures identified in Section 106 are completed.

3.3 Other Issues

3.3.1 Floodplains



All three routes (D, E, and F) cross the 100-year floodplain of an unnamed intermittent tributary flowing out of Howard's Gulch to the Pit River (Figure 15). In addition, Routes E and F cross the 100-year floodplain of Blacks Canyon Creek. Floodplains will be spanned wherever possible. At most, eight

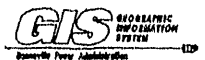
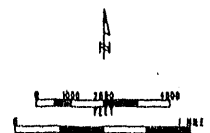


FLOOD HAZARD AREAS

Figure 15

LEGEND

-  Areas of 100-year flood
-  Areas of minimal flooding



Source: Federal Emergency Management Agency, Flood Insurance Rate Maps, 1984

wood pole H-frame structures would be located in two floodplains along Route F, and two H-frame structures would be located in a floodplain on Route E. No structures would be placed within a floodplain along Route D.

Under Executive Order 11988, Floodplain Management, developments on floodplains are discouraged whenever there is a practical alternative. Because all practical alternatives between Canby and the tap point are perpendicular to a number of streams, some floodplains must be crossed. Towers within the floodplains would be built on footings designed to withstand flooding, so there would be little or no hazard to the transmission line from flooding. Construction activities and the transmission line would not alter floodplain characteristics or create the potential for greater loss of property or life during flooding.

3.3.2 Recreation

Recreation within the area consists mostly of dispersed activities such as hunting, hiking, horseback riding, and sightseeing. Construction and operation of this project will not substantially affect these activities; however, the visibility of the line may affect activity enjoyment. The only area where concentrated recreational activities occur is around Duncan Reservoir, a local recreation spot (Figure 16). Access into previously unroaded areas may be increased, however, by constructing access roads.

No privately-owned or public recreation facilities would be physically impacted although the transmission line may be visible from them.

The proposed construction is not expected to reduce recreational activities.

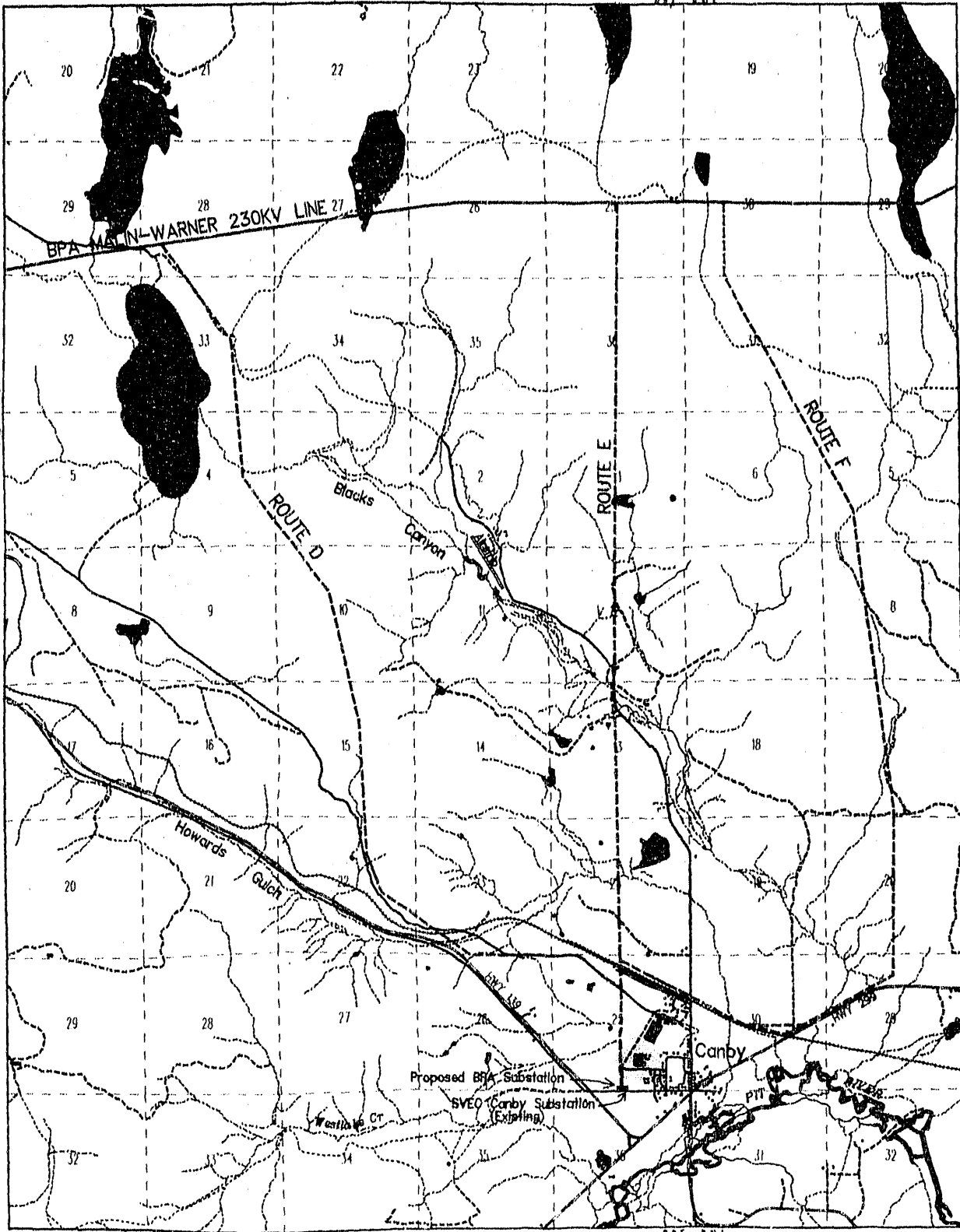
The proposed action will not affect any National Trails or Wilderness areas, or any State designated parks or natural areas.

3.3.3 Zoning

The substation site is zoned "unclassified" by Modoc County (Figure 8). Routes D and F cross both "unclassified" and "open space forestry and grazing" zones. Route E traverses "open space forestry and grazing," "agricultural-exclusive," and "unclassified" zones. Except where Route E crosses "agricultural-exclusive," the project appears to be consistent with local zoning.

3.3.4 Geologic Constraints to Construction

The alternative routes and the substation site are in the eastern part of the Modoc Plateau geomorphic province. Dominant landforms are characterized by the Warm Springs Valley in the south and the broad basalt plateau to the north. In general, slopes are gentle to moderate on the basalt plateau and alluvial valley floors, and represent a low to moderate erosion risk. Steeper slopes, with a higher erosion risk, are found on the escarpment that drops from the plateau rim to the valley floor.

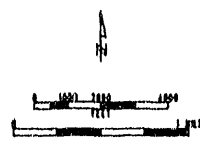


RECREATION AREAS

Figure 16

LEGEND

- Public lake (1/8 mile buffer)
- Privately owned lake (1/8 mile buffer)



Source: US Forest Service, 1991; Bonneville Power Administration, 1991

These features may limit construction:

- steep slopes with high erosion risk on the plateau escarpment.
- extensive areas of shallow bedrock on the basalt plateau, where road construction or structure placement may require blasting or ripping.
- lava tubes in the basalt plateau that could collapse.
- clayey soils which may be impassable and/or susceptible to rutting and compaction when wet (USDA-FS and USDA-SCS. 1983 and USDA-SCS. 1980).

However, no adverse long-term impacts to earth resources are expected since access road construction will be minimized in steep areas; erosion and run-off control structures will be used; disturbed areas will be revegetated; and new road construction will be carefully planned to avoid undercutting steep or unstable slopes. Centerline adjustments and special foundation design would minimize impacts to towers from any potential lava tube collapse.

Depending on the route, from four to six miles of transmission line require new access roads. Although impacts will be similar for all three routes, Route E would have the least impacts due to its lower access requirements and the limited amount of construction needed on steep terrain.

The Canby area is in a moderate seismic risk zone (California Division of Mines & Geology, 1973). The line and substation would be designed and sited to minimize any potential earthquake damage.

Although a cinder pit operation is within about 600 feet of Route D, none of the routes would adversely affect any current mining activity.

3.3.5 Noxious Weeds

After the centerline and access roads for the selected route and the substation site are staked, BPA would survey them for county-listed noxious weeds. BPA would prevent new weed infestations by using standard BPA weed control practices. The selected method(s) would first be approved by the owner or manager of the affected land.

3.3.6 Air Quality

National Ambient Air Quality Standards are established by the U. S. Environmental Protection Agency. Existing air quality in the project area is good to excellent and falls within National Ambient Air Quality Standards.

Short-term air quality impacts would be created by project construction. Cleared commercial ponderosa trees along Route D would be sold. Cleared juniper on forest land would be made available to firewood gatherers. Other cut junipers would be burned. Burning would produce short-term air pollutants. Other debris from clearing would be minimal, and would not be

burned. The substation site would not require clearing. Small amounts of dust and exhaust emissions would be created for a short time during construction. The transmission line and substation would not emit air pollutants. Due to the minor, short-term amounts of pollutants generated by this project, no long-term impacts on air quality are anticipated.

3.3.7 Water Quality

Water quality would be unaffected by the project. Transmission line and access road construction may contribute some sediment to project area watercourses. However, BPA's "Standard Construction Specifications for Environmental Quality Protection" would minimize sediment contributions.

The substation would not affect water quality. It is not near or over any drinking water sources. Oil in the substation transformers is essentially PCB-free. Even if oil leaked from the large transformer, it would be caught by a spill containment device. The small transformer does not contain enough oil (180 gallons) to warrant a spill containment device. Spilled oil would be absorbed by the substation rock.

Because this proposed action will not affect water quality or discharge pollution to the water, water quality standards will not be exceeded, and this action is consistent with the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), the Clean Water Act (33 U.S.C. 1344), and will not require a National Pollution Discharge Elimination System Permit.

3.3.8 Noise

This project could affect noise levels during construction. Effects will be short term, limited to the construction season, and minor. Because additional activities will be minor, impacts should be minimal and not exceed Federal Interagency Committee on Urban Noise or Environmental Protection Agency Noise guidelines, developed because of the Noise Control Act, 42 U.S.C.A. 4901 et seq., 1972. Once completed, the project would not exceed the county noise control guideline of 60dB.

4.0 CONCLUSIONS

The conclusions drawn from the environmental analysis for the substation and the alternative transmission line routes are discussed in this section.

4.1 Substation Impacts

The environmental impacts from the proposed substation are low. Visual impacts would be minor because BPA would use an unobtrusive design. The substation would not affect any wetlands, sensitive plants, or wildlife, and would not create impacts to air quality or recreation. The substation is not on a floodplain. No residences are close enough to be affected by any change in electromagnetic field strengths. Although the substation will remove 1.3 acres of agricultural land from production, and may interfere with some irrigation patterns on nearby farmland, these impacts are minor. No timber will be removed from the substation site. The substation appears consistent with local land use plans. Potential damage from earthquakes and oil spills will be mitigated by specific designs to prepare for these possibilities.

4.2 Alternative Transmission Line Route Impacts

All routes would create no or low impacts to recreation, health and safety, cultural resources, weeds, sensitive plants, air quality, and water quality.

Economic-Social

If the no-action alternative is chosen, increasing industrial, agricultural, and residential electrical loads would be unmet. Businesses, farmers and residents would lose revenue. This could create negative impacts to the local economy.

The proposed Route D is more expensive than Route E, but less expensive than Route F. The difference in price among the routes is about \$500,000 with Route D about \$250,000 more than Route E and about \$250,000 less than Route F. The costs of Routes E and F may increase as much as 15 percent because of potential landowner resistance to these routes. If landowners resist selling right-of-way to BPA, BPA must condemn the property, creating potential litigation costs, and delaying the schedule. If these potential costs are considered, Route D would be the least expensive alternative.

Landowners' concerns about a transmission line on private property include increased access on their property, potential interference with farming practices, and health and safety impacts. Affected landowners prefer Route D and granted BPA permission to do various surveys on their land. They are opposed to Routes E and F, and some said they would not allow BPA to conduct surveys if Route E or F is selected. As noted above, BPA would probably need to condemn affected properties if either of these routes is chosen. This would delay the energization of the project for several months or more, leaving SVEC unable to meet local demands for power.

Accessibility

Route D is near an all-weather road. Operators could easily access switches at the tap points. Routes E and F are less accessible because they would be over 4 miles from an all-weather road.

Wetlands

Impacts to wetlands from all routes would be negligible or slight since wetlands will be avoided or spanned. Route E, however, has the largest wetland to avoid.

Floodplains

Proposed Route D would have no impact on floodplains. Routes E and F cross the 100-year floodplain of Blacks Canyon Creek, but would cause only slight impacts to the floodplain.

Farmland

Routes D and F minimize impacts to farmland by following field boundaries. However, Route F would require new access through agricultural lands and could remove some irrigated lands from production due to new access roads and pole sites. Route E bisects an irrigated field and would interfere with farming practices if the field was not spanned.

Visual

Most of Route D is isolated, and crosses land with an ability to absorb landscape changes. Travelers on Highway 139 could see the line for a short distance as could visitors to Duncan Reservoir. Trees would screen some of the line from the view of reservoir visitors; however, many structures would be skylined. Visual impacts to recreationists using Duncan Reservoir would be moderate. Route E also is generally isolated, but comes within 1/4 mile of three residences. The transmission line would be visible from these homes or from their access roads. Route F also is mostly isolated, but could be seen by travelers on Highway 299 for a greater distance than travelers could see Route D from Highway 139. Canby residents also would see Route F.

Timber

Proposed Route D is the only route with commercial timber impacts. Ten acres of commercial ponderosa pine would be permanently cleared from the right-of-way. Another 12 acres of pine trees that could fall into the transmission line would be cleared from outside of the right-of-way. Route D would also remove 7 acres of non-commercial juniper. Juniper is used for firewood and posts. Routes E and F do not cross commercial timber land. Route E would require clearing 32 acres of juniper, and Route F would require clearing 40 acres of juniper.

Wildlife

All routes would cross the winter ranges of deer and antelope. However, these species would be unaffected by the minimal range loss. All routes add new

roads to big game winter ranges. Route D would add more roads to deer range and Route F would add the most to antelope range. New roads could increase human activities such as poaching within these areas. BPA would install gates to reduce potential increased public access. Opportunities for effectively gating access roads exist for all routes. BPA does not plan to construct the line or access roads when antelope are using the area for reproduction.

Habitat loss caused by the project would not affect sandhill cranes, but there is a low potential for cranes to collide with transmission line wires. Routes E and F create greater collision hazards than Route D because of proximity to crane habitat (Route E) and placing three wires between foraging areas (Route F).

Route D is the only route that crosses an eagle management area. BPA concluded and the USFWS concurred that the bald eagle would not be affected. However, Route D has a higher potential for impacts to eagles than Routes E and F.

Earth Resources

No long-term impacts to earth resources are expected from any of the routes because construction will be minimized in steep areas and erosion control measures will be used to prevent or lessen erosion. Route E has the least soil erosion potential because it has fewer access requirements on steep terrain.

4.3 Conclusion

After reviewing the potential environmental impacts and technical requirements of the substation site and the alternative transmission line routes, BPA concluded the new substation and Routes D, E, and F would create no substantial environmental impacts. Overall environmental impacts are similar among all routes. Route D has the greatest impact on USFS lands though impacts are not major. Route F has no impact on timber resources on USFS land, has the least visual impact on recreationists, and the least potential impact to wetlands and bald eagles. Route D would cost less than Route F. Though Route D appears more expensive than Route E, the extra cost of inaccurate surveys and designs due to conflicts with landowners would make the final cost of Route E similar to Route D. Route D is acceptable to the local community and private landowners. Unlike the other routes, Route D can be built in time to meet the need for power. BPA concludes that Route D is the preferred route for this project.

5.0 CONSULTATION, REVIEW AND PERMIT REQUIREMENTS NOT ALREADY ADDRESSED

5.1 National Environmental Policy Act

This environmental assessment was prepared pursuant to the National Environmental Policy Act (42 U.S.C. 4321 et seq.) and implementing regulations, which require Federal Agencies to assess the impacts proposed actions may have upon the environment.

5.2 Requirements Not Applicable To This Proposal

In addition to the responsibilities under NEPA, Federal agencies are required to carry out provisions of many other Federal environmental laws. Many do not apply to this proposal because the proposal will not affect the area of concern in the individual laws. Subject area and laws are listed below.

5.2.1 Permits for Structures in Navigable Waters

The construction, rehabilitation, or removal of structures in navigable waters requires Federal and State permits. Federal permits are issued by the U. S. Army Corps of Engineers in accordance with Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. This project will not require construction, removal, or rehabilitation of any structures in navigable waters.

5.2.2 Permits for Discharges Into Waters of the United States

A national pollution discharge elimination system permit is issued if any pollution is discharged into the waters of the United States. This project will not require any discharges into the water.

5.2.3 Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901 et seq., was passed in 1976 and amended several times. This legislation regulates the handling, storage, and disposal of solid and hazardous waste. No chemicals or waste products will be used or produced for this project.

5.2.4 Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. 136 et seq., was passed in 1982 and has since been amended several times. The Act regulates the handling and application of pesticides. No pesticides will be used on this project.

5.2.5 Toxic Substances Control Act

The Toxic Substances Control Act, 15 U.S.C. 2601 et seq., regulates the manufacture and, to some extent, the use of toxic substances. No toxic substances will be manufactured or used on this project.

5.2.6 Energy Conservation at Federal Facilities

The Energy Conservation Policy, 42 U.S.C. 8241 et seq., was passed in 1978. The goal of this legislation is to "promote the use of energy conservation, solar heating, and cooling, and other renewable energy sources in Federal buildings." No Federal buildings will be constructed for this project.

5.2.7 Global Warming

This project will not generate gases that may affect global warming in substantial amounts.

6.0 PERSONS AND AGENCIES CONSULTED

Private Landowners

Peggy Brown
Alena Williams Caldwell
Joseph Tolbert

Native American Groups

Pit River Tribal Council
Kelly Hot Springs Band

Corporations

Southern Pacific Transportation Company
Surprise Valley Electrification Corporation

Local Agencies

Modoc County Planning Department
Modoc County Department of Agriculture

State of California

California State University, Department of Anthropology
Department of Fish and Game
Department of Transportation
Historic Preservation Office
Office of Noise Control

United States

Bureau of Land Management
Bureau of Indian Affairs
Fish and Wildlife Service
Modoc National Forest
Sacramento District Corps of Engineers
Soil Conservation Service

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APPENDIX -

Canby Area Service Project Alternatives

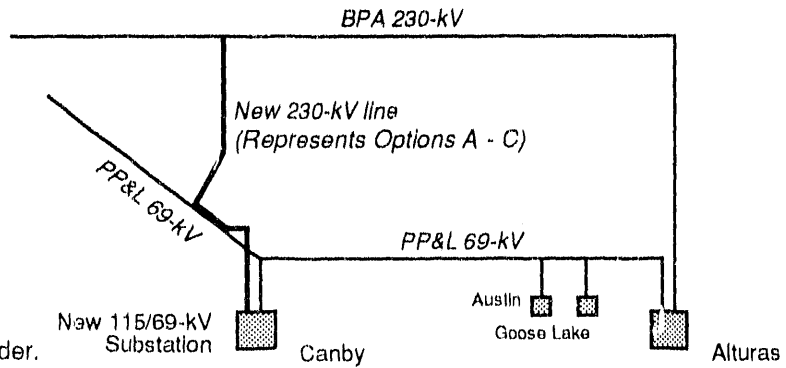
ALTERNATIVE 1 - NEW 230-kV LINE

(This alternative consists of routing options D - F and is analyzed in the Canby Area Service Project Environmental Assessment)

ALTERNATIVE 2 - NEW 230-kV LINE

(This alternative consists of routing options A - C, including the parallelling of PP&L's 69-kV line along Route A)

- a. Build 7-10 mile transmission line, part wood H-frame and part single pole wood. Portions of route options A-D would be parallel to PP&L's 69-kV line; all alternatives would include some new corridor.
- b. Build new 230/69-kV substation at Canby.
- c. Construct new access roads along the new corridor sections and utilize existing roads where possible, for remainder.



ADVANTAGES

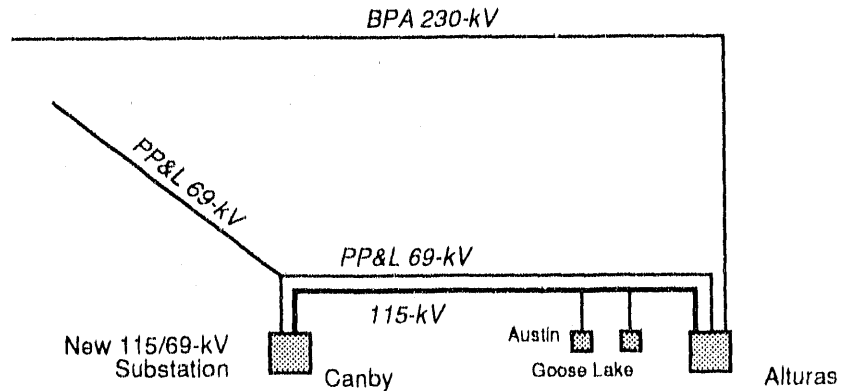
- 1. Meets need for the project. Allows Surprise Valley Electric Corporation to meet increasing electrical loads.

DISADVANTAGES

- 1. Creates unacceptable impacts to Federally-protected wetlands.
- 2. Creates unacceptable impacts to USFS visual resources.

ALTERNATIVE 3A(1) (Parallel)

- a. Build a 21 mile parallel line adjacent to PP&L's Mallin-Alturas 69-kV line.
- b. Construct a new 115/69-kV, substation at Canby.
- c. There is no adequate access. New access is necessary for entire line length.



ADVANTAGES

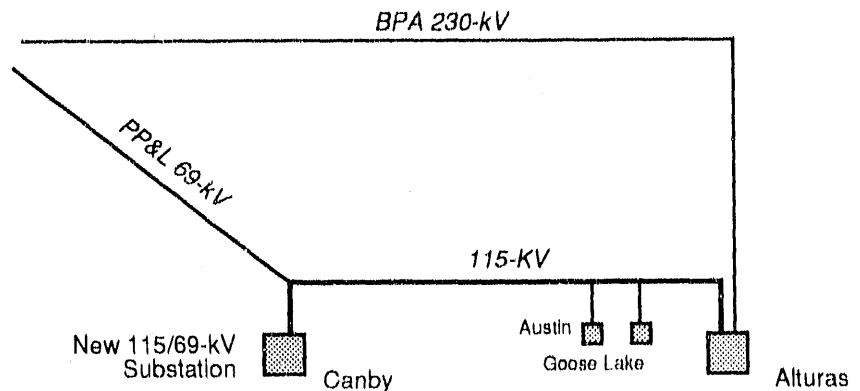
1. No impacts to Forest Service properties.
2. Use existing corridors.

DISADVANTAGES

1. Greatly impacts private property.
2. PP&L's line proceeds through
 - a. agricultural lands
 - b. wetlands
 - c. wildlife areas near Pit River
3. Near rural residences with possible visual and EMF concerns.
4. Proceeds through residential area in Alturas.
5. Parallels highway. The new line is larger and will increase visual impacts.
6. Would be difficult to locate a new line parallel to PP&L's line or in any other location in and around the Alturas area.
7. Has greater costs - \$4.4 million, \$1 million more than Alternative 2.

ALTERNATIVE 3A(2) (Replace)

- a. Remove PP&L's 21 mile 69-kV line from Alturas to Canby and rebuild to 115-kV.
- b. Build a new 115/69-kV substation at Austin.
- c. Construct a new 115/69-kV substation at Canby.
- d. PP&L's Goose Lake and Canby #2 loads would then be served from the new Canby and Austin substations over new 1/2 mile long 69-kV circuits.
- e. There is no adequate access. New access is necessary for entire line length.



ADVANTAGES

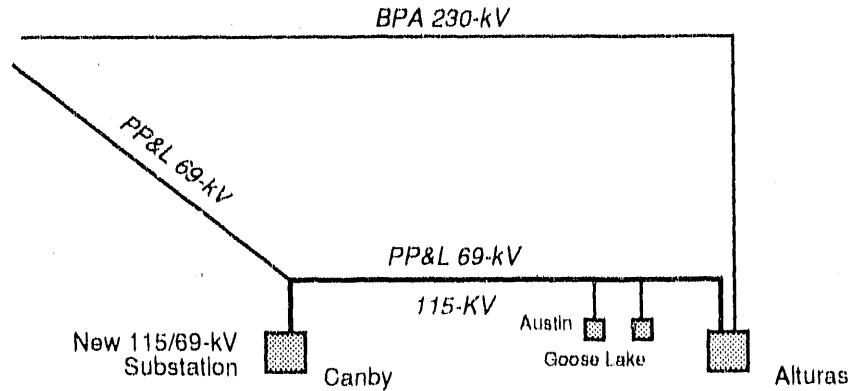
1. No impact to Forest Service properties.
2. Reduces impacts to private properties as compared to Alternate 3A(1).
3. Use the existing transmission system to extent possible.

DISADVANTAGES

1. Impacts private property due to improvement of access road system.
2. May increase EMF levels at some residences.
3. May increase impacts on wetlands due to improved access roads.
4. Has greater costs, \$5.8 million, \$2.4 million more than Alternative 2.
5. Sharing or double circuiting of transmission facilities by two different utilities is not standard practice in the utility industry. Each utility has its own customer needs and operational requirements that are independent. Questions of liability, cost, maintenance, system reliability, line operation, and outages make it unfeasible for different utilities to occupy or share the same transmission structures.

ALTERNATIVE 3A(3) (Double Circuit)

- a. Remove PP&L's 21 mile 69-kV line from Alturas to Canby.
- b. Replace with a new Double Circuit single wood pole line, one side 69-kV the other 115-kV.
- c. Build a new 115/69-kV substation at Austin.
- d. Construct a new 115/69-kV substation at Canby.
- e. There is no adequate access. New access is necessary for entire line length.



ADVANTAGES

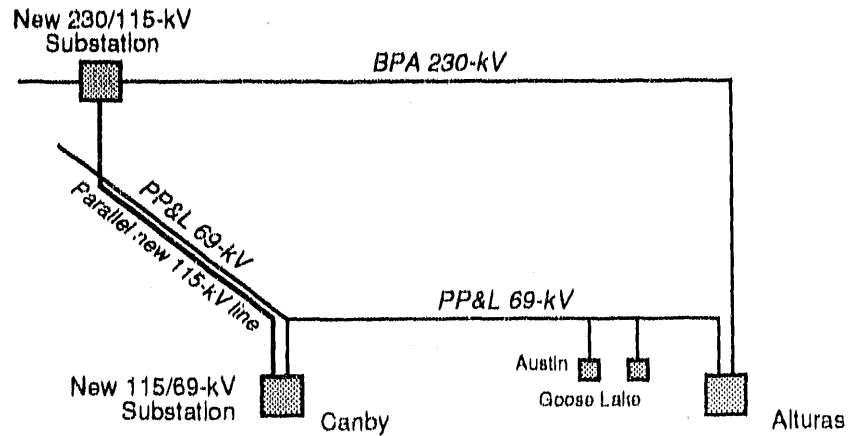
1. No impact to Forest Service properties.
2. Reduces impacts as compared to Alternate 3A(1)

DISADVANTAGES

1. Same as Alternate 3A(2).
2. Has greater costs. \$8.0 million, \$3.6 million more than Alternative 2.

ALTERNATIVE 3B(1) (Parallel)

- a. Construct approximately 10 miles of 115-kV line, 1 mile of new corridor and 9 miles parallel to PP&L's 69-kV line.
- b. Build a new 230/115-kV substation at the tap point.
- c. Build a new 115/69-kV substation at Canby.
- d. There is no adequate access. New access is necessary for the entire line length.



ADVANTAGES

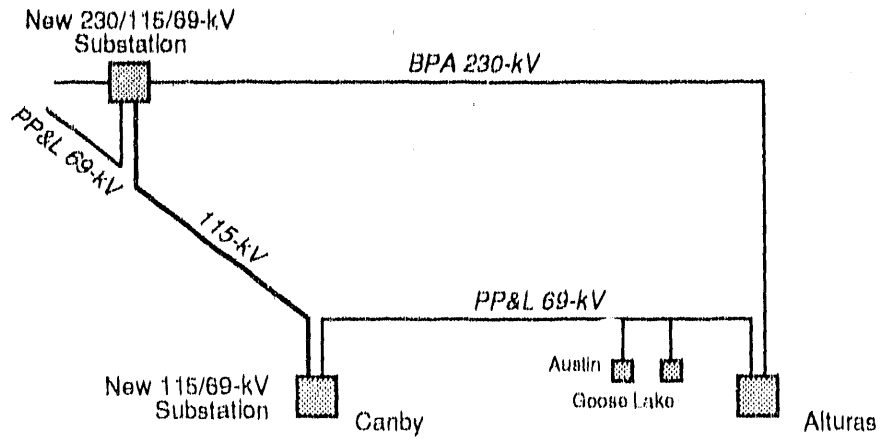
Except for 1 mile, it uses existing corridor.

DISADVANTAGES

1. The existing 69-kV line is located along highway and through Forest Service Lands that have a Visual Quality Objective of Retention. There is no existing access road system. The new line and new access roads would impact the V.Q.O. Retention Zones.
2. The existing 69-kV line also crosses wetlands. The new line and new access roads would impact wetlands.
3. The one mile of new corridor would create impacts where none currently exist.
4. A new substation would be built at the tap point that would require a high quality road. The substation and road could create visual impacts.
5. The substation at the 230-kV tap point would be located away from major roads. Reliability could be reduced due to increased time required to get to the substation, particularly in the spring when access roads would not hold heavy loads.
6. The substation at the tap point would have no distribution line for station service, thereby reducing reliability.
7. This Alternate would cost \$5.0 million, \$1.6 million more than Alternative 2.

ALTERNATIVE 3B(2) (Rebuild)

- a. Remove PP&L's 69-kV line for nine miles.
- b. Replace with a new nine mile 115-kV line.
- c. Construct 1 mile of new 69-kV and 115-kV single circuit lines in new corridor.
- d. Build a 230/115/69 kV substation at the tap point.
- e. Build a 115/69-kV substation at Canby.
- f. There is no access. New access is necessary for the entire line length.



ADVANTAGES

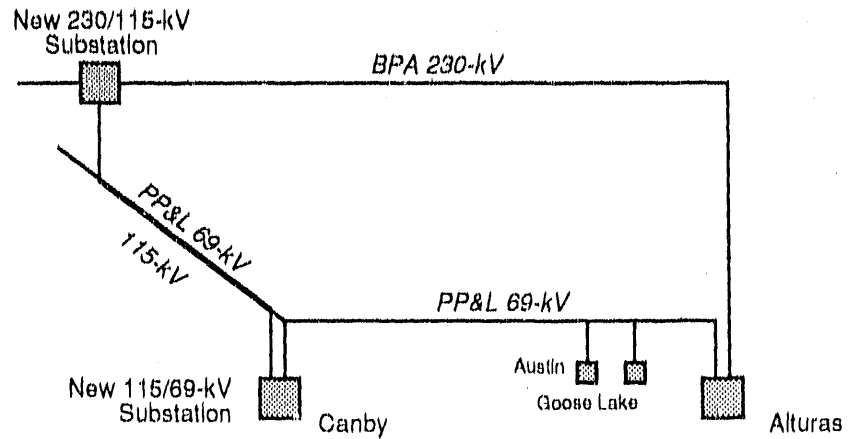
Except for 1 mile, it uses existing corridor.

DISADVANTAGES

1. Same as Alternate 3B(1)
2. Has greater cost, \$6.2 million, \$2.8 million more than Alternative 2.
3. Sharing or double circuiting of transmission facilities by two different utilities is not standard practice in the utility industry. Each utility has its own customer needs and operational requirements that are independent. Questions of liability, cost, maintenance, system reliability, line operation, and outages make it unfeasible for different utilities to occupy or share the same transmission structures.

ALTERNATIVE 3B(3) (Double Circuit)

- a. Construct approximately one mile of new 115-kV single circuit line.
- b. Remove PP&L's 69-kV line for nine miles and replace with a double circuit single wood pole line with one side 69-kV and other side 115-kV.
- c. Construct new 230/115-kV substation at the tap point.
- d. Build a new 115/69-kV substation at Canby.
- e. There is no adequate access, new access is necessary for the entire line length.



ADVANTAGES

Except for 1 mile, it uses existing corridor.

DISADVANTAGES

1. Same as Alternate 3B(2) with a slight increase in visual impacts.
2. Has greater cost, \$5.7 million, \$2.3 million more than Alternative 2.

APPENDIX 2
PUBLIC COMMENTS AND RESPONSES

PUBLIC COMMENTS AND RESPONSES

BPA sent the Environmental Assessment (EA) to the public for comment on the proposed action. BPA received comment letters on the EA from Modoc National Forest (MNF); State of California, Office of Historic Preservation (CASHPO), Department of Transportation (CALTRANS), Department of Fish and Game (CAF&G); and Alena S. Williams Caldwell (Caldwell). This appendix contains the written comments. The comments are organized by topic. BPA's responses follow each comment. Comment letters are reprinted at the end of this appendix.

PURPOSE AND NEED

COMMENTER

COMMENTS AND RESPONSES

Caldwell

COMMENT

There is no reason stated for this project other than expected growth. The county has not had growth in the past 20 years to support this contention.

RESPONSE

BPA agrees that expected load growth is the only reason for the project. The need for the project is discussed in Section 1.0 of the EA.

CAF&G

COMMENT

The EA does not address the short-term or long-term cumulative impacts or mitigation features for:

1. The future needs for additional power beyond the current proposal.
2. The potential for growth inducement of the proposed project.
3. The potential for additional distribution lines...

RESPONSE

1. Future Needs. Please see page 4 of the EA. BPA cannot predict future needs for additional power beyond this project's scope. This project is needed to meet current loads. For prudent planning (minimizing additional future facilities, keeping impacts to a minimum, and keeping costs to a minimum) this project is designed with adequate capacity to handle reasonably foreseeable loads. Usually load growth precedes projects like this one. Growth in agricultural and industrial loads created the need for this project. BPA does not determine future load growth but relies on 10-year projections from local utilities. These utilities use information from their customers and local governments who oversee land use planning.

2. Growth Inducement. BPA's experience indicates growth in an area is independent of BPA projects. This is the case for this project.

3. Distribution Line Potential. The potential for additional distribution lines is difficult to predict. As individual residences or businesses are added to the system or existing customers increase their demands, existing distribution lines may need to be upgraded or short distribution lines may need to be added where none exist. Except in general terms, local utilities are unable to predict when the distribution line upgrades or new distribution lines will be needed until growth is anticipated or takes place, or a construction project is proposed.

ALTERNATIVES

Caldwell

COMMENT

I do not believe it is more expensive to use existing lines than to construct new ones. New lines should not be constructed. In part this seems to be caused by a political struggle between two power companies, trying for the same service area.

RESPONSE

The design and condition of existing powerlines could not accommodate the increased electrical load. Therefore, BPA would need to remove these existing lines and replace them with new lines. These actions would be more expensive than building a new line along an alternative route. For more detailed information, see Appendix 1 of the EA.

Caldwell

COMMENT

You should select the No Action Alternative. I also have no objection to Alternative D, or using existing lines.

RESPONSE

The no-action alternative would not meet the need for the project. Please refer to Section 2.4 of the EA. BPA has identified Route D as the preferred alternative route (Section 4.3 of the EA). The preceding response addresses using existing lines.

WETLANDS

CAF&G

COMMENT

The Department of Fish and Game reviewed the EA and found it inadequate in its discussion of project related impacts to wetlands.... Our earlier comments included the recommendation that the EA provide a comprehensive evaluation of wetland impacts based on mapping done by a professional trained in wetlands delineation using the joint U.S. EPA, U.S. FWS and U.S. Army Corps of Engineers methodology. Because this was not accomplished, the impact of the project to wetlands and potential mitigations cannot be determined. Without the comprehensive evaluation it cannot be categorically stated that impacts to wetlands would be "negligible." The Department opposes approval of projects affecting wetlands unless measures are included to assure no net loss of wetland acreage or wetland habitat values will result. Wetlands impacted temporarily by project construction should be restored to preproject conditions. Unavoidable permanent loss of wetlands must be compensated by creation of new wetlands and by their protection in perpetuity.

RESPONSE

BPA used a combination of off-site and on-site determination methods to identify the wetlands discussed in the EA. Available data pertaining to vegetation, soils, and wetlands included: U.S. Soil Conservation Service and U.S. Forest Service soil surveys; U.S. Fish and Wildlife National Wetland Inventory Maps; U.S. Forest Service vegetation maps; Federal Emergency Management Agency floodplain maps; and aerial photography. These were reviewed and correlated with field observations of vegetation, soils, and hydrology. Wetlands were mapped and analyzed at the same level for all three practical alternatives (i.e., Alternatives D, E and F) addressed in the EA. The purpose of these analyses was to permit a balanced, comparative analysis of the reasonable alternative routes.

To enable effective mitigation needed to ensure no net loss of wetland habitat or function, a detailed delineation of wetlands boundaries, following the methods of the joint Federal Manual for Identifying and Delineating Jurisdictional Wetlands, will be undertaken in May or June along the preferred alternative. If wetlands are delineated in areas that would be impacted by the project, then appropriate mitigative measures (as described in the Mitigation Plan) will be incorporated into the project design and plans will be developed to assure that no net loss of wetland acreage, form, or function occurs. Should an alternate to the preferred alternative be selected, comparable mitigation measures and plans will be developed and implemented for the alternate route.

Caldwell

COMMENT

Natural and subirrigated wetlands on my property are not shown in figure 3.

RESPONSE

Please refer to previous response.

CAF&G

COMMENT

The project proponent should contact the U.S. Corps of Engineers Regulatory Branch in Sacramento regarding the need for a permit under Section 404 of the Clean Water Act.

RESPONSE

The U. S Corps of Engineers is aware of this project. BPA received a letter regarding the project from the Corps on June 25, 1991. The letter suggests a permit may be necessary.

LAND USE

Caldwell

COMMENT

The first maps you used were contoured. Maps in the EIR do not show topography. Route E may cross BLM rim, a natural fence. E also goes over my existing road, p. 17.

RESPONSE

BPA does not consider the rim a barrier to a powerline. We realize that Route E crosses your road; however, use of the road would not be affected. Further, Route E is not BPA's preferred route.

CAF&G

COMMENT

The EA does not address the short-term or long-term cumulative impacts or mitigation features for:...

4. The creation of a new utility corridor.
5. The evaluation of impacts associated with creating a new power line corridor compared to upgrading the existing power line in Howard's Gulch, an existing corridor which has also been impacted by the adjacent railroad and highway.

RESPONSE

See Appendix 1 and page 5 for discussions of expanding existing lines and corridors under "Alternatives Eliminated from Further Consideration."

FARMLAND

CAF&G

COMMENT

The EA does not address the short-term or long-term cumulative impacts or mitigation features for:...

6. The economic and environmental impacts of single pole construction on agricultural land and "H" frame construction on other land including public land.

RESPONSE

Single poles are more easily placed along fence rows keeping impacts to agricultural activities to a minimum. In some non-agricultural areas H-frame structures are used that are almost twice as far apart as single pole structures, thereby allowing more access flexibility to each structure. Longer distances between H-frame structures also facilitate spanning areas with sensitive plants and archaeological resources. The H-frame structures have conductors all on one plane, reducing height, visual impacts, and potential for bird collisions. H-frame structures need 40 feet more of right-of-way. H-frame structure costs are similar to single pole construction costs. Please see page 1 of the EA.

ELECTROMAGNETIC FIELD EFFECTS

Caldwell

COMMENT

My satellite dish will be affected.

RESPONSE

BPA does not expect the project to affect radio or television reception. However, BPA addresses this concern in the Mitigation Action Plan (Appendix 3).

VISUAL IMPACTS

USFS

COMMENT

Visual quality is identified as being negatively affected around Duncan Reservoir. Mitigation measures the Forest Service has identified to offset this impact include:

- (1) Replace existing substandard toilet at south end of lake.
- (2) Relocate existing toilet at the dam to bring to standard.
- (3) Construct crushed rock boat ramp at south end of lake.
- (4) Surface access road into the lake with crushed rock or cinders.

RESPONSE

To offset visual impacts, BPA will complete the Forest Service's recommended mitigation measures by providing funds to the Modoc National Forest for these facilities. See Appendix 3, Mitigation Action Plan.

CALTRANS

COMMENT

We would request that placement of any transmission structures in visually sensitive areas along State Highway 139 or 299, take into consideration the aesthetic impact to the traveling public.

RESPONSE

BPA agrees that aesthetics are important and need to be considered in visually sensitive areas. BPA will attempt to reduce the number of structures in the direct view of travelers on State Highways 139 and 299.

THREATENED AND ENDANGERED SPECIES

Caldwell

COMMENT

It is my understanding that a 90 day moratorium on ventures involving the possibly endangered southern spotted owl has occurred. I have heard calls and found nests that may indicate it lives near me. There is, also, an exotic bat that exists in the rimrock. Currently, we are investigating its rarity.

RESPONSE

The California spotted owl and the northern spotted owl are the two subspecies of spotted owls. The northern subspecies is classified as threatened by the U.S. Fish and Wildlife Service (USFWS); however, the California subspecies is only a candidate species and receives no Federal legal protection. Since habitat for the protected northern subspecies has not been identified in your area, the appropriate Endangered Species Act provisions would not apply.

BPA found no records of spotted owls (either subspecies) in the project area. We consulted with Modoc National Forest and the California Department of Fish and Game, including the Natural Diversity Data Base. In March of this year, the Bureau of Land Management will conduct an owl survey on the land it manages along Route D. Based on the survey results, the BLM would take any required management actions.

BPA also found no records of bats in the project area. Furthermore, it is highly unlikely that the transmission line would affect any bats in the area. Bats hunt while flying and roost and hibernate underground. A powerline would occupy an extremely small portion of hunting habitat and would create no effects on caves. Given the accuracy of a bat's navigation system (echolocation), chances of a collision with a powerline are essentially zero.

CAF&G

COMMENT

The Department of Fish and Game reviewed the EA and found it inadequate in its discussion of project related impacts to State-listed threatened and endangered species.... The environmental assessment must discuss the findings of (State-listed endangered, threatened and sensitive wildlife and plant species) field surveys as well as the mitigations necessary to reduce these significant impacts to an acceptable level. This information is also required in order for the Department to prepare a Biological Opinion under the California Endangered Species Act (CESA).

The project proponents must also address State-listed species within the zone of influence of the project and consult with the Department under CESA. The State-listed species are the: bald eagle (SE), Swainson's hawk (ST), willow flycatcher (SE), bank swallow (ST) and greater sandhill crane (ST)... Of primary concern...was that an intensive survey be conducted prior to final route selection by an independent qualified biologist to determine if any of the State-listed species are present...We further recommended consultation after the intensive survey was completed. The survey has not been done and there has been no consultation.

RESPONSE

Section 7 of the Federal Endangered Species Act (ESA) requires BPA to prepare a Biological Assessment for listed and proposed species. The USFWS considered the project area and sent BPA a list of species. This list directed BPA to address project impacts to the bald eagle. Considering candidate species in a Biological Assessment is optional. BPA chose not to include the two candidate species (Sierra Nevada snowshoe hare and white-footed vole) in the document. The USFWS did not mention the Ferruginous hawk.

In the Biological Assessment, BPA concluded that the project would not adversely affect the bald eagle. The USFWS concurred with this conclusion. All correspondence between the USFWS and BPA as well the Biological Assessment are included in Appendix 4.

Section 7 of the ESA guides the content of portions of BPA's environmental documents. Section 7 requires BPA to assess the impacts of projects on federally listed species; state listed species are not addressed. BPA determined that the project would not adversely affect any federally listed species and the USFWS agreed with this determination. However, to insure that the project does not affect state listed species, BPA does plan to survey the selected transmission line route. Please refer to Appendix 3, Mitigation Action Plan.

As explained in Sections 3.2.1 and 3.2.2 of the EA and Appendix 4, raptor collisions and electrocutions are highly unlikely. Since raptors (such as bald eagles, golden eagles, Swainson's hawks, ferruginous hawks, and prairie falcons) hunt over very large areas, BPA does not believe that the land altered by the project (14 acres) would affect raptor foraging.

Section 3.2.2 of the EA also explains why BPA expects impacts to willow flycatchers and bank swallows to be minimal. We recognize that our baseline information on these species is limited and agree to survey the selected route for their habitats. Refer to the Mitigation Action Plan (Appendix 3). Our response on page 13 addresses sandhill cranes.

CAF&G

COMMENT

...Ferruginous hawk, a Federal Category Two species, has been identified as an occasional visitor to the general area...There is no indication the USFWS was contacted in the EA...No information supports the statement that no impacts are expected.

RESPONSE

See previous response.

OTHER WILDLIFE

Caldwell

COMMENT

Referring to p. 22 about poachers. My experience with them is that gates are not a deterrent.

RESPONSE

If poachers can circumvent the gates, poaching could increase slightly. However, BPA believes that effective gates deter poachers. The California Department of Fish and Game and land management agencies' enforcement actions would also limit poaching.

USFS

COMMENT

Gating of the right of way to reduce public harassment on big game ranges and the bald eagle management area. This is clear in the FONSI but not in the EA.

RESPONSE

BPA will install effective gates near both ends of any newly-constructed access road. See Appendix 3, Mitigation Action Plan.

CAF&G

COMMENT

The EA suggests that harassment and poaching would be mitigated by limiting public access through effective gating of access roads. No information on location or type of gating is provided for the evaluation of this potential mitigation feature...You must provide assurance as to the effectiveness of this procedure and for long-term maintenance. Locked gates on public land is an undesirable feature from the public view point. This feature would require Federal land management agency concurrence...New roads would have to be completely blocked to public access or restored to near preproject conditions.

RESPONSE

BPA works with landowners and land managing agencies for appropriate gate locations. BPA needs access to every structure for maintenance and inspection. To minimize vandalism, BPA also is interested in reducing public access along the transmission line. Access roads and gates will be placed so it will be extremely difficult for the public to go around a gate. Gates will be periodically checked by BPA; usually the landowner checks gates also.

BPA has located gate sites for Route D. The north gate would be located in a drainage in section 4, T42N, R9E and the south gate would be in section 22 (NE1/4 of NW 1/4), T42N, R9E. The gates would prevent unauthorized motor vehicle access to the antelope kidding range. Of project roads located in deer and antelope winter range, about half could be used by the public. We expect snow cover to restrict the winter use of ungated road segments to snowmobiles only.

The metal gates would be about 4 feet tall. To reduce the potential for transmission line vandalism created by public use of project roads, BPA would lock and maintain the gates. Rugged topography (north) and existing fences (south) would make circumventing the gates difficult. Since the gates are required for new project roads, public access would not change. BPA

would coordinate installing and using the north gate with Modoc National Forest. Since BPA needs the gated roads to maintain the transmission line, the roads would not be obliterated or revegetated. See Mitigation Plan (Appendix 3).

Caldwell

COMMENT

Several letters I have written included photographs of cranes and migrating waterfowl. Any time ice melts there are more landing in Black's Canyon. This was not addressed in the EIR, p. 24.

RESPONSE

Thank you for the information. Your concerns about potential environmental impacts are noted in Section 3.1.1 of the EA. BPA will hire a consulting biologist to study sandhill crane habitat near Route D and try to determine crane flight paths. The final report will contain any necessary recommendations for reducing impacts to cranes. Please see the Mitigation Action Plan, Appendix 3.

USFS

COMMENT

Because of the loss of commercial timber land which in turn affects wildlife species requiring snag habitat, approximately 30 trees will need to be topped along the line within the area. These trees will produce future snag habitat to offset the loss.

RESPONSE

To mitigate for clearing ponderosa pine, BPA will create snags by topping 30 trees within the line-clearing area. See Appendix 3, Mitigation Action Plan.

USFS

COMMENT

Disturbed areas within the right of way will need to be seeded with an appropriate mix to reduce erosion potential and benefit antelope and deer.

RESPONSE

BPA will seed disturbed areas with a USFS-approved mix. See Appendix 3, Mitigation Action Plan.

USFS

COMMENT

No construction will be allowed during the antelope kidding season which will be completed by June 15.

RESPONSE

BPA will not construct in the antelope kidding area between May 15 and June 15. See Appendix 3, Mitigation Action Plan.

CAF&G

COMMENT

The Department of Fish and Game reviewed the EA and found it inadequate in its discussion of project related impacts to ... deer, antelope, and sensitive species of birds...The Department's comments regarding this project were provided to BPA in letters dated September 30, 1991, and October 29, 1991. These letters provided wildlife and habitat information as well as recommendations necessary for the assessment and/or mitigation of impacts of the project to these resources....

RESPONSE

BPA appreciates the baseline information supplied by CDFG. We believe the actions detailed in the "Other Wildlife" section of BPA's Mitigation Action Plan address the Department's concerns regarding wildlife impact assessment and mitigation.

CAF&G

COMMENT

Impacts to deer and antelope would occur through habitat destruction and indirect harassment of animals...The EA has not adequately addressed the impacts or mitigation features for actual project construction activities which induce deer harassment. It is our recommendation that to avoid deer harassment during the lowest period of nutrient intake, that no project construction activities be allowed during the period of December 1 through April 30.

...The EA has not addressed the mitigation of impacts to critical habitats. The EA is inadequate as it merely states that deer and antelope would be unaffected by the range loss, the alternative routes would cross but not affect antelope migration routes and only negligible amount of kidding range would be removed. The EA has not addressed the cumulative impacts of habitat destruction. It is the Department's position that habitat capabilities be fully restored...The EA should clearly state that BPA will not construct the line or access road across antelope kidding grounds during the critical kidding period of April 15 through June 30 as per our earlier recommendations.

RESPONSE

Section 3.2.2 of the EA compares the loss of deer and antelope ranges to ranges available in the project area. We believe that the loss of less than 0.05 percent of the ranges constitutes a minimal impact. Our analyses regarding impacts on kidding areas

and migration routes are accurate. Due to the insignificant levels of impact, BPA proposes no habitat manipulations or off-site habitat acquisitions. The Mitigation Action Plan (Appendix 3) describes measures that BPA would take to minimize harassment. Compared to other projects in the region, the incremental impact of BPA's proposed 14-acre project is extremely small.

BPA believes June 30 is not an accurate end date for antelope kidding season. This evaluation is based on a May 15 to June 15 season given by Kindschy, et al. (1982, p. 15) and MNF biologists. The Mitigation Action Plan (Appendix 3) states that BPA will not construct in the kidding area between May 15 and June 15.

BPA believes that April 30 is not an accurate end date for the deer wintering period. BPA also consulted with MNF wildlife biologists and obtained an end-of-winter date of March 31. The Mitigation Action Plan (Appendix 3) states that BPA will not construct on deer winter range between December 1 and March 31.

CAF&W

COMMENT

The EA does not address the short-term or long-term cumulative impacts or mitigation features for:...

7. The potential for mortality of large birds due to electrocution or collision with power line structures.

RESPONSE

The only large birds recorded in the project area are various species of raptors and the greater sandhill crane. BPA's proposed raptor nest surveys along the selected route would yield further information (see Appendix 3). Since CDFG, MNF, and the BLM have not expressed concerns about waterfowl nor have we observed substantial numbers of waterfowl in the project area, BPA assumes that the project area does not contain important waterfowl habitat.

The authoritative publication on preventing the electrocution of raptors is Suggested Practices For Raptor Protection on Power Lines - The State Of The Art In 1982 (Olendorff, et al., 1981). This publication classifies all powerlines over 69-kV as transmission lines and states that "transmission lines pose little electrocution hazard because wire separation is adequate." The 230-kV transmission line proposed by BPA would not electrocute raptors because it would have over the recommended 5-foot separation between wires. A raptor is the only large bird that would be exposed to electrocution when perching on a powerline.

Section 3.2.1 is based on BPA's Biological Assessment and concludes that the project would not affect bald eagles. The U.S. Fish and Wildlife Service's Biological Opinion concurs with BPA's Assessment. Both documents consider collisions between bald eagles and powerlines to be highly unlikely. We have attached the Assessment and Opinion for your reference.

The collision analysis for bald eagles would apply to any raptor species (such as golden eagles, Swainson's hawks, ferruginous hawks, and prairie falcons). Section 3.2.2 notes the low potential for Swainson's hawks to collide with the transmission line.

The chances for collisions between sandhill cranes and the transmission line is discussed in Section 3.2.2. Faanes (1984) supports BPA's assertion that omitting the overhead groundwire for most of the line (over 85 percent of all routes) would greatly decrease the collision potential. Furthermore, the Section notes that BPA would use the safest wire arrangement (conducting wires in a single plane) for over half of the line (all routes). BPA recognizes that information on sandhill crane use of the project area may be lacking. We, therefore, will undertake crane surveys as indicated in the Mitigation Action Plan (see Appendix 3).

CAF&G

COMMENT

Comments in our letter of September 30, 1991 which discussed sage grouse, golden eagle and prairie falcons still apply.

RESPONSE

As stated in Section 3.2.2, BPA does not believe the 14-acre project would affect sage grouse. The four inactive strutting grounds noted in the CAF&G report would not be disturbed by the project. Furthermore, only one of these inactive grounds is in the project area. The others are over 3 miles from the northeast corner of the project area and 8 miles from Route D. Sage grouse observations have not been recorded for the project area nor does the area supply enough sagebrush to be potential habitat. Martin (1970), Wallestad (1975), Klebenow (1969), and Patterson (1952) provided our descriptions of sage grouse habitat.

As noted in Section 3.2.2 of the EA, the only known eagle nests are over 1/2 mile from Route D. This distance corresponds to the 1/2 mile buffer recommended by your report. If surveys aimed at finding raptor nests (see Mitigation Action Plan - Appendix 3) discover golden eagle nests, BPA will not blast or use helicopters within the buffer zone. BPA will follow Snow's

(1973) recommendation of limiting construction between February 1 and June 1. Since a golden eagle hunts over an area of 42,000 to 128,000 acres (Jackman and Scott 1975), we do not believe that the 14 acres removed by the project would affect eagle foraging.

BPA is aware of only one prairie falcon nest in the project area. Our proposed raptor surveys along Route D (see Mitigation Action Plan, Appendix 3) could find other nests. As stated in the Mitigation Action Plan, BPA construction crews will not use explosives or helicopters within 1/2 mile of prairie falcon nests. (Between February 1 and July 15)

CAF&G

COMMENT

Even if the above recommendations are satisfied, this project will still contribute to the continuing reduction in wildlife populations and their habitat.

RESPONSE

BPA has demonstrated that impacts to wildlife and wildlife habitats are not significant. (See EA, FONSI, Responses to Comments on the EA, and Mitigation Action Plan.)

SENSITIVE PLANT SPECIES

USFS

COMMENT

The sensitive plant survey report will need to be approved by the Forest Service prior to the Forest Supervisor signing the decision notice. The survey is not expected to be completed prior to June 15, 1992 due to expected maturity of the plants.

RESPONSE

BPA will not disturb any ground within the Modoc National Forest until the USFS Decision Notice is signed. See Appendix 3, Mitigation Action Plan.

CAF&G

COMMENT

The Department of Fish and Game reviewed the EA and found it inadequate in its discussion of project related impacts to ... sensitive species of plants... The Department recommended that all alternative routes be surveyed by a qualified botanist during appropriate time frames in areas where five particular species could be expected to occur. The botanist should be an

independent consultant. The location and extent of sensitive plants must be identified prior to staking of the substation, centerline and road locations. If sensitive plants are located and/or mitigation measures are necessary, these should be identified in the EA.

RESPONSE

An environmental analysis of Routes D, E, and F was completed and the results are in the EA. Plant species were analyzed at the same level for these three practical alternatives. This level of detail is appropriate for determining the relative merits of the proposed corridor alternatives.

BPA chose Route D as the preferred alternative (Section 4.3). BPA will conduct a special status plant population inventory for this route. BPA has retained BioSystems Analysis, Inc. (BioSystems), to complete an inventory of special status plant populations along Route D during proper phenologic periods. Thirty-five target species could occur in the project area. BioSystems botanists will survey the right-of-way, access roads and the substation site. Existing stakes, engineering drawings, aerial photographs and other BPA survey markers will be used to indicate the exact locations on the ground. When the inventory is completed, BioSystems will submit an assessment of the project's effects and impacts to special status plants. Then, if necessary, specific recommendations for mitigation measures to reduce or avoid adverse impact to special status plants will be submitted. Potential mitigation measures for sensitive plant species are listed in the Mitigation Action Plan, Appendix 3.

If a route other than Route D is selected for development, measures comparable to those outlined for Route D will be applied to the selected route prior to construction.

GRASSES AND COMMERCIAL TIMBER

Caldwell

COMMENT

Old time bunch grasses still exist, and a few pine trees are growing.

RESPONSE

Project construction would affect some pine trees and small amounts of bunchgrasses. BPA would reseed disturbed areas. Please refer to Section 3.2.4 in the EA and the Mitigation Action Plan (Appendix 3). Again, Route D is the preferred route.

CULTURAL RESOURCES

USFS

COMMENT

The archaeological survey report will need to be reviewed, verified, and have concurrence by SHPO prior to the Forest Supervisor signing the decision notice. We currently have a problem in that the survey completed to date is a 125 foot corridor. This will need to be resurveyed due to danger trees and right of way road locations being outside of this corridor.

RESPONSE

A revised copy of the survey report addressing the expressed concerns will be submitted to the SHPO for review and comment. A revision is also necessary because project design changes warrant additional survey. Changes will be reflected in the revised report. BPA understands that MNF will need to see the SHPO's concurrence prior to signing the decision notice. See Appendix 3, Mitigation Action Plan. BPA will not disturb any ground within MNF boundaries until it receives clearance from SHPO and MNF.

CASHPO

COMMENT

The report states the survey traversed the right-of-way for the proposed project. It is unclear from the information provided if the ROW coincides with the Area of Potential Effect. Will the project require staging areas for construction equipment and/or access roads that will be outside the ROW? Are there any other reasons that there could be a potential for effects to historic properties outside the ROW? Will the construction of the new substation require additional construction (additional potential for effect to historic properties) by the local utility in order to connect the substation to the existing local system?

RESPONSE

A revised copy of the survey report will be submitted to the CASHPO for review and comment. A revision is necessary because project design changes warrant additional survey. Changes will be reflected in the revised report. The report will clarify the Area of Potential Effect (APE).

The staging area used for construction will be an existing material yard being used now by the property owner. Some parts of the access road may leave the right-of-way. All transmission line construction will be within the right-of-way. Constructing the new substation will not require any additional construction by the local utility.

CASHPO

COMMENT

Site records were not provided with the report. Without site records it is not possible to comment on the adequacy of the report.

RESPONSE

Site forms for all historic properties recorded during survey will be forwarded to the CASHPO with the revised report mentioned in the previous response. Forms for nine sites recorded to date have been revised to reflect the comments provided by the Forest Archaeologist on draft copies of these forms. These and any new forms will be submitted in the near future.

CASHPO

COMMENT

The report recommends that determinations of eligibility be sought for affected sites in advance of construction if it is not possible to relocate structures so that culturally sensitive areas can be avoided. Determinations of eligibility are required by 36 CFR 800 in order to determine if a property is an historic property. If any portion of the project has the potential to affect an historic property (not just the structures), not only does there have to be a determination of eligibility but also an assessment of effect prior to construction. When historic properties of an archaeological nature are involved, treatment is usually required prior to construction.

RESPONSE

A consultation meeting was held in February 1992 with a representative of the Pit River Tribe and the Forest Archaeologist. The purpose was to review final project design and to solicit tribal and agency input to the project. At the meeting a plan was formulated to avoid all impacts to cultural properties. Pending the results of additional survey, potential impacts were defined in only two instances. Negotiations with the Tribe and Forest Service resulted in a plan to avoid impacts in both instances. The details of this plan will be forwarded to the CASHPO for review and comment when initial consultations are complete.

CASHPO

COMMENT

The report also states that all artifacts recovered from the Forest Service land were returned to the Forest archaeologist in Alturas and all other artifacts are curated in Cheney, Washington. It is unfortunate that BPA did not initiate

consultation with the Pit River tribe at a much earlier date so that a long term curation facility could be found that is closer to the tribal area.

RESPONSE

See the previous response about a consultation meeting held with a representative of the Pit River Tribe and the Forest Archaeologist. The curation of the few artifacts collected from non-public lands was discussed with the tribal representative and negotiations are underway to curate these items in the local area. Our initial discussions focused on submitting the remaining artifacts to the Forest Service for curation. We will notify the CASHPO when the final plan is approved.

TRANSPORTATION

CALTRANS

COMMENT

Alternative D would appear to result in a transmission line being constructed parallel to State Highway 139 at one point outside Canby. While we cannot determine whether this proposed line would encroach upon the State right-of-way, please be advised that the State Highway 139 is access controlled. Consequently, this would preclude use for a longitudinal facility.

Alternative F would appear to involve facility placement with the State right-of-way along State Highway 299. Our State right-of-way in this area is limited to 50 feet each side of the centerline. It is doubtful we would have enough right-of-way to accommodate the H-frame structures. In any event, should 299 require widening at some future date, any line utilizing State right-of-way would have to be moved at BPA expense.

RESPONSE

None of the alternatives would be located on State Highway right-of-way.

PROCESS

CAF&G

COMMENT

The Department believes the project is subject to a filing fee pursuant to Fish and Game Code Section 711.4 (AB 3158). If a Negative Declaration is filed by the lead agency pursuant to

Public Resources Code Section 21080(c), the fee will be \$1,250, payable to the County Clerk when the Notice of Determination is filed. If an Environmental Impact Report is filed, the fee will be \$850.

RESPONSE

BPA, as a federal agency, does not apply or pay for permits unless required by federal statute. BPA works with and coordinates its activities with local agencies to consider their concerns.

CALTRANS

COMMENT

Caltrans is a Responsible Agency (permitting entity) regarding this project as an encroachment permit will be required to place any utilities, provide access to maintain utilities, or to conduct any other work with the State-right-of-way.

RESPONSE

See preceding response.

CAF&G

COMMENT

The Department recommends that BPA and Modoc County prepare a joint Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) for this project. The California Environmental Quality Act (CEQA) states that if a project could impact a State-listed endangered or threatened species a DEIR is required (CEQA Guidelines Section 15065[a]).

RESPONSE

The EA, these responses, and the Mitigation Action Plan demonstrate that no significant impacts to state-listed species would occur.

CAF&G

COMMENT

If the project will require any work affecting a stream or lake, the project sponsor is required to notify the Department and consummate a lake or streambed alteration agreement pursuant to Fish and Game Code Section, 1600 et seq.

RESPONSE

Comment noted.

CALTRANS

COMMENT

Since our encroachment permits(s) and possibly other State agency permits are required, the environmental documentation for this project must be submitted to the State clearinghouse pursuant to Section 15205(b) (2) and (f) of CEQA. Applications for Caltrans encroachment permit cannot be considered complete until State Clearinghouse circulation is finished and a Notice of Determination is filed by your agency with your clerk and the Secretary for Resources (State Clearinghouse).

To obtain a Caltrans encroachment permit to work within the State right-of-way, consistent to Caltrans current encroachment standards, the project proponent or his agency can contact Mr. Bill Arnold, our Permits Engineer, at (916) 225-3400.

Along with the information required in the permit application instructions, the following project documentation should accompany the permit application form:

(1) The final environmental document, (2) The project approval conditions, (3) The Notice of Determination for the project, (4) Copies of permits from any other involved agencies. These items will complete the environmental clearance portion of the permit requirements.

RESPONSE

The EA was submitted to the California State Clearinghouse on January 27, 1992. BPA will also submit future environmental documents for this project to the clearinghouse. More precise engineering maps show that the project (Route D) would not encroach upon the highway right-of-way.

As a Federal agency, BPA does not apply for State or local permits unless required by Federal statute. However, BPA works with State and local agencies to address their concerns.

PUBLIC INVOLVEMENT

Caldwell

COMMENT

I and my neighbor have not been notified of all meetings on this project.

RESPONSE

BPA records indicate you were invited to both public meetings. BPA considered the comments that you supplied by letter and through phone calls. State and Federal agencies held many meetings regarding the project. Preliminary findings of these

meetings are on file with the agencies and available to the public. The final results of the meetings are summarized in the EA.

GENERAL

CALTRANS

COMMENT

Based on the information provided, our assessment is that the project should not have effect on the other Transportation policy issues or California Environmental Quality Act (CEQA) checklist topic areas. (See comment under TRANSPORTATION.) If your assessment differs or other information has become available, please advise us.

RESPONSE

Comment noted.

REFERENCES

- Faanes, C.A. Birds and powerlines in North Dakota. North Dakota Outdoors. May 1984.
- Jackman, S.M. and J.M. Scott. Golden eagle (*Aquila chrysaetos*). Literature review of twenty-three selected forest birds of the Pacific Northwest. Region 6, U.S. Forest Service. 1975.
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- Klebenow, D.A. Sage grouse nesting and brood habitat in Idaho. Journal of Wildlife Management. 33 (3): 649-662. 1969.
- Martin, N.S. Sagebrush control related to habitat and sage grouse occurrence. Journal of Wildlife Management. 34 (2): 313-320. 1970.
- Olendorff, R.R., A.D. Miller, and F.H. Lehman. Suggested practices for raptor protection on power lines. The state of the art in 1981. Edison Electric Institute, Raptor Research Foundation Report No. 4. 1981.
- Patterson, R.L. The sage grouse in Wyoming. Sage Books, Inc. 1952.
- Snow, C. Habitat management for unique or endangered species. Golden Eagle Report No. 7. Bureau of Land Management. 1973
- Wallestad, R.O. Life history and habitat requirements of the sage grouse in central Montana. Montana Department of Fish and Game. 1975.

ATTACHMENT TO APPENDIX 2



United States
Department of
Agriculture

Forest
Service

Devil's
Garden R.D.

Highway 299
P.O. Box 5
Canby, CA 96015
916 233-4611

Reply to: 2720

Date: January 31, 1992

Bonneville Power Administration
Atten: Lou Driessen
P.O. Box 3621
Portland, Oregon 97208

Dear Lou:

We have received the final environmental assessment and FONSI for the Canby Area Service Project transmission line and have the following comments.

Mitigation measures and management constraints were not clearly identified

(a) Visual quality is identified as being negatively affected around Duncan Reservoir. Mitigation measures the Forest Service have identified to offset this impact include:

(1) Replace existing substandard toilet at south end of lake.

(2) Relocate existing toilet at the dam to bring to standard.

(3) Construct crushed rock boat ramp at south end of lake.

(4) Surface access road into the lake with crushed rock or cinders.

(b) Because of the loss of commercial timber land which in term affects wildlife species requiring snag habitat, approximately 30 trees will need to be topped along the line within the area. These trees will produce future snag habitat to offset the loss.

(c) Disturbed areas within the right of way will need to be seeded with an appropriate mix to reduce erosion potential and benefit antelope and deer.

(d) Gating of the right of way to reduce public harassment on big game ranges and the bald eagle management area. This is clear in the FONSI but not in the EA.

Management constraints that are not clear include:

(a) The archeological survey report will need to be reviewed, verified, and have concurrence by SHPO prior to the Forest Supervisor signing the decision notice.

We currently have a problem in that the survey completed to date





is a 125 foot corridor. This will need to be resurveyed due to danger trees and right of way road locations being outside of this corridor.

(b) The sensitive plant survey report will need to be approved by the Forest Service prior to the Forest Supervisor signing the decision notice. The survey is not expected to be completed prior to June 15, 1992 due to expected maturity of the plants.

(c) No construction will be allowed during the antelope kidding season which will be completed by June 15.

These constraints will not allow any ground disturbance on National Forest land prior to late June. This is in conflict with your organization deadline of June 28, 1992 and has been communicated to John Cowger, Chief, Land Branch in a reply to his letter of January 9, 1992.

I would recommend listing the above mitigation measures/management constraints separately in section 30 of your E.A. in order to be clear to the public.

If you have any questions, please contact Paul Bailey or myself.

Sincerely,

George Studinski

for JAMES K. KADERABEK
District Ranger



WILLIAMS RANCH
Alena S. Williams Caldwell
P.O. Box 126
Canby, Calif. 96015

SEARCHED	INDEXED
SERIALIZED	FILED
FEB 17 1992	
FBI - CANBY	

February 17, 1992

DEPARTMENT OF ENERGY
Bonneville Power Administration
Snake River Area
101 W. Poplar
Walla Walla, Washington 99362-2827

Certified Mail
Return receipt

7694 103 686

Attention: Robert R. Goranson, Ass't Area manager for Engineering

This is my reply to the EIR for the Canby Area Project, formerly called the Black's Canyon Project.

1. There is no reason stated in the EIR for this project other than expected growth. The county has not had growth in the past 20 years to support this contention.

2. I do not believe it is more expensive to use existing lines than to construct new lines. New lines should not be constructed. In part this seems to be caused by a local political struggle between two power companies, trying for the same service area.

3. You should select the NO ACTION ALTERNATIVE on page 32. I, also, have no objection to Alternative D, or using existing lines.

4. I and my neighbor have not been notified of all meetings on this project.

5. It is my understanding that a 90 day moratorium on ventures involving the possibly endangered southern spotted owl has occurred. I have heard calls and found nests that may indicate it lives near me. There is, also, an exotic bat that exists in the rimrock. Currently, we are investigating its rarity.

6. Natural and submerged wetlands on my property are not shown in figure 3. Old time bunch grasses still exist, and a few pine trees are growing.

7. The first maps you used were contoured. Maps in the EIR do not show topography. Route E may cross BLM rim, a natural fence. E also goes over my existing road, P. 17.

8. Referring to P. 22 about poachers. My experience with them is that gates are not a deterrent.

9. My satellite dish will be affected.

10. Several letters I have written included photographs of cranes and migrating waterfowl. Any time ice melts there are more landing in Black's Canyon. This was not addressed in the EIR, P. 24.

Thank you for your attention.

Very truly yours,

Alena S. Williams Caldwell

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 042000
SACRAMENTO 94200-0001
(916) 445-0000
FAX: (916) 322-0377



February 27, 1992

REPLY TO: DOE910521A

Phillip D. Havens, Environmental Specialist
Department of Energy
Bonneville Power Administration
P.O. Box 3621
PORTLAND OR 97208-3621

Project: Canby Area Service (Black's canyon)

Dear Mr. Havens:

I have received your letter of January 22, 1992 and the accompanying report, "A Cultural Resources Survey of the Bonneville Power Administration's Proposed Canby Area Service Project, Alternative "D", Modoc county, California." Based on staff review of the documentation you submitted, I would like to offer the following comments on the actions you have taken to comply with Section 106 of the National Historic Preservation Act.

The report states that the survey traversed the right-of-way (ROW) for the proposed project. It is unclear from the information provided if the ROW coincides with the Area of Potential Effect (APE). Will the project require staging areas for construction equipment and/or access roads that will be outside of the ROW? Are there any other reasons that there could be a potential for effects to historic properties outside of the ROW? Will the construction of the new substation require additional construction (additional potential for effect to historic properties) by the local utility in order to connect the substation to the existing local system? Once Bonneville Power Administration (BPA) defines the APE, I can comment on the adequacy of the inventory in fulfilling the requirements of 36 CFR 800, regulations implementing Section 106.

Site records were not provided with the report. Without the site records, it is not possible to comment on the adequacy of the report.

The report recommends that determinations of eligibility be sought for affected sites in advance of construction if it is not possible to relocate structures so that culturally sensitive areas can be avoided. Determinations of eligibility are required by 36 CFR 800 in order to determine if a property is an historic property. If any portion of the project has the potential to effect an historic property (not just the

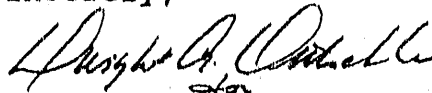
Phillip Havens
February 27, 1992
Page two

structures), not only does there have to be a determination of eligibility but also an assessment of effect prior to construction. When historic properties of an archeological nature are involved, treatment is usually required prior to construction.

The report also states that all artifacts recovered from the Forest Service land was returned to the Forest archeologist in Alturas and all other artifacts are curated in Cheney, Washington. It is unfortunate that BPA did not initiate consultation with the Pit River tribe at a much earlier date so that a long term curation facility could be found that is closer to the tribal area.

Your consideration of historic properties in the project planning process is appreciated. If you have any questions regarding our review of this undertaking, please call Gary Reinoehl of my staff at (916) 653-5099.

Sincerely,



for
Steade R. Craigo, AIA, Acting
State Historic Preservation Officer

The Resources Agency

Pete Wilson
Governor



Douglas P. Wheeler
Secretary

of California

California Conservation Corps • Department of Boating & Waterways • Department of Conservation
Department of Fish & Game • Department of Forestry & Fire Protection • Department of Parks & Recreation • Department of Water Resources

March 3, 1992

U. S. Department of Energy
Bonneville Power Administration
P. O. Box 3621
Portland, OR 97208

Dear Sir:

The State has reviewed the Draft Environmental Assessment, Canby Area Service Project, Substation and Associated Transmission Line, DOE/EA-0598, Modoc County submitted through the Office of Planning and Research.

We coordinated review of this document with the Air Resources Board, the Energy, Public Utilities, and State Lands Commissions, the San Francisco Bay Regional Water Quality Control Board, and the Departments of Conservation, Fish and Game, Forestry and Fire Protection, Parks and Recreation, and Transportation.

The Department of Parks and Recreation, Office of Historic Preservation states that they will comment directly to your office.

The Department of Fish and Game is concerned about the adequacy of the EA and recommends the preparation of a Draft Environmental Impact Statement for the reasons listed in their attached comments.

The Resources Building Sacramento, CA 95814 (916) 653-5656 FAX (916) 653-8102

California Coastal Commission • California Tahoe Conservancy • Colorado River Board of California
Energy Resources, Conservation & Development Commission • San Francisco Bay Conservation & Development Commission
State Coastal Conservancy • State Lands Commission • State Reclamation Board

U. S. Department of Energy
Page Two
March 3, 1992

Thank you for providing an opportunity to review this project.

Sincerely,



Carol Whiteside
Assistant Secretary,
Intergovernmental Relations

Attachment

cc: Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814
(SCH 92024001)

Memorandum

To : The Honorable Douglas P. Wheeler
Secretary to Resources
Resources Agency
1416 Ninth Street
Sacramento, California 95814

Date : February 29, 1992

From : Department of Fish and Game

Subject : SCH 92024001 - Canby Area Service Project, Modoc County

Bonneville Power Administration (BPA) is proposing to construct a 230 KV transmission line from the Malin - Warner 230 KV line south to Canby for 7.9 miles to a new substation. The proposed new transmission line goes through U.S. Forest Service (USFS), Bureau of Land Management (BLM) and private lands.

The Department of Fish and Game has reviewed the Canby Area Service Project Environmental Assessment (EA) and found it inadequate in its discussion of project related impacts to State-listed threatened and endangered species, wetlands, deer, antelope, and sensitive species of birds and plants.

The Department comments regarding this project were provided to the BPA in letters dated September 30, 1991, and October 29, 1991. These letters provided wildlife and habitat information as well as recommendations necessary for the assessment and/or mitigation of impacts of the project to these resources.

At the request of BPA, a meeting was held January 27, 1992, at the Department's office in Redding, California. The purpose of the meeting was to discuss the Department's concerns with the proposed project. At this meeting it was determined that BPA was no longer considering alternative routes A, B and C and that the EA would be focused on the three remaining alternative routes D, E and F. The Department reaffirmed its position, as stated in the above noted letters, pertaining to the remaining three alternative routes D, E and F. During this meeting we discussed in detail the requirement for BPA to conduct, along each of the three remaining alternative routes, the recommended field surveys for the State-listed endangered, threatened and sensitive wildlife and plant species included in our September 30, 1991, letter. The environmental document must discuss the findings of these surveys as well as the mitigations necessary to reduce these significant impacts to an acceptable level. This information is also required in order for the Department to prepare a Biological Opinion under the California Endangered Species Act (CESA).

The Honorable Douglas P. Wheeler
February 29, 1992
Page Two

The EA does not address the short-term and long-term cumulative impacts or mitigation features for:

1. The future needs for additional power beyond the current proposal.
2. The potential for growth inducement of the proposed project.
3. The potential for additional distribution lines.
4. The creation of a new utility corridor.
5. The evaluation of impacts associated with creating a new power line corridor compared to upgrading the existing power line in Howard's Gulch, an existing corridor which has also been impacted by the adjacent railroad and highway.
6. The economic and environmental impacts of single pole construction on agricultural land and "H" frame construction on other land including public land.
7. The potential for mortality of large birds due to electrocution or collision with power line structures.

Specific Comments-

Page 9, Section 3.1.2 Wetlands. Our earlier comments included the recommendation that the EA provide a comprehensive evaluation of wetland impacts based on mapping done by a professional trained in wetlands delineation using the joint U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (USFWS) and U.S. Army Corps of Engineers (USCE) methodology. Because this evidently has not been accomplished, the impact of the project to wetlands and potential mitigations cannot be determined. Without the comprehensive evaluation it cannot be categorically stated that impacts to wetlands would be "negligible".

The Department opposes approval of projects affecting wetlands unless measures are included to assure that no net loss of wetland acreage or wetland habitat values will result. Wetlands impacted temporarily by project construction should be restored to preproject conditions. Unavoidable permanent loss of wetlands must be compensated by creation of new wetlands and by their protection in perpetuity.

The Honorable Douglas P. Wheeler
February 29, 1992
Page Three

The project proponent should contact the USCE Regulatory Branch in Sacramento regarding the need for a permit under Section 404 of the Clean Water Act.

Page 19, Section 3.2.1 Threatened and Endangered Species. A Biological Assessment was prepared by BPA based upon the USFWS determination (letter of June 12, 1991), that the only federally-listed species present on site was the bald eagle and no critical habitat has been designated on the site by the USFWS.

The EA does not adequately address our concerns regarding State-listed species. It addresses only the federally-listed endangered and threatened species under this section and does not address the State-listed endangered (SE) and threatened (ST) species. The project proponents must also address State-listed species within the zone of influence of the project and consult with the Department under CESA. The State-listed species are the: bald eagle (SE), Swainson's hawk (ST), willow flycatcher (SE), bank swallow (ST) and greater sandhill crane (ST).

Of primary concern in the Department's letter was the recommendation that in order to avoid conflicts with the "take" provision of CESA Section 2080, an intensive survey be conducted prior to final route selection, by an independent qualified biologist to determine if any of the State-listed species which may inhabit the area are present. In our letters we provided maps and rationale to support the contention that these species or their habitat may be impacted by the project. We further recommended that the Department of Fish and Game be consulted after the intensive survey was completed. The survey evidently has not been done and there has been no consultation with the Department of Fish and Game.

In the Department's earlier letters we have noted that the ferruginous hawk, a Federal Category Two species, has been identified as an occasional visitor to the general area. Although we recommended that the USFWS be contacted, there is no indication in the EA that this was done. The only mention of this species in the EA occurs in Section 3.2.2 Other Wildlife which assumes that they are uncommon and no impacts are expected. Ferruginous hawks may be uncommon (which is not unusual for listed species) to the project area, however, no information is provided in the EA which supports the statement that no impacts are expected.

Section 3.2.3 Sensitive Plant Species. The Department has recommended that all alternative routes be surveyed by a qualified botanist during appropriate time frames in areas where five particular species could be expected to occur. Evidently

this has not been done. The qualified botanist selected to do the survey should be an independent consultant. In order to avoid adverse impacts and/or determine adequate mitigation features, the location and extent of sensitive plants must be identified prior to staking of the substation, centerline and road locations. If sensitive plants are located and/or mitigation measures are necessary, these should be identified in the EA.

Deer and Antelope. The comments provided in the Department's earlier letters included maps and information, identified impacts and suggested mitigation measures for critical habitats for deer and antelope. Impacts to deer and antelope would occur through habitat destruction and direct harassment of animals. The EA has not addressed the mitigation of impacts to the critical habitats. The EA is inadequate as it merely states that deer and antelope would be unaffected by the range loss, the alternative routes would cross but not affect antelope migration routes and only negligible amounts of kidding range would be removed. The EA has not addressed the cumulative impacts of habitat destruction. It is the Department's position that habitat capabilities be fully restored as per our letter of September 30, 1991.

The EA suggests that harassment and poaching would be mitigated by limiting public access through effective gating of access roads. However, no information on location or type of gating is provided for the evaluation of this potential mitigation feature. If gating is to be a mitigation feature, you must provide assurance as to the effectiveness of this procedure and for long-term maintenance. Locked gates on public land is an undesirable feature from the public view point. This feature would require Federal land management agency concurrence. In order to effectively mitigate for increased harassment and poaching, new roads would have to be completely blocked to public access or restored to near preproject conditions.

As a harassment mitigation feature, the EA states that BPA does not plan to construct the line or access roads across antelope kidding grounds "when antelope are using the areas for reproduction (May 15 through June 15)". This mitigation feature is inadequate. The EA should clearly state that BPA will not construct the line or access road across antelope kidding grounds during the critical kidding period of April 15 through June 30 as per our earlier recommendations.

The EA has not adequately addressed the impacts or mitigation features for actual project construction activities which induce deer harassment. It is our recommendation that to

The Honorable Douglas P. Wheeler
February 29, 1992
Page Five

avoid deer harassment during the lowest periods of nutrient intake, that no project construction activities be allowed during the period of December 1 through April 30.

Comments in our letter of September 30, 1991, which discussed sage grouse, golden eagle and prairie falcons still apply to this draft EA.

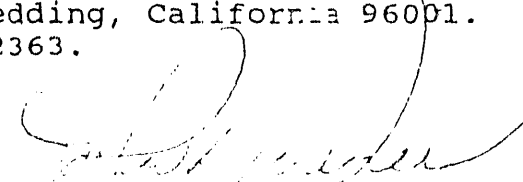
The Department recommends that BPA and Modoc County prepare a joint Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) for this project. The California Environmental Quality Act (CEQA) states that if a project could impact a State-listed endangered or threatened species a DEIR is required (CEQA Guidelines Section 15065[a]).

Even if the above recommendations are satisfied, this project will still contribute to the continuing reduction in wildlife populations and their habitat.

Because of these losses, the Department believes the project is subject to a filing fee pursuant to Fish and Game Code Section 711.4 (AB 3158). If a Negative Declaration is filed by the lead agency pursuant to Public Resources Code Section 21080(c), the fee will be \$1,250, payable to the County Clerk when the Notice of Determination is filed. If an Environmental Impact Report is filed, the fee will be \$850.

If the project will require any work affecting a stream or lake, the project sponsor is required to notify the Department and consummate a lake or streambed alteration agreement pursuant to Fish and Game Code Section, 1600 et seq.

If you have any questions regarding our comments, please contact Mr. Banky E. Curtis, Regional Manager, Department of Fish and Game, 601 Locust Street, Redding, California 96001. His telephone number is (916) 225-2363.


John Turner, Acting Chief
Environmental Services Division

cc: Modoc County Planning Department
202 West Fourth Street
Alturas, CA 96101

DEPARTMENT OF TRANSPORTATION

P.O. BOX 494040
REDDING, CA 96049-4040
TDD (916) 225-3464



IGR/CEQA Review
02-Canby Area Service Project
Environmental Assessment
SR-139-5±, SR-299-23.12
SCH No.: 924001

March 4, 1992

U. S. Department of Energy
Bonneville Power Administration
P. O. Box 3621
Portland, OR 97208

Gentlemen:

Caltrans has received the above-referenced Environmental Assessment for our review. This project proposes three alternate routes for erecting a 7.9 mile service line from the Malin-Warner 230-KV transmission line to a new BPA substation near Canby, California. The proposed transmission line corridors parallel State Highways 139 and 299.

Caltrans is a Responsible Agency (permitting entity) regarding this project as an encroachment permit will be required to place any utilities, provide access to maintain utilities, or to conduct any other work within the State right-of-way.

Caltrans usually is concerned with the following issues in assessing a proposed project: its relationship to transportation planning policies, corridor protection, Caltrans planned projects in the affected vicinity, traffic impacts, encroachment permit requirements (access, utility, signing), drainage impacts, visual impacts, lighting, air, energy, and noise impacts. From the information provided, our assessment of the project is as follows:

Alternative D would appear to result in a transmission line being constructed parallel to State Highway 139 at one point outside Canby. While we cannot determine whether this proposed line would encroach upon the State right-of-way, please be advised that State Highway 139 is access controlled. Consequently, this would preclude use for a longitudinal facility.

Alternative F would appear to involve facility placement within the State right-of-way along State Highway 299. Our

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State right-of-way in this area is limited to 50 feet each side of the centerline. It is doubtful we would have enough right-of-way to accommodate the H-frame structures. In any event, should 299 require widening at some future date, any lines utilizing State right-of-way would have to be moved at BPA expense.

In addition, we would request that placement of any transmission structures in visually sensitive areas along State Highway 139 or 299, take into consideration the aesthetic impact to the traveling public.

Based on the information provided, our assessment is that the project should not have effect on the other Transportation policy issues or California Environmental Quality Act (CEQA) checklist topic areas listed above. If your assessment differs or other information has become available, please advise us.

Since our encroachment permit(s) and possibly other State agency permits are required, the environmental documentation for this project must be submitted to the State Clearinghouse pursuant to Section 15205(b)(2) and (f) of CEQA. Applications for Caltrans encroachment permit cannot be considered complete until State Clearinghouse circulation is finished and a Notice of Determination is filed by your agency with your clerk and the Secretary for Resources (State Clearinghouse).

To obtain a Caltrans encroachment permit to work within the State right-of-way, consistent to Caltrans current encroachment standards, the project proponent or his agent can contact Mr. Bill Arnold, our Permits Engineer, at (916) 225-3400.

Along with the information required in the permit application instructions, the following project documentation should accompany the permit application form:

- 1) The final environmental document
- 2) The project approval conditions
- 3) The Notice of Determination for the project
- 4) Copies of permits from any other involved agencies

These items will complete the environmental clearance portion of the permit requirements.

Thank you for providing us this information for our consultation review. If you have any questions or concerns regarding this

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letter, please call Kathleen DuBois at (916) 225-3089. Also, please provide a copy of this letter to the applicant so that may be aware of our concerns and requirements.

Sincerely,

RUSSELL A. WENHAM
Chief, Local Development
Coordination, District 2

By



KATHLEEN B. DuBOIS
IGR/CEQA Coordinator
Local Development Review Unit
District 2

Attachments

cc: Ron Helgeson, DOTP
Public Works Dept., Modoc County
Ken Button-SCH
Russ Colliau-SCH

APPENDIX 3
MITIGATION ACTION PLAN

Mitigation Action Plan
For The
Canby Area Service Project

The Canby Area Service Project will meet Surprise Valley Electrification Corporation's (SVEC) increasing load requirements. BPA will tap its existing Malin-Warner 230-kV transmission line, and build a 7.9-mile transmission line to a new Bonneville Power Administration (BPA) Substation. The new substation will allow SVEC to move additional power over their existing transmission or distribution lines.

BPA prepared an Environmental Assessment (EA) for the project and published it in February 1992.

The EA identified a number of minor impacts that would or might occur as a result of the proposed actions. Comments on the EA identified additional minor impacts. This plan contains specific mitigation measures to avoid, minimize, or compensate for the impacts. Included are mitigation measures identified in the EA and additional measures responding to impacts identified in comments to the EA.

Monitoring of the mitigation measures will be done by BPA, SVEC, Modoc National Forest (MNF), the Bureau of Land Management (BLM), and California Department of Fish and Game (CAF&G). BPA construction inspectors will track measures during construction and keep a record of measures completed.

BPA incorporates "Standard Construction Specifications for Environmental Quality Protection" in its construction contract specifications. These specifications are attached. In addition to these standard practices, project-specific measures are included in construction contract specifications. The project-specific measures are included in this Plan.

Mitigation measures are listed by impact area.

WETLANDS

Impacts to wetlands will be mitigated by avoiding or spanning wetland areas. BPA will follow "Standard Construction Specifications for Environmental Quality Protection" (attached) to avoid indirect impacts to wetlands.

To avoid net loss of wetland habitat, quality, and function BPA will:

1. Apply methods from the Federal Manual for Identifying and Delineating Jurisdictional Wetlands where the selected route approaches wetlands as identified in the EA. These methods would also be used if other suspected wetlands are found during field reviews;
2. If needed, realign roads and transmission structures to avoid any delineated wetlands;

3. Span linear wetlands with the transmission line to avoid impacts;
4. If no practical alternatives exist, compensate wetland losses by creating and insuring the protection of new wetlands (qualified wetlands specialists would plan these wetlands);
5. Avoid wetland areas during construction and maintenance activities;
6. Monitor construction activity and instruct qualified wetlands specialists to flag significant locations to prevent inadvertent impacts to wetland resources for which the agreed mitigation is avoidance;
7. Use standard erosion control practices in construction to prevent off-site impacts to wetlands.

AGRICULTURE

The proposed route for the transmission line minimizes impacts to agricultural operations by following field boundaries and existing roads, avoiding conflicts with existing irrigation and tillage practices.

VISUAL

To compensate for visual impacts in the Duncan Reservoir area, BPA will provide funds for MNF to:

1. Replace an existing sub-standard toilet facility;
2. Relocate another existing toilet facility;
3. Construct a crushed rock boat ramp;
4. Resurface the reservoir access road with crushed rock or cinders.

When locating structures, BPA will minimize visual impacts along State Highways 139 and 299.

THREATENED AND ENDANGERED SPECIES

To reduce disturbance of bald eagles that may use a MNF eagle management area, BPA will install an effective gate near the northern end of its access road.

BPA will remove no more than 5 ponderosa pines when constructing the project in the eagle management area.

Before and during the construction of the northern 2 miles of the line (Route D, near Duncan Reservoir), BPA will consult with a MNF biologist. BPA will follow the biologist's advice on managing the use of explosives and helicopters. This consultation will prevent the disturbance of foraging bald eagles.

Should any project changes occur that could affect a listed species, or if any other species known to occur in the project area becomes officially listed before BPA completes this project, BPA will reevaluate mitigation measures for the project.

OTHER WILDLIFE

To mitigate for clearing ponderosa pine, BPA will create snags by "topping" about 30 trees within the line-clearing area. These snags will provide nesting and perching sites for birds.

To encourage owl nesting, BPA will not disturb a potential nesting site (snag) that has been identified by the BLM.

To reduce erosion and provide forage for deer and antelope, BPA will seed disturbed areas with a MNF-approved seed mixture.

To reduce disturbance of big game animals, BPA will install effective gates at both ends of its access road.

To reduce disturbance of kidding antelope, BPA will not construct in the antelope kidding area between May 15 and June 15.

To minimize disturbance of wintering deer, BPA will not construct in deer winter range between December 1 and March 31.

In addition to steps already taken, BPA will hire a consulting biologist to study greater sandhill crane habitat use of the project area. The mid-March through mid-June study will focus on potential habitats near Route D and will attempt to determine crane flight paths. The final report will contain any necessary recommendations for reducing impacts to cranes. A copy of the study plan and final report will be reviewed by CAF&G.

BPA will hire a consulting biologist to conduct bird surveys in a 1-mile corridor, 1/2 mile on each side of Route D. The biologist will survey for nests of bald eagles, golden eagles, Swainson's hawks, Ferruginous hawks, and prairie falcons. The surveys will be conducted as late as possible in the nesting seasons but before construction. Other surveys will determine the availability of bank swallow and willow flycatcher habitat within the corridor. The California Department of Fish and Game will review the study plan and final report.

To the extent feasible, BPA will adopt the recommendations in the sandhill crane and bird studies.

BPA will establish 1/2 mile buffer zones around active nests of state-listed raptor species. BPA is already aware of a prairie falcon nest within 1/2 mile of Route D; other nests may be located during the bird surveys noted above. Within the buffer zone, BPA will not use explosives or helicopters during the critical phase of nesting (courtship through egg hatching) (Becker and Ball, 1983; Harmata, et. al., 1978). The raptors and associated critical phases are:

- 1) Golden eagle: February 1 - June 1 (Snow, 1973)
- 2) Prairie falcon: February 1 - May 15 (Call, 1978)
- 3) Bald eagle: February 1 - May 1 (Call, 1978)
- 4) Ferruginous hawk: February 1 - May 21 (Call, 1978)
- 5) Swainson's hawk: February 1 - June 28 (Call, 1978)

SENSITIVE PLANT SPECIES

To avoid impacts to sensitive plant species, BPA will not disturb any ground within the MNF until the MNF Decision Notice is signed. MNF has indicated that it will sign a Decision Notice only after surveys for sensitive plant species are completed.

BPA will avoid placing poles and access roads within the confines of any special status plant populations.

A map showing the delineation of any special status plant populations will be used in the final siting of the facilities to avoid populations.

Known special status plant populations will be fenced or flagged and identified as a zone to be avoided during construction to prevent ancillary impacts.

If sites occupied by special status plant species cannot be mitigated by avoidance, then compensation measures will be used. Compensation involves reducing the effect of an impact through study, salvage, or enhancement of off-site populations.

CULTURAL RESOURCES

BPA will expand the survey area to include any tree clearing areas and access road outside of the 125-foot right-of-way. BPA will then consult with the California State Historic Preservation Office (SHPO). BPA will not disturb any ground until receiving clearance from SHPO and MNF.

If, after construction starts, BPA identifies any cultural resources that would be affected adversely by the project, construction in the immediate vicinity of the resources will be halted, and consultation with SHPO will be initiated.

EARTH RESOURCES

To mitigate impacts to earth resources, access road construction will avoid steep slopes; erosion and run-off control structures will be used; disturbed areas will be reseeded; and BPA will plan road construction to avoid undercutting steep or unstable slopes. Centerline adjustments and special foundation design will minimize impacts to towers from lava tube collapse.

NOXIOUS WEEDS

BPA will survey the selected route and substation site for noxious weeds. BPA will prevent new weed infestations by using standard BPA weed control practices, approved by the landowner.

WATER QUALITY

BPA will use its "Standard Construction Specifications for Environmental Quality Protection" to minimize sediment from project construction in project area watercourses. BPA will install a spill containment device to collect oil from large transformers.

RADIO AND TELEVISION INTERFERENCE

The project is not expected to affect existing signal reception by radios or televisions. However, if interference occurs, BPA will restore reception to pre-project quality.

REFERENCES

- Becker, D. M. and I. J. Ball. Impacts of coal surface mining on 25 migratory bird species of high federal interest. Prairie falcon (Falco mexicanus). US Fish and Wildlife Service. FWS/OBS-83/85. 1983.
- Call, M. W. Nesting habitats and surveying techniques for common western raptors. Technical Note TN-316. Bureau of Land Management. 1978.
- Harmata, A. R., J. E. Durr, and H. Geduldig. Home range, activity patterns and habitat use of prairie falcons nesting in the Mohave Desert. Report Contract No. YA-512-CT8-43. Bureau of Land Management. 1978.
- Snow, C. Habitat management for unique or endangered species. Golden eagle. Report No. 7. Bureau of Land Management. 1973.

ATTACHMENT TO APPENDIX 3
BONNEVILLE POWER ADMINISTRATION
DIVISION OF TRANSMISSION ENGINEERING
STANDARD CONSTRUCTION SPECIFICATIONS

This book of Standard Construction Specifications was prepared by the Construction Specifications Section, Projects Engineering Branch, Division of Transmission Engineering.

Construction Specifications Section Staff:

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Construction Specifications Section - ETJE
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FTS 429-5375

INTRODUCTION

DEFINITIONS

Transmission Engineering Standard Construction Specifications (Standards)

These are the technical standard chapters on which the Technical Specifications (Unit 3) for a project are based. They contain the standard requirements for performance of the work on most transmission line construction projects.

Project Specific Chapters and Supplemental Requirements (Supplements)

These are the project specific technical additions and changes to the STANDARDS. The project specific chapters are: Chapter 01.01, Summary of Work; Chapter 01.04, Special Areas; and Chapter 03.01, Removal of Transmission Line Facilities. Supplemental Requirements are made up to modify each Standard Chapter.

Technical Specifications

Unit 3 in an Invitation for Bids (IFB), consists of the Project Specific Chapters, Supplements, and Standards.

Project Specifications

These are all the requirements, both technical and legal, which make up the Invitation for Bids, Package. They include:

1. Unit 1, Instructions to Bidders and Bid Forms including the Schedule of Designations and Bid Prices,
2. Unit 2, General Provisions,
3. Unit 3, Technical Specifications,
4. A Construction Data Book,
5. Plan and Profile Maps, and
6. Other technical information.

At the time of award, the Project Specifications, including the Bid Forms submitted by the successful bidder, becomes the contract between BPA and the Contractor.

WHY THIS BOOK OF STANDARDS?

During the process of preparing the Technical Specifications for a project, the specifications are sent out for review. They contain the Project Specific Chapters, Supplements, and Schedule of Designations and Bid Prices--they do not include the Standards. Therefore, to properly review the specifications the reviewer should refer to the Standards contained in this book. Also, since these becomes part of the legal contractual documents, the Standards and Supplements are to be treated as legal documents.

This is a reference book of current transmission line construction practices. As such, it should be useful during the environmental, design, and land acquisition phases, as well as the construction phase of a project. This book contains the answers to most questions about how things are done during construction.

02.02.01 SCOPE

- A. WORK COVERED: This specification covers the requirements to protect the quality of the environment.
- B. APPLICATION: These provisions are in addition to other specified requirements and apply to all the Contractor's operations. The other technical specifications contain additional provisions related to environmental quality protection. If a conflict occurs, the more stringent requirements shall apply.
- C. COMPLIANCE: If the Contractor fails to comply with the intent of any environmental protection requirement, the Contracting Officer will instruct the Contractor to change methods of operation which may include the type of equipment used. Continued violation will result in a work suspension until correction or remedial actions are taken by the Contractor.

02.02.02 GENERAL REQUIREMENTS

- A. BRIEFINGS: The Contractor shall ensure that all their supervisors and employees (including all subcontractors) are familiar with and comply with all environmental constraints prior to and during construction.
- B. ENVIRONMENTAL AGENCIES:
 - 1. In accordance with Unit 2, Operational Clause C-236-7, PERMITS AND RESPONSIBILITIES, authorized agencies may require permits or have regulations which pertain to work under this contract. The Contractor shall obtain all required pollution and fire control permits and comply with all such permits and regulations applicable to this project. The Contractor shall give a copy of all permits to the Lead COTR within 10 days after receipt of permit.
 - 2. The known environmental agencies for this project are listed below for the Contractor's information:
 - 1. U.S. Department of Agriculture
Soil Conservation Service, Spokane Area
West 920 Riverside
Spokane, Washington 99201
Phone: (509) 456-3726
 - 2. U.S. Department of Agriculture
Soil Conservation Service, Colville Area
North 222 Havana
Spokane, Washington 99201
Phone: (509) 456-2120

3. U.S. Department of Interior
Fish and Wildlife Service
Olympia, Washington
4. Office of Archeology and Historic Preservation
Olympia, Washington
5. Pend Oreille County Planning Department
ATTN. Mr. Paul Wilson
Newport, Washington
Phone: (509) 447-4821
6. State of Washington
Department of Ecology
Eastern Regional Office
103 East Indiana Avenue
Spokane, Washington 99207
Phone: (509) 456-2926
7. State of Washington
Department of Game
North 8702 Division
Spokane, Washington 99218
Phone: (509) 456-4082

C. PROTECTIVE MEASURES:

1. The Contractor shall conduct all operations in an efficient manner using good land management and conservation practices to keep erosion and all forms of pollution to a minimum.
2. At structure sites, conductor pulling sites, and other temporary construction sites, cut or crush vegetation wherever possible rather than grading or uprooting the vegetation.

D. EQUIPMENT RESTRICTIONS:

1. The Contractor shall use equipment only where it can maneuver without winching or being winched. Do not use tractors on slopes over 55 percent except for road construction. Operations that create avoidable disturbances to the public or animals will not be allowed.
2. Restrict routes of travel to a single 20-foot wide travelway on the right-of-way to minimize soil erosion. Exceptions shall be subject to the approval of the COTR. Excessive and unauthorized travel as determined by the Contracting Officer will not be permitted.

- E. LIGHTING: Avoid directing unnecessary high levels of night lighting at or near private residences.

02.02.03 SANITATION

- A. CHEMICAL TOILETS: The Contractor shall provide sanitary chemical toilets at locations convenient to the workers. These facilities shall comply with Federal, State, and local health laws and regulations.

02.02.04 LANDSCAPE

- A. PRESERVATION: Preserve the natural landscape in the entire construction area and areas used by the Contractor on or off the right-of-way. Conduct construction operations to prevent any unnecessary destruction, scarring, or defacing of the natural vegetation and surroundings near the work. All land disturbing activities shall be planned and designed to be compatible with the natural land forms and not detract from them.

02.02.05 SENSITIVE AREAS

- A. GENERAL: Certain areas along the right-of-way, designated by the specifications or the Contracting Officer, are considered environmentally sensitive. These include; areas classified as scenic, historical and archeological, fish and wildlife refuges, water supply watersheds, and public recreational areas such as parks and monuments. The Contractor shall take all necessary actions to avoid adverse impacts of these sensitive areas. These actions may include suspension of work or change of operations during periods of heavy public use.
- B. ARTIFACTS:
1. Report the discovery of artifacts or evidence of archeological significance to the Lead COIR. Stop all work at the site until directed to resume by the Contracting Officer.
 2. It is a violation of the Archeological Resources Protection Act of 1979 for any person to excavate, remove, damage, or otherwise alter or deface any archeological resources located on public land unless such activity is pursuant to a permit issued under provisions of that act. Refer to 36 CFR Part 1214, ARCHEOLOGICAL RESOURCES PROTECTION ACT OF 1979.
 3. No landowner and Contractor negotiated agreements will be permitted in or near archeological and historically sensitive areas without approval by the Contracting Officer prior to implementation.

- C. STRUCTURE 50/4 (AKR 60): The Contractor shall notify the COIR two weeks prior to any excavation at Structure AKR 60. The COIR will arrange for an archeologist to be present during all excavation in order to assure no damage to the Calispell Canal, a National Register eligible property.

02.02.06 WATER QUALITY

- A. CONTAMINANTS: The Contractor shall prevent any material that could contaminate the water from entering any body of water, dry watercourse, or underground water source.
- B. TURBIDITY: The Contractor shall prevent water turbidity created by construction activities from exceeding State or local water quality standards.
- C. BLOCKING OF STREAMS: Do not block or divert any watercourse unless required by the specifications or the Contracting Officer. Provide appropriate temporary drainage facilities to prevent erosion when construction activities are required to interrupt natural drainage. Do not deposit material where it could be washed away by high stream flows.
- D. STREAM CROSSINGS: Construct fords or other crossings only at approved locations, during approved periods, and to current access road standards. When all work in an area is completed, remove all temporary structures and fills installed for stream crossings. Reestablish the thread of the stream to prevent erosion.
- E. OTHER RESTRICTIONS:
1. Do not operate equipment in flowing water except with the prior approval of the Contracting Officer.
 2. Tractor and other heavy equipment clearing is prohibited within one hundred feet of a body of water. Do not yard through or fell trees and brush across any watercourse.
 3. Within 100 feet of any watercourse, leave as undisturbed as possible all vegetation not designated to be felled in the clearing criteria specified in Chapter 04.01, CLEARING or Chapter 01.04, SPECIAL AREAS.
 4. Do not block anadromous fish migration or disturb spawning areas.

02.02.07 AIR QUALITY

- A. GENERAL: Take all actions required to limit the amount of air pollution created by clearing and construction activities to reduce the nuisance and prevent harm or damage to people, crops, land, and buildings.

- B. **BURNING:** The Contractor shall obtain permits and comply with all Federal, State and local air pollution and fire agency requirements. If permitted, open burning will only be allowed in approved locations and during appropriate weather conditions. Keep burn piles as clean and dry as possible and burn in such a manner to reduce smoke.
- C. **DUST CONTROL:**
1. Use positive means as directed to control dust on access roads, travelways, and work areas.
 2. The conditions, timing, areas, and equipment used are subject to approval. Methods not employing sound conservation practices will not be approved.
 3. Water, or when approved, a dust palliative maybe used.
- D. **EXHAUST EMISSIONS:** Maintain and operate equipment so as to minimize exhaust emissions. Equipment and vehicles that show excessive emissions shall not be used until corrective repairs or adjustments are made.
- E. **SMOKE AND ODORS:** Properly store and handle combustible material which could create objectionable smoke, odors, or fumes. Do not burn refuse such as garbage, rags, tires or plastics.

02.02.08 NOISE

- A. **CONTROL:** Avoid creating noise levels considered safety or health hazards. Critical areas, such as public use areas and some ranching operations, will require special considerations. The COTR will compare the noise level of the Contractor's operations with background levels to determine corrective measures. The COTR may require corrective actions including enclosures for especially noisy equipment and at locations of such things as noisy machine shops, staging, assembly or blasting sites.
- B. **SUPPRESSION:** Equip all internal combustion engines with mufflers and spark arrestors as required by Federal, state, and local regulations. (Reference Paragraph 02.03.02 F.)

02.02.09 CLEAN UP

- A. **GENERAL:** Clean up shall include:
1. Removal from the site of all structures, rubbish, concrete, forms, and other material not placed in the completed work.
 2. Removal and return of all tools, equipment, and extra material furnished by BPA to the yards or locations as specified.

3. Restoration of land and property damaged or disturbed during performance of the work.
 4. Disposal of all debris in accordance with applicable laws and regulations. Use only approved disposal sites.
- B. TIMELINESS:
1. At the time they become scrap, pick up all wire clippings, bundle ties, nails, breakaway bolt heads and nuts, blasting wire, and other metallic scrap.
 2. Daily, remove all garbage, lunch wraps, equipment parts, oil filters, petroleum products, and light packaging material such as plastic, paper, and cardboard.
 3. At the completion of each type of work, remove from each site all other assembly, erection, and stringing remnants and debris.
- C. RESTORATION OF LAND:
1. The Contractor shall restore rutted, compacted, or disturbed land that could result in erosion or property damage.
 2. Farm operators will perform the subsoiling in cultivated lands within the line right-of-way in the following areas:
 - a. A traveled way not to exceed 20 feet in width.
 - b. An area not to exceed 200 feet long at suspension structures.
 - c. An area agreed to in advance by the Contractor and Contracting Officer at dead-ends and stringing sites. These areas shall be the minimum consistent with safe working practices. Where possible, reel, puller, and snub sites shall not be on cultivated land.
 3. The Contractor shall perform subsoiling in cultivated areas beyond the limits listed above. Contact the farm operators before subsoiling to determine their methods. Subsoiling shall be done to the same depth and method as the farm operator uses. The Contractor may arrange for the farm operator to do the subsoiling. A signed copy of such agreement (similar to that specified in Unit 2, Operational Clauses C-236-75, USE OF LAND FOR STORAGE AND OFFICES), shall be furnished to the Contracting Officer.
 4. Restoration work shall be done within 30 days after completion of work on each tract unless:
 - a. A shorter period is ordered to prevent further damage.

- b. A longer period is ordered to avoid crop damage or unsuitable conditions.

- D. FAILURE TO CLEANUP: If the Contractor fails to perform the cleanup as specified, BPA may do the work at the Contractor's expense.

+ + END OF CHAPTER + +

ENVIRONMENTAL QUALITY PROTECTION
Part 02, Chapter 02, Page 7 of 7

APPENDIX 4

BIOLOGICAL ASSESSMENT AND ASSOCIATED CORRESPONDENCE

May 14, 1991

EFBG

Mr. Wayne White
Field Supervisor
U.S. Fish and Wildlife Service
2800 Cottage Way, Room E1823
Sacramento, CA 95825

Dear Mr. White:

The Bonneville Power Administration (BPA) is in the process of preparing environmental documentation on its proposed Blacks Canyon Project, located in Modoc County, California. As required by Section 7(c) of the amended Endangered Species Act, we are requesting a list of threatened and endangered species that may occur in the project area.

The project will consist of enlarging an existing substation near Canby, tapping BPA's Malin-Warner 230-kV transmission line, and constructing a 230-kV line from the tap point to the substation. As shown on the enclosed map, several transmission line routes are under consideration.

If additional information is required, please contact me at (503) 230-3295 or FTS 429-3295.

Sincerely,

PS

Phillip D. Havens
Wildlife Biologist

Enclosure

PHavens:pm:3295 (VS16-EFBG-1702c)

cc:
S. McCollough - EFBG
Circ. File - EF
Official File - EFB (EQ-15)



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Fish and Wildlife Enhancement
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825-1846

In Reply Refer To:
1-1-91-SP-585

June 12, 1991

Mr. Phillip D. Havens
Wildlife Biologist
Department of Energy
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208-3621

Subject: Species List for the Proposed Blacks Canyon Project, Modoc
County, California

Dear Mr. Havens:

As requested by letter from your agency dated May 12, 1991, you will find attached a list of the listed endangered and threatened species that may be present in the subject project area. (See Attachment A.) To the best of our knowledge, no proposed species occur within the area. This list fulfills the requirement of the Fish and Wildlife Service to provide a species list pursuant to Section 7(c) of the Endangered Species Act, as amended.

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is also attached. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Attachment B for a discussion of the responsibilities Federal agencies have under Section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, pursuant to 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

Also, for your consideration, we have included a list of the candidate species that may be present in the project area. (See Attachment A.) These species are currently being reviewed by our Service and are under consideration for possible listing as endangered or threatened. Candidate species have no protection under the Endangered Species Act, but are included for your consideration as it is possible that one or more of these candidates could be proposed and listed before the subject project is completed. Should the

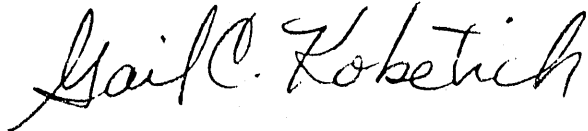
Mr. Phillip D. Havens

2

biological assessment reveal that candidate species may be adversely affected, you may wish to contact our office for technical assistance. One of the potential benefits from such technical assistance is that by exploring alternatives early in the planning process, it may be possible to avoid conflicts that could otherwise develop, should a candidate species become listed before the project is completed.

Please contact Peggie Kohl at 916/978-4866 (FTS 460-4866) if you have any questions regarding the attached list or your responsibilities under the Endangered Species Act.

Sincerely,



for Wayne S. White
Field Supervisor

Attachments

ATTACHMENT A

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND
CANDIDATE SPECIES THAT MAY OCCUR IN THE AREA OF THE PROPOSED
BLACKS CANYON PROJECT ENLARGING CANBY SUBSTATION, TAPPING MALIN-WARNER
TRANSMISSION LINE AND CONSTRUCTING A 230-kV LINE FROM TAP POINT TO SUBSTATION
MODOC COUNTY, CALIFORNIA
(1-1-91-SP-585, JUNE 12, 1991)

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (E)

Candidate Species

Mammals

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (2)
white-footed vole, *Arborimus albipes* (2)

- (E)--Endangered. (T)--Threatened (CH)--Critical Habitat
(1)--Category 1: Taxa for which the Fish and Wildlife Service has sufficient
biological information to support a proposal to list as endangered or
threatened.
(2)--Category 2: Taxa for which existing information indicated may warrant
listing, but for which substantial biological information to support a
proposed rule is lacking.
(1R)--Recommended for Category 1.
(2R)--Recommended for Category 2.
(*)--Possibly extinct.

ATTACHMENT B

FEDERAL AGENCIES' RESPONSIBILITIES UNDER
SECTIONS 7(a) and (c) OF THE ENDANGERED SPECIES ACT

SECTION 7(a) Consultation/Conference

Requires: 1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species; 2) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the Federal agency after determining the action may affect a listed species; and 3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

SECTION 7(c) Biological Assessment--Major Construction Activity¹

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action² on listed and proposed species. The process begins with a Federal agency requesting from FWS a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA: an on-site inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat are present; a review of literature and scientific data to determine species' distribution, habitat needs, and other biological requirements; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of indirect effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, any problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

¹ A construction project (or other undertaking having similar physical impacts) which is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332(2)C).

² "Effects of the action" refers to the direct and indirect effects on an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action.

BALD EAGLE
(*Haliaeetus leucocephalus*)

CLASSIFICATION:

Endangered (Federal Register 43:633; February 14, 1978).

CRITICAL HABITAT: None designated.

DESCRIPTION:

Next to the California condor, the bald eagle is the largest bird in California with a wingspan measuring 6 to 7 feet. Adults are brownish black with a white head and tail and yellow bill. Immatures are variously brownish black.

DISTRIBUTION:

Bald eagles can and do occur virtually anywhere in California during migration. They nest near water bodies in the northern portion of the state and winter throughout the state wherever suitable prey resources are available.

SPECIAL CONSIDERATIONS:

Although some bald eagle populations began to decline in the 19th century due to human persecution and habitat loss, the drastic declines in reproduction experienced by most eagle populations occurred between 1947 and 1970. Research indicated that certain organochlorine pesticides interfered with productivity, and other pesticides were responsible for direct mortalities. Most bald eagle populations are now stable or increasing in numbers.

REFERENCES FOR ADDITIONAL INFORMATION:

Detrich, P. J. 1986. The status and distribution of the bald eagle in California. M. S. Thesis. Chico State Univ., CA

Frenzel, R. W. 1984. Ecology and environmental contaminants of bald eagles in southcentral Oregon. Ph.D. Thesis. Oregon State Univ., Corvallis, OR.

Lehman, R. N., D. E. Craige, P. L. Collins, and R. S. Griffen. 1980. An analysis of habitat requirements and site selection criteria for nesting bald eagles in California. Report by Wilderness Research Institute, Arcata, CA for U.S. Forest Service, Region 5, San Francisco, CA.

U.S. Fish and Wildlife Service. 1986. Recovery plan for the Pacific Bald Eagle. Portland, OR.

October 2, 1991

EFBC

Mr. Wayne S. White
Field Supervisor
Fish and Wildlife Enhancement
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, CA 95825-1846

Dear Mr. White:

In complying with its responsibility under the Endangered Species Act of 1973, the Bonneville Power Administration (BPA) submits the enclosed biological assessment on the threatened and endangered species listed in your letter of June 12, 1991 (1-1-91-SF-585).

Biological Assessment--Conclusion

Based on the biological assessment, it is BPA's opinion that the proposed Canby Area Service Project (formerly the Blacka Canyon Project) in Modoc County, California, is not likely to affect the Federally-listed bald eagle.

Since BPA would like to maintain continuous electrical service to our customer (Surprise Valley Electrification Corporation), we plan to begin construction in January or February of 1992. We would appreciate a written response for our files stating your concurrence with our conclusion within 30 days of receipt of this letter. If you have any questions, please contact me at (503) 230-3295 or FTS 429-3295. Scott McCollough prepared the biological assessment and can be reached at (503) 230-4636 or FTS 429-4636.

Sincerely,

/s/

Phillip D. Havens
Wildlife Biologist

Enclosure

SMcCollough:pm:4636 (VS16-EFBC-3897c)

cc.
L. Driessen - EFCC
Circ. File - EF
Official File - EPB (EQ-11-2)

BIOLOGICAL ASSESSMENT
FOR THE BALD EAGLE

POTENTIAL IMPACTS OF THE
CANBY AREA SERVICE PROJECT

(formerly The Blacks Canyon Project)

Substation and Associated Transmission Line

Prepared by: Scott A. McCollough
Utility Systems and Applications, Inc.
4160 SE. International Way, D107
Portland, OR 97222

October 1991

FOR:
BONNEVILLE POWER ADMINISTRATION
P.O. BOX 3621 - EFBG
PORTLAND, OR 97208

INTRODUCTION

The Bonneville Power Administration (BPA) proposes to build a new electrical substation and transmission line (Figure 1). The substation would adjoin the west side of Surprise Valley Electrification Corporation's (SVEC) Canby Substation. BPA would locate tap facilities (disconnect switches and supports) at their existing Malin-Warner 230-kilovolt (kV) transmission line. As proposed, the new 230-kV line would proceed along Route D to the proposed substation (Figure 1). Except for the southern-most three miles, the 7.9 mile line would consist of wooden H-frame structures and three conducting wires. The final portion of the line would be supported by single wooden poles. An overhead groundwire would be used only within 1 mile of the substation.

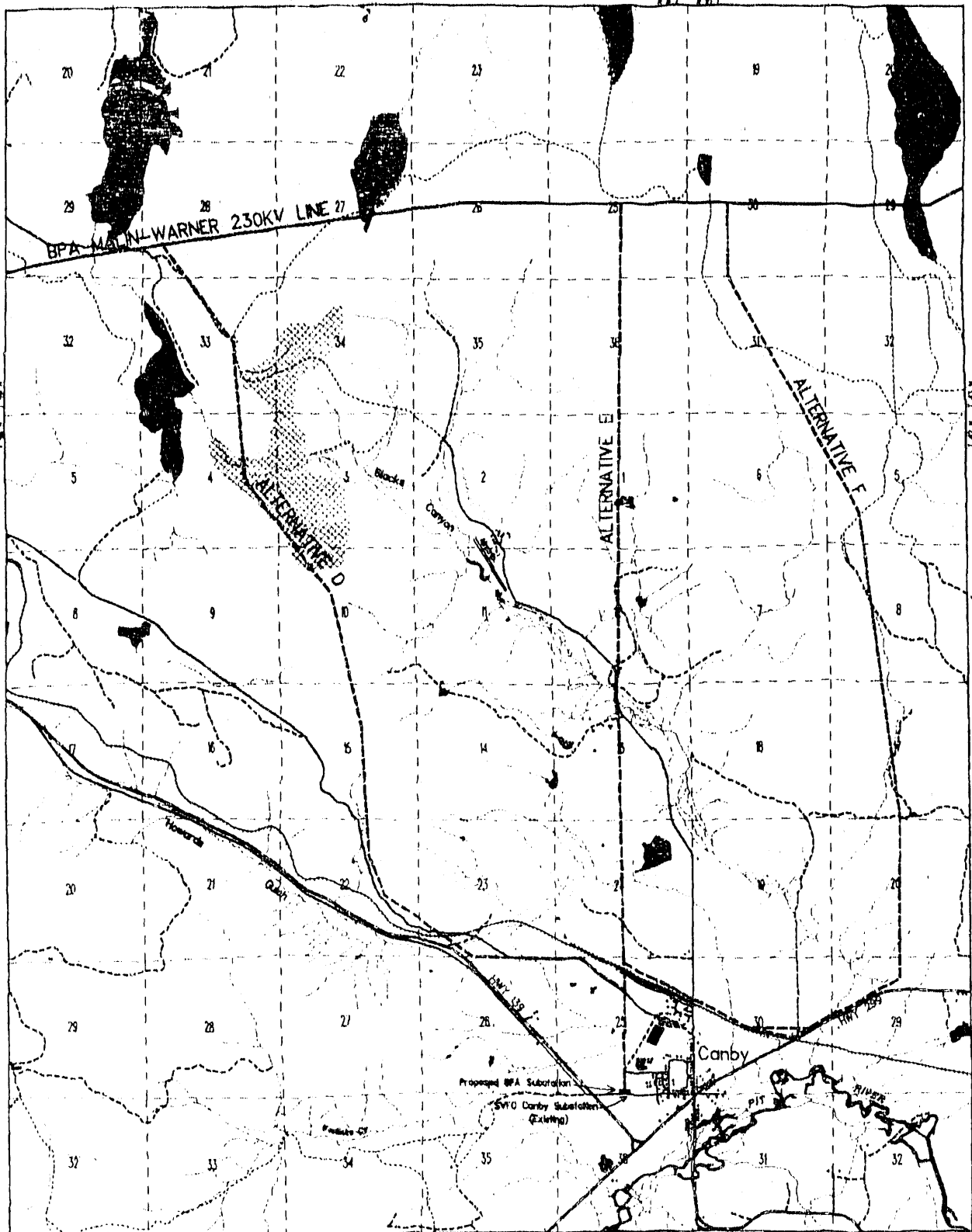
To build and maintain the line, BPA would construct eight miles of 12-foot wide roads and improve two miles of existing roads. Most of the new roads would follow the line's right-of-way. A 25-person construction crew would work during the winter of 1992, using various trucks, truck-mounted equipment, and tracked vehicles. A helicopter would be used to initiate the stringing of conducting wires. Blasting may be necessary to create holes for the line structures.

Since efficient electrical service requires that the new substation adjoin SVEC's substation, no alternative substation sites were considered. BPA developed two alternative routes for the transmission line (Figure 1). Alternative Route E would proceed directly north from the new substation to the Malin-Warner line. Alternative Route F would lie to the east of Route E. The alternative transmission lines and their construction would be nearly the same as the proposed line. Again, access roads would follow most of the right-of-ways. Alternative line E would consist of 5.5 miles of H-frame structures and 1 mile of single poles. Alternative line F would consist of 4.9 miles of H-frame structures and 4.2 miles of single poles.

This Biological Assessment has been prepared to determine potential impacts to the endangered bald eagle, which is known to occur in the project area (Figure 1), and to assist BPA in complying with Section 7 of the Endangered Species Act of 1973 (as amended). Section 7 requires consultation by an agency with the U.S. Fish and Wildlife Service (FWS) to ensure that a federal action "is not likely to jeopardize the continued existence of an endangered or threatened species or result in destruction or adverse modification of habitat of such species which is determined...to be critical."

METHODS

The methods used to conduct this assessment consisted of consultations with the U.S. Forest Service (USFS) and the California Department of Fish and Game (DFG). BPA also reviewed relevant literature, including the records of the California Natural Diversity Data Base (CNDDDB).



CANBY AREA SERVICE PROJECT BALD EAGLE HABITATS

LEGEND




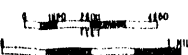
-  Foraging Area
-  Nesting Area
-  Potential Nesting Area

Figure 1

N



GIS GEOGRAPHIC INFORMATION SYSTEMS
SPECIALTY SERVICE CORPORATION

SPECIES ACCOUNT

BALD EAGLE

The bald eagle (Haliaeetus leucocephalus) is listed as an endangered species by both FWS and DFG. The bald eagle is a generalized predator/scavenger primarily adapted to aquatic habitats, and is usually found near sea coasts, lakes, reservoirs, or large streams (Olendorff, et al. 1986). It is highly opportunistic, and feeds on a great variety of fish, birds, and mammals taken alive or as carrion (Olendorff, et al. 1986).

About 60-70 pairs of bald eagles nest in California, and are confined to the northern one-third of the state (Olendorff, et al. 1986). They also migrate into California during the winter. Wintering bald eagles are found throughout California, although their numbers are much lower in the central and southern parts of the state (Olendorff, et al. 1986).

During the breeding season, eagles feed mainly on fish, and in northern California, they tend to nest in large, mature pine trees (Jones and Stokes, 1987). During winter, eagles feed at a variety of water bodies, including lakes, rivers, and flooded areas, where they take both waterfowl, other waterbirds, and fish (especially carrion of spawned salmon where available) (Jones and Stokes, 1987). At night, birds roost in their nesting territories or in traditional winter communal roost areas (Dietrich 1978, 1980; Keister and Anthony 1983; all cited in Jones and Stokes, 1987). Communal winter roosts occur in old open forest stands near feeding grounds (Keister and Anthony 1983, cited in Jones and Stokes 1987).

The USFS has mapped Duncan Reservoir as bald eagle foraging habitat (Figure 1). No communal roost areas have been identified in the project area. The USFS has indicated that ponderosa pines growing on west-facing slopes of the Blacks Canyon plateau offer potential nest sites for bald eagles. However, the USFS surveyed this area from the ground during July, 1991 and from a helicopter on September 9, 1991 and did not find any nests. A review of CNDDDB records revealed a bald eagle nesting territory at Reservoir F. The southern tip of this reservoir extends into the project area.

IMPACT ANALYSIS

The potential for impact was considered in four areas: 1) collision potential with the conducting wires and overhead groundwires, 2) potential for disturbance of any nesting or wintering populations, 3) habitat alteration, and 4) electrocution potential.

Collision Potential

There are a number of reasons why raptors are not likely to collide with power lines (Olendorff, et al. 1986). These include the following (Olendorff and Lehman 1986, cited in Olendorff, et al. 1986).

- Raptors have keen eyesight.
- Many raptors soar or use relatively slow flapping flight.
- Raptors, in general, are maneuverable while in flight.
- Raptors learn to use utility poles and structures as hunting perches and as nest sites and certainly must, as a result, become conditioned to the presence of lines.
- Raptors, unlike waterfowl, do not fly in V-formation when in groups, with their position and altitude being determined by other birds of the flock.

Thus, it may generally be said that raptor collisions with power lines are a relatively low cause of mortality, although collisions are thought to occasionally occur.

In the Canby Area Service Project, collision potential with the transmission line wires is believed to be very low. In addition to the previously-noted behavioral characteristics of bald eagles, omitting the small diameter overhead groundwire from the line (except for 1 mile near the substation) would remove the greatest collision hazard. Furthermore, using H-frame structures along most of the line would reduce collision hazard by placing conducting wires in a single plane. Olendorff and Lehman (1986) state that it is unlikely that bald eagle populations would be affected by collisions with any transmission line because all available data indicate that transmission lines have no discernable effect on the population dynamics of raptors, including bald eagles.

Disturbance

Since the only bald eagle nest in the project area (Reservoir F) lies over 1 mile from the proposed Canby Project, impacts to eagle nesting are not expected. The absence of eagle roosting sites in the project area eliminates concern over impacts to roosting eagles. Transmission line construction along the proposed route (Route D) would be about 0.5 mile from foraging habitat at Duncan Reservoir. Since noise from most construction activities would dissipate over this distance, eagles would not be disturbed in most cases. Only blasting and helicopter use have the potential to disturb eagles. This potential disturbance would be addressed by appropriate mitigation.

Habitat Alteration

The transmission line and associated roads would not replace any important habitats used by foraging bald eagles. Less than 6 mature ponderosa pines in the 540-acre potential nesting area would be lost to line and road construction. This small loss of potential habitat would not affect bald eagles.

Electrocution Potential

Olendorff et al. (1981) state that a separation of about 5 feet between transmission line wires will protect raptors (including bald eagles) from electrocution. Bald eagles in the Canby Project Area will be protected by a minimum separation of 9 feet between wires.

MITIGATION MEASURE

Before and during the construction of the northern 2 miles along proposed Route D (near Duncan Reservoir), BPA will consult with the USFS biologist. BPA will follow the biologist's advice on managing the use of explosives and helicopters. This consultation will prevent the disturbance of foraging bald eagles.

CONCLUSIONS

The potential for adverse impact on bald eagles from the proposed project (including alternative routes) is very unlikely, due to lack of identified bald eagle nests in the project area and the minimal loss of potential nesting trees. Furthermore, the potential for bald eagle collisions with the transmission line is very low, the wires are far enough apart to prevent electrocution, and construction (with mitigation) would not disturb foraging eagles. BPA, therefore, concludes that the Canby Area Service Project would not adversely affect the bald eagle.

LITERATURE CITED

Jones and Stokes Associates. 1987. Biological assessment for federally listed threatened and endangered species on the proposed alignment for the California-Oregon Transmission Project. Prepared for Envirosphere Company, Sacramento, CA.

Olendorff, R.R., A.D. Miller, and R.N. Lehman. 1981. Suggested practices for raptor protection on power lines. The state of the art in 1981. Raptor Research Report No. 4. The Raptor Research Foundation, Inc., St. Paul, MN.

Olendorff, R. R., R. N. Lehman. 1986. Raptor collisions with utility lines: an analysis using subjective field observations. Final report. Submitted to PG and E by U.S. Department of the Interior, Bureau of Land Management, Sacramento, CA.

Olendorff, R. R., and R. H. Lehman and P. J. Dietrich. 1986. Biological Assessment: anticipated impacts of the geothermal public power line on federally listed threatened or endangered species with emphasis on the bald eagle. U.S. Bureau of Land Management.

CONSULTATIONS

California Natural Diversity Data Base. 1991. Printout and maps for special animals in Canby Area Service Project Area. DFG, Sacramento.

Mr. George Studinski, Wildlife Biologist, U.S. Forest Service, Canby, CA.

Mr. Douglass Thayer, Wildlife Biologist, California Department of Fish and Game, Alturas, CA.

3763c



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Fish and Wildlife Enhancement
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825-1846



In Reply Refer To:
1-1-92-I-21

December 9, 1991

Mr. Phillip D. Havens
Wildlife Biologist
Department of Energy
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208-3621

Subject: Canby Area Service Project (Formerly the Blacks Canyon Project), Modoc County, California

Dear Mr. Havens:

This responds to your letter dated October 2, 1991, requesting concurrence with the determination that the proposed Canby Area Service Project will not adversely affect the federally listed endangered bald eagle. We have reviewed the biological assessment transmitted with your correspondence and concur with your determination providing the mitigation measures identified in this documentation are followed. Therefore, unless new information reveals effects of the proposed action that may affect listed species in a manner not considered, or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Endangered Species Act of 1973, as amended, is necessary.

If you have questions regarding this response, please contact Phil Detrich or Peggie Kohl of my staff at (916) 978-4866 or FTS 460-4866.

Sincerely,


Wayne S. White
Field Supervisor

cc: Regional Director (AFWE), FWS, Portland, OR

END

**DATE
FILMED**

6 / 19 / 92

