

**UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION**

**Fourmile Hill Geothermal Development Project
Power Purchase and Transmission Service Agreements**

Administrator's Record of Decision

Summary

The Bonneville Power Administration (BPA) has decided to execute Transmission Services Agreements (TSAs) and Power Purchase Agreements (PPAs) with Calpine Siskiyou Geothermal Partners, L.P. (Calpine) to acquire output from the Fourmile Hill Geothermal Development Project (Project). Initially, BPA will execute one or more PPAs in order to acquire up to the entire Project output. TSAs will be executed before the Project becomes operational.

The United States Forest Service (Forest Service) and the Bureau of Land Management (BLM) were the joint lead Federal agencies in the preparation of the Fourmile Hill Geothermal Development Project Final Environmental Impact Statement/Environmental Impact Report (Project EIS) (DOE/EIS-0266), which evaluated the potential environmental impacts of various alternatives related to the development of the Project. The alternatives analyzed in detail included the Proposed Action, the No Action Alternative, and five transmission corridor location alternatives. To ensure that BPA's decision would be fully informed of the environmental consequences regarding the proposed Project and reasonable alternatives, BPA participated as a cooperating agency in the preparation of the Project EIS. Through this Record of Decision (ROD), BPA formally adopts the Project EIS and all related documentation.

The Proposed Action involves the construction, operation, and decommissioning of a 49.9-megawatt (MW) geothermal power plant. Development of the Project will occur in the following three phases:

1. During the **construction phase** a 49.9-MW geothermal power plant along with well pads, pipelines, overhead transmission line, and access roads will be built. This phase will continue for approximately three years beginning with the well field testing/development and ending with completion of the power plant facility.
2. The **operation** phase will begin after construction is completed. It is expected that commercial operation will continue for 45 years and will annually generate and deliver up to 49.9 MW of electricity.

3. The **decommissioning** phase will begin when the geothermal plant ceases to operate and will end when all plant-related facilities are removed and all areas disturbed by the Project are restored to acceptable conditions. This phase is expected to last for 2 to 3 years.

A ROD approving development and operation of a modified Alternative 6, as amended by the ROD, was issued by the Klamath and Modoc National Forests and Alturas Field Office of the BLM on May 31, 2000. On August 9, 2000, the Siskiyou County Air Pollution Control District (APCD) posted its Statement of Decision (No. 00-06) approving the construction and operation of the Project.

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PUBLIC AVAILABILITY: This ROD will be distributed to all persons and agencies known to be interested in or affected by the Proposed Action or alternatives. Copies of the Project EIS or Executive Summary and this ROD are available from BPA's Communications office, PO Box 12999, Portland, Oregon 97212. They may also be obtained by using BPA's nationwide toll-free document request line, 1-800-622-4520. This ROD is also available on the internet at www.efw.bpa.gov.

Supplementary Information

BPA has decided to purchase and transmit up to the entire output from the 49.9-MW geothermal energy project. The Project, as proposed, will be located on the Klamath National Forest in Siskiyou County, California, and on the Modoc National Forest in Modoc County, California. Calpine will develop, construct, and own the Project. BPA will execute PPAs to acquire Project output. The initial PPA will acquire part or all of the output for up to 20 years with an option to extend. Subsequent PPAs may be executed to acquire additional output with modified terms. TSAs will be executed to transmit and deliver power throughout the life of the Project.

As part of the decision-making process, BPA was a cooperating agency with the Forest Service and BLM in the preparation of the Project EIS. Through this ROD, BPA formally adopts the Project EIS (DOE/EIS-0266) and related documentation. The Forest Service and BLM issued a ROD approving development and operation of the Project on May 31, 2000.

This ROD summarizes the rationale for BPA's decision to execute PPAs and TSAs with Calpine.

I. BACKGROUND

A. BPA and the Northwest Power Act

BPA is a self-financing Federal power-marketing agency with statutory responsibility to supply electricity to utility, industrial, and other customers in the Pacific Northwest. The Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) requires BPA to meet its customers' electric power requirements. 16 USC 839d(a)(2). As part of its mission, BPA is responsible for acquiring conservation and additional generation resources sufficient to meet the future needs of its utility customers. Section 6(d) of the Northwest Power Act authorizes BPA to acquire experimental, developmental, demonstration, or pilot Projects of a type with potential for providing cost-effective service to the region. 16 USC 839d(d).

B. Power Plan and Renewable Resources

The Northwest Power Act (P.L. 96-501) also served as a mandate to BPA to fund the establishment of the Pacific Northwest Electric Power and Conservation Planning Council (Council). The Council, in turn, periodically develops a regional conservation and electric power plan. In the past, BPA published a Resource Program to, among other things, translate the Council's plans into a specific set of actions. The Council, in its 1986 Northwest Conservation and Electric Power Plan (Power Plan), noted that "...approximately 4,400 megawatts of cost-effective electrical energy could be obtained through the development of regional geothermal resource areas." The Power Plan called for methods of confirming this resource so it would be available when needed, and identified promising geothermal resources in the region.

Geothermal Pilot Project Program and Request for Proposals

In response to the Council's 1986 Power Plan and Supplements, BPA developed its Geothermal Pilot Project Program (Program) in 1990. The goal of the Program was to initiate development of the Pacific Northwest's large, but essentially untapped, geothermal resources and to confirm the availability of the resource to meet the energy needs of the region. To implement the Program goal, BPA published a Request for Proposals (RFP) for geothermal power projects on July 5, 1991.

Vale Proposal

Trans-Pacific Geothermal Corporation (Trans-Pacific), in conjunction with the City of Springfield, Oregon, acting through the Springfield Utility Board (SUB), submitted a proposal for a 30-MW project at a site near Vale, Oregon. In December 1991, BPA accepted the Trans-Pacific proposal for further analysis and initiated contract negotiations. A Memorandum of Understanding (Vale MOU), with an attached unexecuted PPA and Billing Credits Agreement, was

signed on January 20, 1993. The PPA would have provided for Trans-Pacific to sell BPA power from a 30-MW power plant for 45 years. Under the separate Billing Credits Agreement, BPA would have provided billing credits to SUB in exchange for its purchase of 9 average megawatts (aMW) from the plant for the term of the PPA. Whether the parties would have ever executed the PPA and the Billing Credits Agreement was contingent upon completion of the necessary environmental review, and a final decision regarding the proposed Project by BPA and other involved Federal agencies.

After drilling some initial wells, Trans-Pacific determined that the Vale geothermal resource was not sufficient to meet the needs of the proposed Project on a cost-effective basis. As a consequence, Trans-Pacific requested the opportunity to move the site of the Project to Glass Mountain in California. Trans-Pacific did not have any leasehold interests at Glass Mountain and enlisted Calpine Corporation, a leaseholder at the proposed site. Calpine Corporation and Trans-Pacific formed Calpine Siskiyou Geothermal Partners, L.P. (Calpine) to develop the Project. BPA and SUB signed separate Consent Agreements with Calpine and Trans-Pacific, and BPA modified the unexecuted PPA and Billing Credits Agreement to reflect the relocation of the proposed Project. BPA and Calpine executed an agreement on March 5, 1996, through which BPA agreed to reimburse Calpine for certain costs related to the development of the Project at Glass Mountain. As a result of this agreement, the environmental review process for the Fourmile Hill site commenced. At that same time, BPA and Calpine disagreed regarding BPA's obligations under the Vale MOU. On December 27, 1996, BPA and Calpine executed a Settlement Agreement that resolved all questions related to the Vale MOU. BPA and Calpine agreed that BPA was under no obligation to purchase power from the proposed Fourmile Hill geothermal plant. The essential terms of the Settlement Agreement are described in a BPA ROD dated March 11, 1997.

II. ENVIRONMENTAL REVIEW PROCESS

A. The National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA)

NEPA is the national road map toward protection of the environment. NEPA requires Federal agencies to make environmental information available to decision-makers and interested citizens before decisions are made and before actions are taken. Scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. The NEPA process is intended to help public officials make decisions that are based on an understanding of the environmental consequences of their actions.

Similarly, the CEQA Guidelines state that the environmental review process be used to "...inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project..."

Joint Agency Cooperation and Memorandum of Understanding

Because the Project was proposed on Federal lands within the State of California, the environmental review was prepared to satisfy the requirements of NEPA and CEQA as well as other applicable environmental regulations. NEPA and CEQA both encourage the use of integrated documents that meet the need of Federal and state agencies. To ensure effective coordination and reduce duplication between NEPA and CEQA requirements, the BLM Susanville District, the Klamath and Modoc National Forests, BPA, the Siskiyou County Air Pollution Control Board, and Calpine prepared and entered into a MOU dated November 7, 1996. The MOU identified the authorities, organization, responsibilities, contractual arrangements, and other terms that would guide the joint preparation of a combined NEPA EIS and CEQA Environmental Impact Report (EIR).

The BLM is responsible for authorization of subsurface activities that occur on Federal lands leased to Calpine for geothermal development. The MOU identified the BLM as the lead Federal agency for preparation of the NEPA EIS.

The Forest Service is responsible for approving surface activities on national forest lands. Because the Project was proposed on the Modoc and Klamath National Forests, the Forest Service was designated as a co-lead agency with BLM for preparation of the NEPA EIS. The Forest Service assumed lead responsibility for ensuring compliance with the Endangered Species Act. Because the Forest Service and BLM both have ongoing relationships with the local tribes, they shared responsibility for National Historic Preservation Act compliance.

Because of BPA's proposal to purchase and transmit electrical power from the Project, BPA served as a cooperating agency for preparation of the NEPA EIS.

The Siskiyou County Air Pollution Control District was designated as the state lead agency for preparation of the CEQA EIR because it needed to decide whether to issue an Authority to Construct and Permit to Operate.

The MOU also established Calpine's advisory role in the environmental review process.

B. Relationship to Other Environmental Review Processes

1. Resource Programs EIS

The Project EIS was tiered from BPA's 1992 Resource Programs EIS (BPA 1993a) that compared alternative energy resources such as conservation, renewable resources, efficiency improvements, cogeneration, combustion turbines, nuclear power, and coal. The Resource Programs EIS evaluated environmental trade-offs among generic resource types and the cumulative effects of adding various combinations of these resources to BPA's generating system. This Project would implement BPA's decision, based upon the Resource Programs EIS, to strive to expand the supply of renewable resources. The Project EIS focused on the Fourmile Hill Geothermal Development Project as a product of the Resource Programs ROD and did not duplicate the Resource Programs EIS analysis of alternative resource types.

2. Telephone Flat Geothermal Development Project EIS

Another geothermal project, known as the Telephone Flat Geothermal Development Project, is proposed by CalEnergy Company, Inc., to be located about 4.5 miles southeast of the Fourmile Hill power plant. The Telephone Flat proposal includes the construction, operation, and maintenance of a 48-MW geothermal power plant, with associated geothermal production and injection wells, well pads, roads, interconnected geothermal fluid pipelines, and an accompanying transmission line. A separate NEPA/CEQA environmental review process was conducted and the Telephone Flat Geothermal Development Project Final EIS/EIR was released in February 1999 (DOE/FEIS-99-6; DOE/EIS-0298). The Fourmile Hill and Telephone Flat Final EIS/EIR's each analyzed and documented the potential cumulative environmental impacts that would occur from development of both projects, and the relevant analysis in the Telephone Flat Final EIS/EIR has been considered prior to execution of this ROD.

After careful consideration of all perspectives and factors, the Modoc National Forest and Alturas Field Office of the BLM issued a ROD on May 31, 2000, concluding that the interests of the public would be best served by selecting the No Action Alternative for the Telephone Flat Geothermal Development Project. The joint BLM and Forest Service decision selecting the No Action Alternative precluded BPA's ability to further consider the Telephone Flat Project.

C. Fourmile Hill EIS/EIR

1. Public Involvement and Notification

On June 6, 1996, a Notice of Intent to Prepare an EIS in accordance with NEPA was published by the Environmental Protection Agency (EPA) in the Federal Register (59 Fed. Reg. 1404). Public scoping meetings were held at four different locations between June and August 1996. In addition, notification letters

were distributed to over 750 agencies, American Indian groups, and members of the general public. Press releases about the proposed Project and scoping process were distributed to local newspapers. The official 30-day scoping period closed on July 12, 1996. Numerous consultation and information meetings were held with tribes and various Federal, state, and local agencies throughout the environmental review process.

The Draft EIS (DEIS) was released for public review on July 10, 1997. The EPA published the Notice of Availability (NOA) in the Federal Register on July 18, 1997. Public hearings to receive comments on the DEIS were held during the public comment period in Dorris, Yreka, Mount Shasta, and Medicine Lake, California, and at Klamath Falls, Oregon. The 60-day comment period was extended to 74 days to allow additional public comment. The comment period officially closed on September 30, 1997.

The Final EIS (FEIS) was released to the public in September 1998. The EPA published the NOA in the Federal Register on October 2, 1998. The 30-day comment period and the no-action period ended on November 2, 1998. Subsequently, on May 31, 2000, the Forest Service and BLM executed a joint ROD to approve the Project. The Forest Service and BLM selected an amended Alternative 6 for approval.

2. Alternatives Considered

In addition to tiering from the Resource Programs EIS, the Project EIS evaluated the potential environmental impacts of the construction, operation, and decommissioning of Calpine's Proposed Action, five alternative transmission line routes, and the No Action Alternative. Alternatives to the Proposed Action are limited to transmission line alternatives because of siting constraints for the proposed geothermal power plant and wellfield. Off-site alternatives were determined to be unreasonable and were eliminated from detailed study due largely to the essential purpose and need to stay within the confines of Calpine's geothermal leases. The location of the well and injection pads, pipelines, and power plant in the Proposed Action were chosen in consultation with the Forest Service in order to minimize the resource impacts to the extent technically feasible and practical.

The design and engineering characteristics of each transmission line alternative would be similar to those of the Proposed Action, except overall length and amount of access roads vary. The action alternatives described below were determined by the lead agencies to be feasible, meet the purpose and need for the Project, and respond to key environmental issues.

Alternative 6 is the Agency-Preferred Alternative. The Environmentally Preferred Alternative is the No Action Alternative, as the environment would remain unchanged.

Proposed Action: The Proposed Action includes construction, operation, and decommissioning of a geothermal power plant, well pads, and fluid pipelines, transmission lines, and access roads. The 24-mile, 230-kilovolt (kV) transmission line would extend in a southeasterly direction from the geothermal power plant site between Medicine Lake and the Medicine Lake Lava Flow. Near Arnica Sink, it would head northeast between Mt. Hoffman and Glass Mountain, then continue east past the town of Tionesta and eventually end at the Project substation. The substation would be located adjacent to BPA's Malin-Warner transmission line. About 27 miles of new access road would be constructed.

The Proposed Action has the potential to adversely impact:

- Traditional cultural values and traditional cultural uses;
- Medicine Lake water quality;
- Vegetation (including special status plants and old growth forest);
- General and special-status species wildlife habitat;
- Visual quality of travel corridors, Medicine Lake, the community of Tionesta and vicinity, and the Lava Beds National Monument;
- Mt. Hoffman Released Roadless area;
- Medicine Lake recreation and residences;
- Snowmobiling;
- Air quality (construction dust and power plant emissions); and,
- Noise levels at Medicine Lake and Tionesta.

Alternative 2: This alternative is the same as the Proposed Action, except the transmission line veers north at the intersection with the California-Oregon Transmission Project (COTP) 500-kV transmission line. The transmission line would extend north within the designated utility corridor and then eastward to connect into an alternative Project substation. The substation would be adjacent to BPA's Malin-Warner transmission line approximately 5 miles northwest of the Proposed Action substation location. The line length would total approximately 25 miles and would require construction of about 24 miles of new access roads.

Impacts of this alternative that differ from the Proposed Action are:

- Impacts to traditional cultural values and traditional cultural uses are slightly greater;
- More vegetation and wildlife habitat would be removed;
- Visual impacts to Tionesta and vicinity would be slightly less;
- Air quality and noise levels at Tionesta would not be affected; and,
- The transmission line would pass through a portion of both the Lava and Dobie Flat Released Roadless areas, causing adverse visual impacts.

Alternative 3: The transmission line in this alternative would pass south of Glass Mountain and Lyons Peak and would avoid disturbance to the Mt. Hoffman Released Roadless area. This line length would total about 26 miles and would require construction of about 25 miles of new access roads.

Impacts of Alternative 3 that differ from the Proposed Action are:

- Effects to historic or archaeological resources would be slightly greater;
- More vegetation, old growth forest and wildlife habitat (including special status species) would be removed;
- The transmission line would cross visually sensitive roads two more times; and,
- The transmission line would not be located through the Mt. Hoffman Released Roadless area.

Alternative 4: The transmission line in this alternative is the same as Alternative 3, except it would continue north (the same route as Alternative 2) from the point north of Highway 97 to connect into the alternative Project substation. The line length would total approximately 27 miles and would require construction of about 22 miles of new access roads.

Impacts of Alternative 4 that differ from the Proposed Action are:

- Effects to traditional cultural values would be slightly greater;
- More vegetation, old growth forest and wildlife habitat (including special status species) would be removed;
- One more visually sensitive road crossing would occur;
- Visual impacts from Tionesta and vicinity would be slightly less; and,
- Air quality and noise levels at Tionesta would not be affected.

Alternative 5: The transmission line in this alternative would head north from the proposed power plant site, turning east between Lookout Butte and Fourmile Hill. It would connect with the Proposed Action transmission line location just north of Glass Mountain and continue along that route until ending at the Project substation. The line length would total approximately 23 miles and would require about 24 miles of new access roads.

Impacts of Alternative 5 that differ from the Proposed Action are:

- Effects to historic or archaeological resources would be slightly greater;
- Effects to traditional cultural values and uses would be slightly reduced;
- Slightly less vegetation would be removed;
- Slightly less habitat for general wildlife and special-status species would be removed;
- Reduces or avoids impacts to Medicine Lake (visual, recreation, residential use, noise, and air quality);
- The transmission line would cross one less visually sensitive road; and,
- The transmission line would not be located through the Mt. Hoffman Released Roadless area.

Alternative 6 (Identified as the Agency Preferred Alternative in the FEIS):

Like Alternative 5, the transmission line in this alternative would head north from the proposed power plant site and turn east between Lookout Butte and Fourmile Hill. However, at the COTP 500-kV transmission line just north of Highway 97, the transmission line would head north (same as Alternatives 2 and 4) and end at the alternative Project substation.

Impacts of Alternative 6 that differ from the Proposed Action are:

- Minimizes effects to traditional cultural values associated with Medicine Lake and Timber Mountain;
- Adversely impacts a site identified by interviewed tribal members as having important traditional cultural value;
- Slightly less vegetation would be removed;
- Slightly less habitat for general wildlife and special-status species would be removed;
- Reduces or avoids impacts to Medicine Lake (visual, recreation, residential use, noise, and air quality);
- Visual impacts to Tionesta and vicinity would be slightly less;
- Air quality and noise levels at Tionesta would not be affected;
- The transmission line would cross visually sensitive roads two less times; and,
- The transmission line would not be located through the Mt. Hoffman Released Roadless area. However, it would pass through a portion of both the Lava and Dobie Flat Released Roadless areas, causing adverse visual impacts.

Modified Alternative 6 (Selected Alternative): The Forest Service and the BLM approved a modified Alternative 6 in their May 31, 2000, ROD. Although Alternative 6 described in the FEIS is similar to Alternative 5, except it avoided visual impacts to the community of Tionesta, it passed through the Lava and Dobie Flat Released Roadless areas. After releasing the FEIS, the Forest Service and BLM identified an alternative transmission line location that would avoid impacting the inventoried released roadless areas (Alternative 6) and the community of Tionesta (Alternative 5). The route of the transmission line from the power plant would be similar to Alternative 5 until it intersects the Western Area Power Administration (WAPA) 500-kV overhead transmission line. At that point, the transmission line would head north and parallel the east side of the WAPA line until it intersects with the Alternative 6 route location. From that intersection, the transmission line would be identical to Alternative 6.

This route is very similar in environmental effects to both Alternatives 5 and 6. It crosses the same type of wildlife habitat, is similar in length, and has no significant environmental impacts not identified in the FEIS. Impacts to geology, soils, hydrology, geothermal resources, traditional cultural resources, vegetation, wildlife, visual resources, plans and policies, land uses, recreation, transportation, air quality, human safety, and socio-economics would be similar to those described in the FEIS under Alternative 6. The FEIS stated that

construction activities east of the WAPA corridor would be major noise sources to the sensitive receptors in the Tionesta area. Because the modified Alternative 6 route would proceed northeast along the WAPA corridor, construction-related noise effects in the Tionesta area would be reduced from those described for Alternative 5. The cumulative effects would be similar to those described in Alternative 6 in the FEIS. Under this selected alternative the Forest Service/BLM has further stipulated that a public oversight group be established to review the monitoring program for the Project.

No Action Alternative (Environmentally Preferred): Under this alternative, the Project would not be implemented and BPA would not purchase or transmit Project output. This alternative is environmentally preferred because it would not modify or alter the immediate environment. However, the No Action alternative would also not meet the purpose and need for the Proposed Action. Without the knowledge and experience gained through a test project, future geothermal energy projects may continue to be too costly and unreliable to qualify for selection by BPA or other utilities.

D. Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. §§ 1531-1544), requires Federal agencies to ensure their actions do not jeopardize the continued existence of threatened or endangered species. The Forest Service, BLM, and BPA initiated formal consultation with the U.S. Fish and Wildlife Service (USFWS) on February 16, 1999, and the USFWS issued its Biological Opinion for the Fourmile Hill Geothermal Development Project on April 16, 1999.

The USFWS reached a no-jeopardy conclusion with respect to the Project's effect on the threatened bald eagle. The USFWS concluded that an incidental take of one bald eagle every three years was likely due to collisions with the transmission line, and specified certain terms and conditions to minimize take of the species. In the Forest Service/BLM ROD, the Forest Service committed to satisfy these terms and conditions.

E. National Historic Preservation Act/Environmental Justice/Tribal Policy

Section 106 of the National Historic Preservation Act, as amended (NHPA), requires that a Federal agency with jurisdiction for authorizing a proposed action take into account the effect of the undertaking on properties included on, or eligible for, the National Registry of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. Regulations implementing Section 106 provide that:

When an undertaking may affect properties of historic value to an Indian tribe, the consulting parties shall afford such tribe the opportunity to participate as

interested persons. Traditional cultural leaders and other Native Americans are considered to be interested persons with respect to undertakings that may affect historic properties of significance to such persons.

36 C.F.R. 800.1(c)(2)(iii).

The State Historic Preservation Officer (SHPO) coordinates state participation in the implementation of NHPA and is a key participant in the Section 106 process. The SHPO reflects the interests of the state and its citizens in the preservation of their cultural heritage and assists in the identification of those persons interested in an undertaking and its effects upon historic properties.

The Fourmile Hill FEIS documents the extensive Section 106 compliance activities and reflects an affirmative commitment to the completion of all such activities prior to any final decision on the Project.

Additionally, on February 11, 1994, President William Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This Executive Order was designed to focus the attention of Federal agencies on human health and environmental conditions in minority communities and low-income communities. In April 1995, the EPA released a document entitled "Environmental Justice Strategy: Executive Order 12898." This document established EPA-wide goals and defined the approaches by which EPA would ensure that disproportionately high and adverse human health or environmental effects on minority communities and low-income communities are identified and addressed. EPA's "Interim Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses" suggests a screening process to identify environmental justice concerns.

Additionally, BPA operates under its own Tribal Policy, signed April 30, 1996. Pursuant to this Policy, BPA is committed to "a government-to-government relationship with the Tribal governments and recognizes the unique character of each Tribe." The Tribal Policy also directs BPA to "consult with the Tribal governments to assure that Tribal rights and concerns are considered prior to BPA taking actions, making decisions, or implementing programs that may affect Tribal resources."

As a consequence of NHPA, the Executive Order, and BPA's Tribal Policy, BPA and the other Federal agencies engaged in considerable consultation with the three impacted Native American tribes, the Klamath, the Shasta and the Pit River, and discussed the magnitude and disproportionality of the impacts identified in the EISs. The Forest Service had lead responsibility for consulting with the tribes, and held meetings, site visits, and other forms of consultation and information-sharing with them, as well as extensive correspondence, over the

course of the environmental review process. A list of the face-to-face meetings is included below.

Date	Tribe(s)	Purpose of Meeting
October 27, 1995	Klamath Tribes and Shasta Tribe	To review the proposed Plan of Utilization
December 7, 1995	Klamath Tribes and Shasta Tribe	To discuss the NEPA and consultation process for the geothermal project(s)
April 15, 1996	Pit River Tribe	To discuss issues with geothermal project
April 19, 1996	Pit River Tribe	To meet with tribe representatives and introduce Project proponent
June 13, 1996	Klamath Tribes	Meeting with Heritage and Cultural Committee to discuss issues and concerns with Project
July 10, 1996	Klamath Tribes	Follow-up to June 13 meeting
July 12, 1996	Pit River Tribe	Meeting with tribal members to discuss issues with the projects
September 21, 1996	Pit River Tribe	Conducted site visit with tribal members
June 5, 1997	Klamath Tribes	Meeting with tribal members to discuss ethnographic report
June 17, 1997	Klamath Tribes	To discuss environmental justice issues
June 20, 1997	Pit River Tribe	Discussed with tribal governmental representatives the ethnographic report, environmental justice issues, and the environmental documentation
July 2, 1997	Pit River Tribe	Meeting with Tribal Council to discuss the geothermal project
August 6, 1997	Klamath Tribes	Meeting with Cultural and Heritage Committee to discuss adequacy of the Fourmile Hill DEIS
September 9, 1997	Klamath Tribes	Meeting with members of the Executive Committee and Federal decision makers regarding issues with the Project
September 20, 1997	Pit River Tribe	Site visit tour with tribal members
October 3, 1997	Pit River Tribe	Consultation protocol for future consultation on the geothermal projects
March 17, 1998	Pit River Tribe	A meeting to review environmental document prior to public release
April 1, 1998	Klamath Tribes	Meeting with Executive Committee to discuss the ethnographic report, the DEIS, and consultation
April 10, 1998	Pit River Tribe	Similar to the April 1, 1998, meeting with the Klamath Tribes
May 12, 1998	Klamath Tribes	Confidentiality of sacred sites identified in the ethnographic report
September 16, 1998	Klamath Tribes	Meeting between Executive Council and Federal decision makers
October 6, 1998	Klamath Tribes	A field visit with representatives of the Cultural and Heritage Committee and Federal agencies
March 5, 1999	Pit River Tribe	A meeting with Federal decision makers and tribal

Date	Tribe(s)	Purpose of Meeting
		government representatives to discuss issues with the geothermal project
March 9, 1999	Klamath Tribes	A meeting with Federal decision makers and the Executive Committee to discuss issues with the Project
March 13, 1999	Shasta Nation	A meeting between elected tribal government official and Federal decision makers
May 21, 1999	Pit River Tribe	Federal decision makers from BLM, Forest Service, and BPA, including BPA's Deputy Administrator, met with Tribal Council to discuss concerns with Project
July 15, 1999	Klamath Tribes	Field review of proposed geothermal projects with new members of the Executive Committee
February 10, 2000	Pit River Tribe	BLM and Forest Service decision makers and Tribal Council and members met to discuss pending decision on the geothermal projects
February 11, 2000	Shasta Tribe Incorporated	BLM and Forest Service decision makers and Tribal Council and members met to discuss pending decision on the geothermal projects
February 12, 2000	Shasta Nation	BLM and Forest Service decision makers and Tribal Council and members met to discuss pending decision on the geothermal projects
February 18, 2000	Klamath Tribes	BLM and Forest Service decision makers and Tribal Council and members met to discuss pending decision on the geothermal projects
March 16, 2000	Pit River Tribe	Department of Energy representatives, including BPA representative, met with Tribal Chairman in Washington, D.C., to discuss pending decision on the geothermal project
July 27, 2000	Pit River Tribe	Department of Energy representatives, including BPA representatives, met with Tribal Chairman at the Project site to discuss Project impacts
October 19, 2000	Pit River Tribe	BPA's Administrator and Vice President of Generation Supply met with the Tribal Chairman to explain BPA's decision

The Project is located in an area that has traditionally been used by the Modoc people of the Klamath Tribes, the Pit River Tribe, and the Shasta Tribe. The Klamath Tribes and the Pit River Tribe are Federally recognized; the Shasta Tribe is not.

Both the Klamath Tribe and Shasta Nation entered into Memoranda of Agreement with Calpine that provide for the protection of Native American human remains and cultural items encountered during construction and operation of the

Project. A November 16, 1999, letter from the Chairman of the Klamath Tribes to Senior Advisor to the Vice President Lynn Cutler stated:

“[The Memoranda of Agreement with Calpine] do not just mitigate against potential adverse impacts from this development, they also secure long-term protection for traditional cultural uses of the land. As with any form of electrical generation there are tradeoffs. However, we believe that with the mitigations proposed for this development the tradeoffs are acceptable. It is our position that this development is planned in a way that respects both our traditional culture and the surrounding forest. This geothermal development as proposed should benefit our region in many ways.”

The Shasta Nation, which is currently not a Federally recognized tribe, has two separate factions with different opinions about the Project. Mr. Roy Hall, Chairman of the Shasta-Upper Klamath Tribe, sent a letter dated July 9, 1999, confirming that the Memorandum of Agreement, together with the mitigation measures described in the EIS, adequately addressed their concerns about Project impacts on traditional custom and cultural values, spiritual practices, and cultural resources in the Medicine Lake Highlands. Mr. Hall expressed support for the proposed Project which would provide benefits to their tribal membership.

The other faction, represented by Mr. Howard Wynant, Chairman of the Shasta Nation, signed a resolution dated October 19, 2000, to oppose the geothermal development of Medicine Lake and the Medicine Lake Highlands. In that resolution, Mr. Wynant endorsed “the full protection of Medicine Lake and

Medicine Lake Highlands, to ensure that the unique natural, cultural and spiritual attributes of these sacred Areas will not be squandered forever for the temporary benefits of a few, but will be preserved for all future generations.” The Shasta Nation voted in majority “attesting geothermal activities entirely.”

The Pit River Tribe rejected Calpine’s offer of a similar memorandum of agreement.

Representatives of the Pit River Tribe wrote numerous letters objecting to the Project, including a comment letter submitted after release of the Final EIS. Consequently, BPA representatives, including the Deputy Administrator, met directly with members of the Pit River Tribe on May 21, 1999, to further discuss their concerns and attempt to find an acceptable mitigation strategy. At that meeting, the Pit River Tribe distributed a handout highlighting their concerns and suggestions.

Subsequent to the meeting on May 21, 1999, BPA received a letter from the leader of the Hewise Band of the Pit River Tribe expressing his support for the Project, citing the employment and other benefits the Project could provide for the tribe.

Representatives of the U.S. Department of Energy and BPA met with Pit River tribal leaders at the Project site on July 27, 2000, to gain further insight into the Tribe's concerns. The Tribe has specific concerns about noise and visual impacts on religious activities, as well as potential impacts on water resources in the area, but their overarching objection is to the introduction of an industrial facility into the Medicine Lake Highlands, an area with significant spiritual value to them.

The Fourmile Hill FEIS notes that the Project would not result in surface disturbance or affect the physical integrity of sacred sites identified by tribal members. Nor would the Project cause tribal members to be denied access to ceremonial sites or deny them the right to practice American Indian religions. However, it is possible that Project activities and elements may be seen or heard at some times from some identified ceremonial sites, which could interfere with religious or ceremonial practices.

The FEIS also documents existing uses of the Medicine Lake Highlands that could interfere with religious or ceremonial practices. These uses include visits to the Medicine Lake recreation area by an estimated 40,000 persons per year, a total that has increased by 8 percent to 10 percent over the last 3 years. About 35 recreation residences are located on privately owned land adjacent to Medicine Lake. Dispersed recreation activities on the Doublehead Ranger District of the Modoc National Forest alone currently total over 200,000 visits per year.

An extensive network of snowmobile trails and four snowmobile parks are used by snowmobilers and cross-country skiers in the winter. Mining activities currently take place in the Medicine Lake Highlands, and timber harvest still occurs on a limited basis. Commercial mushroom harvesting takes place throughout the Project area from September through December.

The SHPO and Advisory Council for Historic Preservation (ACHP) concurred with the determination that implementation of the Project will result in an adverse effect to American Indian use of the Medicine Lake Highlands. The SHPO and ACHP also reviewed and agreed to a Memorandum of Agreement (MOA) for the Fourmile Hill Project that describes Project implementation and monitoring requirements. The action items identified in the MOA are incorporated into the Forest Service and BLM ROD. The MOA specifically requires 1) a Mitigation and Monitoring Plan for the Fourmile Hill Project, and 2) the development of a Cultural Management Plan for the Medicine Lake Highlands that includes a portion of the Shasta-Trinity National Forests. The Forest Service, BLM, SHPO, and ACHP executed the MOA as signatory parties on May 26, 2000. BPA declined the offer to sign as a concurring party because, among other reasons, BPA was not a party in the discussions that led to the MOA and BPA has no obligations under it.

F. ADDITIONAL PUBLIC COMMENT

Subsequent to issuance of the Fourmile Hill Geothermal Development Project Final EIS/EIR and the Telephone Flat Geothermal Development Final Project EIS, the lead agencies received comments from Mr. Enrique Manzanilla, Director, Cross Media Division, EPA, by means of a letter dated April 5, 1999. Upon receipt of this letter, representatives from the lead and cooperating agencies met separately with EPA representatives, including a telephone conference with BPA representatives on May 14, 1999, to discuss particular issues affecting the various agencies. Ultimately, representatives from all concerned Federal decision making agencies (Forest Service, BLM, BPA, and EPA) as well as the Siskiyou County Air Pollution Control District, met in Sacramento, California, on May 17, 1999, in order to share and resolve any outstanding concerns raised by the EPA comment letter. BPA received a follow-up letter from Clancy Tenley, EPA, Manager, Indian Programs Office, thanking BPA for meeting with them and for discussing the areas of concern. Additionally, EPA repeated and summarized their concerns and recommendations.

With regard to each issue under discussion, one of the lead or cooperating agencies was usually better able to clarify the issue of particular concern to EPA. When appropriate, agencies other than BPA responded to EPA's concerns in accordance with their particular agency needs or protocols. Concerns directed specifically to BPA are addressed below.

Comment - "In describing the purpose and need for the project, the agencies relied heavily on Federal statutes aimed at promoting geothermal power as a goal in and of itself. This analysis ignores several critical factors, including the need for further electrical power generation capacity." EPA letter dated April 5, 1999.

Response - BPA has been very clear throughout the environmental review process that a fundamental purpose of the Fourmile Hill and Telephone Flat Geothermal Development Projects is to explore renewable resources consistent with the agency direction adopted in the Resource Programs FEIS and ROD, BPA's responsibility under the Northwest Power Act to promote the development of renewable energy resources, and Congressional direction pursuant to the Geothermal Steam Act of 1970.

BPA had an expressed need to ensure the availability of resources that will contribute to diversification of the long-term electrical power supply prospects in the Northwest region. The need for this Project was never one of simply generating additional power to meet the general power needs in the region. Instead, BPA encouraged the development of geothermal resources in order to ensure future availability of a potentially plentiful renewable energy source. More specifically, pursuant to the Northwest Power Act and in response to recommendations by the Council, BPA initiated the Geothermal Pilot Project Program to encourage development of the region's large, but untapped, geothermal resources. Nationally, the Geothermal Steam Act of 1970

encouraged geothermal energy development as a means to diversify domestic energy supplies. As the power market changed due to industry restructuring, BPA also sought to meet an anticipated customer demand for “green power” options.

In direct response to EPA’s similar comment on the DEIS, BPA acknowledged that at the time of the preparation of the EIS there was an adequate supply of electrical power to meet public demand, and that the cost for fossil-fuel-derived power was substantially lower than renewable energy. However, the Project would help meet the expected demand (and thus the need) for geothermal energy over the long term, and that short-term power costs and electricity demand were not primary factors in determining the need for the subject power. BPA believes that geothermal power could be cost-competitive with fossil fuels over time. In short, the Fourmile Hill and Telephone Flat Geothermal Development projects were never meant to address an immediate electricity supply problem or to locate a low-cost power option. Instead, the analysis acknowledges that power production from renewable resources, including geothermal, is currently higher than the cost of power production from non-renewable resources. However, this relationship may change in the future due to deregulation and other factors.

Comment - “We are concerned that the lead agencies have failed to evaluate other reasonably foreseeable geothermal projects in the Medicine Lake Area.” EPA letter dated April 5, 1999.

Response - In order to accurately characterize cumulative impacts, agencies must assess all reasonably foreseeable future projects in the area. The Project EIS discloses that the actual commercial geothermal development potential of the Glass Mountain Known Geothermal Resource Area (KGRA) may be far less than earlier estimated. Only two geothermal projects, the Telephone Flat and Fourmile Hill, were identified as reasonably foreseeable and, accordingly, were evaluated. Additionally, the developers of the two proposed projects are the two principal geothermal lease owners in the KGRA, and neither has announced plans for any further geothermal development in the KGRA. As a further precaution against the unexpected, the Project EIS affirmatively states that additional environmental analysis would be required for any new proposals for development in the area.

Further, in order to assuage public concern regarding this issue, CalEnergy executed a voluntary moratorium on future geothermal development to allow all the actual effects to be observed. Calpine has also indicated no plans for future development in the KGRA. This voluntary moratorium would allow time and opportunity for the public and agencies to scrutinize the tangible effects of geothermal development. Finally, the Forest Service/BLM ROD imposed a 5-year moratorium on future geothermal development within the Glass Mountain KGRA, making the self-imposed limits of the developers mandatory.

EPA's comment letter, dated April 5, 1999, suggests that the lack of other reasonably foreseeable projects must be reconciled with the proposed power-purchase contract language for "up to an additional 100 aMW (in 20-aMW increments) from possible future projects at Glass Mountain." Additionally, EPA expressed their concern over a proposed transmission line capacity of between 250 MW and 300 MW that is based upon the Forest Service's request that the transmission line for the Project be designed to accommodate "reasonably foreseeable geothermal power generation that could occur at the Glass Mountain KGRA." In fact, as of the date of this ROD there continues to be no reasonably foreseeable project to add to those already evaluated in the FEIS. Nevertheless, as future geothermal projects are theoretically conceivable (after the 5-year moratorium imposed by the Forest Service/BLM), BPA inserted language in the PPA addressing the disposition of an additional 100 aMW. Such language was designed to preserve a future interest and is not indicative of a foreseeable project. Further, the rationale for the selected transmission line capacity was based upon economic considerations and the need to connect with BPA's 230-kV transmission line, not reasonably foreseeable development. As detailed in the FEIS, the elimination of two transformers and unnecessary electricity losses favored the use of a 230-kV line, over the smaller 115-kV line. Subsequent Forest Service analysis, documented in the Forest Service/BLM ROD, also determined that the 230-kV line would be more efficient and economical and would not result in significant additional resource impacts.

Comment - "BPA should explain how the [Settlement Agreement between BPA and CalEnergy] does or does not prejudice the final outcome of the ROD." EPA letter dated April 5, 1999.

Response – CalEnergy is the developer for the proposed Telephone Flat Geothermal Development Project. Although EPA's comment was directed at a litigation settlement between CalEnergy and BPA executed in 1996, including BPA's response in the ROD for the Calpine Project may be helpful to some readers.

Originally, CalEnergy and the Eugene Water & Electric Board (EWEB) proposed a 30-MW geothermal project at Newberry Volcano in central Oregon. An EIS for the Newberry Geothermal Project was completed in 1994 and the State of Oregon issued a Site Certificate for the Project in 1996. BPA issued a ROD on September 16, 1994, approving the execution of the Newberry PPA with CalEnergy and on September 19, 1994, the Newberry PPA was executed. Under the Newberry PPA, BPA agreed to purchase approximately 20 aMW of output from the proposed Project for 50 years.

In accordance with the terms of the Newberry PPA and other relevant agreements, CalEnergy proceeded with exploratory drilling in 1995, but was unable to find a commercially satisfactory reservoir. On July 17, 1996, CalEnergy notified BPA that it had determined that the geothermal resources at Newberry were insufficient to meet CalEnergy's obligations under the Newberry

PPA on a cost-effective basis. Therefore, asserting its rights under section 24 of the Newberry PPA, CalEnergy announced it was relocating to an alternative location.

Section 24 of the Newberry PPA provides:

ALTERNATE SITE

If, prior to the Commercial Operation Date and subject to the deadlines in section 6, Seller determines that the geothermal resources within the Deschutes Unit Area are insufficient to meet Seller's obligations under this Agreement on a cost-effective basis, Seller shall be entitled to utilize an alternate location for the Project, under the same terms and conditions as this Agreement, without being subject to a Bonneville competitive acquisition process.

Seller acknowledges this is not a commitment by Bonneville to agree to the alternate site. Such obligation will arise, if at all, upon satisfaction of Bonneville's responsibilities under the National Environmental Policy Act and upon execution of an amendment to this Agreement. Agreement to such amendments shall not be unreasonably withheld.

Several weeks of discussions and legal debate ensued around the meaning of section 24 of the Newberry PPA, and BPA's obligations with respect to approving the relocation of the Project to an alternate site. CalEnergy sought assurances that BPA would approve the new project at the alternate site. In September 1996, CalEnergy demanded that BPA execute the relocation amendment or, in the alternative, a memorandum of understanding regarding the proposed relocation by September 16, 1996. BPA responded on September 16, 1996, that it would not execute either document. Further, BPA explained that it was not obligated by the Newberry PPA to make the kind of commitment demanded by CalEnergy, and that any such commitment by BPA prior to the time it had fully evaluated the relocation proposal pursuant to NEPA and made a final decision regarding the proposal, would be contrary to NEPA. At no time did BPA waiver in its insistence that any decision whether to purchase power from an alternate site would only be made after completion of the NEPA process at the alternate site.

On October 2, 1996, CalEnergy and BPA met to discuss the prospects for an amicable resolution of the issues between the parties. CalEnergy expressed its desire to engage in settlement discussions. BPA told CalEnergy that it would notify CalEnergy by October 9, 1996, if BPA was interested in discussing settlement. CalEnergy agreed to this timetable, but also stated that it would be

sending letters to BPA to invoke the formal steps necessary to commence an arbitration of the issues surrounding its relocation proposal, in the event settlement discussions were unsuccessful. The Newberry PPA provided for such an arbitration to resolve disputes. Although CalEnergy agreed to the October 9, 1996, decision timetable, CalEnergy continued its demands, as enumerated in three separate letters, that BPA provide CalEnergy with an unqualified assurance regarding its relocation proposal and that failure to do so constituted a material breach by BPA of the Newberry PPA. BPA considered the risks of arbitration and decided to engage in settlement discussions with CalEnergy.

Settlement discussions began on October 24, 1996, and continued in several subsequent meetings. Although discussions were ongoing and the parties had reached substantial agreement on a number of issues, CalEnergy filed a demand for arbitration on November 20, 1996. In its filing CalEnergy claimed to have spent in excess of \$20 million performing its obligations under the Newberry PPA and sought damages for breach of contract, asserting its damages exceeded \$40 million. Notwithstanding the filing of the arbitration demand by CalEnergy, BPA and CalEnergy subsequently agreed to a settlement whereby BPA would make two cash payments to CalEnergy upon the event of certain conditions. In exchange, CalEnergy agreed to release all claims against BPA under the Newberry PPA, and to negotiate, but not execute, an amended PPA for the alternate Glass Mountain site with terms and conditions substantially more favorable to BPA. Importantly and purposefully, nothing in the Settlement Agreement or the unexecuted PPA in any way committed BPA to proceed with CalEnergy's project at Glass Mountain. In addition, the Administrator's ROD for the CalEnergy Settlement included the following statement:

The decision whether to proceed with the proposed project pursuant to terms in the Glass Mountain PPA [i.e., the amended PPA] will not be made by BPA until such time as BPA, in cooperation with other Federal agencies, has completed its review of the proposed project pursuant to NEPA, and considered the entire record before the Agency and issued a formal ROD.

After the Settlement Agreement was executed, CalEnergy withdrew the arbitration demand and took steps to start an EIS process for the project at Glass Mountain.

Cal Energy Settlement Agreement

Pursuant to the Settlement Agreement, BPA paid CalEnergy \$9 million to settle all claims arising from the Newberry PPA and negotiate a new PPA with a lower power price and shorter term. This resulted in substantial savings for BPA over the original terms of the Newberry PPA. Additional payments by BPA were entirely dependent on the outcome of the future environmental review process. Specifically, the Settlement Agreement declared that:

BPA will pay CalEnergy \$9 million if the lead agencies (BLM and Forest Service) issue RODs approving the Telephone Flat project AND BPA issues a ROD not approving the project;

Or

BPA will pay CalEnergy \$10 million if the lead agencies and BPA all issue RODs approving the project, BPA executes the amended PPA, and CalEnergy brings the project to commercial operation by the contractually defined Commercial Operation Date;

Or

BPA will make no additional payments to CalEnergy if the lead agencies issue a ROD selecting the No Action Alternative and thereby deny approval of the Telephone Flat project.

CalEnergy will give BPA all the drilling, geologic and economic data on the Newberry project, which will be made available to the public.

CalEnergy will maintain the leases covered by the Newberry EIS for 5 years. BPA will pay part of the carrying costs for those leases.

BPA and EWEB will have first right of refusal on the output of any power project CalEnergy might develop at Newberry during this period.

CalEnergy will make the Newberry site available to universities and government agencies for scientific research.

The execution of the Settlement Agreement with CalEnergy in no way prejudiced the outcome of the ROD for the Telephone Flat Geothermal Development Project or the Fourmile Hill Geothermal Development Project. The Settlement Agreement was executed to resolve contractual issues arising under the Newberry PPA. In fact, the execution of the Settlement Agreement avoided an expensive and time-consuming arbitration process wherein CalEnergy was asserting breach of contract damages in excess of \$40 million. Further, BPA was able to negotiate an amended PPA for the Glass Mountain site with terms and conditions substantially more favorable to BPA in the event BPA decided to

go forward with the Telephone Flat Project after the NEPA review. The Settlement Agreement and unexecuted amended PPA also resolved any misperception of a BPA obligation to purchase power from the Telephone Flat Project.

EPA's comment letter points out that under the Settlement Agreement BPA would have to pay CalEnergy \$9 million if BPA fails to issue a ROD in favor of the Project within 120 days of a ROD issued by Forest Service/BLM. EPA also comments that the FEIS fails to disclose this agreement when listing the factors BPA will consider when deciding whether to purchase power from this Project. Thus, EPA assumes that the significance of the dollar amount would influence BPA's decision on whether to proceed with the Project. However, EPA is mistaken in this assumption for several reasons.

1. The Settlement Agreement resolved contractual issues related to the Newberry PPA and avoided a potentially very costly arbitration award based on alleged breach of contract damages exceeding \$40 million. BPA considered that a monetary settlement in the range of \$18 million to \$19 million total was reasonable given the risks.
2. EPA does not mention that BPA would have to pay CalEnergy \$10 million if BPA does go forward with the Project.
3. BPA does not have the authority to approve the CalEnergy project without prior approval from the Forest Service and BLM. Because no incentive exists in the Settlement Agreement for the Forest Service or BLM to approve any geothermal project, the EPA theory that the Settlement Agreement influenced BPA's decision prior to completion of environmental review is unfounded.
4. BPA is well aware of the procedural error underlying a commitment of BPA resources prior to the completion of the EIS. It would not be in BPA's interest to knowingly jeopardize its investments up to this point, and the opportunity to include a new renewable resource in its portfolio, by making binding pre-decisional commitments.

Finally, in the face-to-face meeting on May 17, 1999, in Sacramento, and again in the follow-up letter dated June 22, 1999, EPA representatives further theorized that the Settlement Agreement actually created an incentive to select an action alternative as BPA would avoid any additional payment if CalEnergy failed to achieve commercial operation. I and my executive officers would not make a public announcement to proceed with a long-considered renewable project with the hidden expectation that the developers would be unable to complete the Project on time, thereby saving BPA \$9 million. BPA believes EPA's concerns were not fully informed and were therefore misplaced in light of all the facts surrounding this decision.

Calpine Settlement Agreement

Similarly, in the latter half of 1996, during the course of discussions with CalEnergy about the proposed relocation of its project to Glass Mountain, CalEnergy made a new proposal to BPA that contained terms and conditions which significantly shortened the length of the contract term and the price of the power. BPA initiated discussions with Calpine to see if Calpine could agree to terms and conditions similar to those proposed by CalEnergy. Unable to meet the price and terms proposed, BPA and Calpine began to focus their discussions on any rights and obligations between them in the event that BPA elected not to go forward with the proposed Project after the completion of the EIS.

Beginning in early November 1996, and continuing at a number of subsequent meetings, BPA and Calpine negotiated the essential terms of the Calpine Settlement Agreement resolving all claims related to the Vale MOU. As Calpine achieved certain milestones specified in the Calpine Settlement Agreement, BPA was obligated to make payments to them totaling \$14.5 million. All of those payments have been made. The execution of the Calpine Settlement Agreement in no way prejudiced the outcome of the ROD for the Fourmile Hill Geothermal Development Project because the Calpine Settlement Agreement was designed to completely eliminate any possible grounds for Calpine to claim BPA had an obligation to purchase power from the Fourmile Hill Project.

III. MONITORING AND ENFORCEMENT

The Forest Service and BLM have the responsibility for monitoring the progress of the Project and ensuring that mitigation measures are taken as appropriate. Therefore, I refer the reader to the Forest Service/BLM ROD for specific monitoring and enforcement commitments.

Any contract executed by BPA for the Project, whether for transmission services or power purchases or both, will require that the Project meet all Federal, state, and local requirements, including mitigation identified in the Forest Service/BLM ROD. BPA will include a contract clause in the PPA stating that if Calpine does not comply with all mitigation plans and environmental requirements including those developed through the NEPA process, then BPA may terminate the contract.

IV. AGENCY PERMITS AND AUTHORIZATION

The Geothermal Steam Act of 1970 gives BLM the authority to issue leases for and make determinations on all geothermal activities proposed to be conducted on Federal lands. The BLM decision was to issue permits authorizing the construction, operation, and maintenance of the well fields, pipelines, power plant, and re-injection system. The permits that will authorize those activities are:

- Facility Construction Permit
- Commercial Use Permit
- Geothermal Site License
- Individual Geothermal Drill Permits and Sundry Notice

As the surface-managing agency for National Forests, the Forest Service decided to allow construction, operation, and maintenance of the power plant and transmission line, including water well use and road access. The permits needed to authorize these activities are:

- Temporary Special Use Permit
- Right-of-way easement for the transmission line
- Water well use authorization
- Forest road use authorization

In addition, the Forest Service will issue a Forest Order prohibiting firearm discharge within the vicinity of the Fourmile Hill power plant.

Authorization of the Project required the Forest Service to make certain amendments to the Klamath and Modoc National Forest Land and Resource Management Plans (LRMP) in order to ensure consistency with the LRMPS. Through the Forest Service/BLM ROD, the following LRMP changes were approved:

- The Klamath and Modoc National Forest's LRMPS were amended to designate the approved transmission line as a Designated Utility Corridor.
- The Klamath National Forest LRMP was amended to add standards and guidelines related to utility corridor management that are already included in the Modoc National Forest LRMP.
- The Klamath National Forest LRMP was amended to change the wording for a standard and guideline. The change made the standard and guideline consistent with Public Law 95-341 (American Indian Religious Freedom Act of 1978) and corrected an unenforceable action regarding the Forest Service's ability to require the American Indian Community to use an area.

Because the Project would emit geothermal steam into the atmosphere during well drilling and operation, Calpine applied for and obtained permits from the Siskiyou County APCD prior to Project implementation. The County APCD issued the Final Authority to Construct and Temporary Permit to Operate for the Fourmile Hill Geothermal Development Project Power Plant, effective August 1, 2000.

After amending the Klamath and Modoc National Forest's LRMPS, the Project would be consistent with Federal, state, and local land use plans.

V. DECISION FACTORS AND AGENCY PREFERRED ALTERNATIVE

BPA's objectives for this action are to: (1) test the ability of geothermal energy in the Fourmile Hill area to provide a reliable, economical, and environmentally acceptable energy resource; (2) assure consistency with BPA's statutory responsibilities, including the Northwest Power Act, the Council's Power Plan and its Fish and Wildlife Program; and (3) assure consistency with BPA's Resource Programs (BPA 1993a; BPA 1993b). BPA's selected alternative is the modified Alternative 6 described in Section C of this ROD. The selected alternative is consistent with the Forest Service/BLM ROD and meets BPA's objectives because (1) it allows BPA to gain hands-on experience with geothermal energy, a relatively non-polluting, renewable energy resource, (2) it is consistent with the Northwest Power Act because it encourages the development of a renewable resource and helps in determining the cost and availability of a geothermal energy resource, and (3) it implements BPA's commitment in the Resource Programs ROD (BPA 1993b) to strive to expand the supply of renewable resources.

All of the Project alternatives were evaluated against BPA's purposes and need, and all alternatives except the No Action Alternative would satisfy BPA's need to test renewable resources and are consistent with BPA's statutory responsibilities. The action alternatives are consistent with Federal energy policy and the Council's Power Plans, which is not true of the No Action Alternative.

The National Energy Strategy of 1991/1992 called for increased efforts to identify and characterize hydrothermal resources. The National Energy Policy Act of 1992 (Title XII) directed the Secretary of Energy to further the commercialization of renewable energy resources, including geothermal, through a five-year program. The Secretary of Energy recently announced the *GeoPowering the West* initiative, which has a goal of developing geothermal resources sufficient to supply 10 percent of the electricity used in the western states by the year 2020. Finally, the Comprehensive Review of the Northwest Energy System called on BPA to complete the geothermal pilot projects (Final Report; December 12, 1996; p. 29).

BPA's selected alternative is consistent with the Forest Service/BLM decision to authorize the modified Alternative 6. The Forest Service/BLM based their decision on the following factors:

1. Consistency with existing geothermal lease stipulations.
2. Minimization of long-term significant impacts to the biological and physical environment.
3. Consistency with Executive Orders 13007 (Indian Sacred Sites) and 12898 (Environmental Justice).

4. Concurrence from the SHPO and ACHP that Project impacts to American Indian values have been minimized and completion of a Memoranda of Agreement describing Project implementation and monitoring requirements.
5. Minimized visual impacts.
6. Avoidance of impacts to Released Roadless areas.
7. Avoidance of industrial development within the Medicine Lake caldera.
8. Consistency with Klamath and Modoc National Forest LRMPs.

The Forest Service/BLM ROD concludes "both individually and cumulatively, these factors indicate the Selected Alternative will not result in unacceptable long-term significant impacts. Therefore, our decision is to approve Calpine Corporation's Plan of Operation and Special Use Permit."

VI. MITIGATION ACTION PLAN

BPA is not including a Mitigation Action Plan with this ROD because the Forest Service and BLM are responsible for enforcement of all mitigation requirements specified in their ROD. However, BPA notes that the Forest Service/BLM ROD incorporates all the mitigation measures and monitoring requirements identified in Volume I of the FEIS as well as those contained in their ROD. BPA is aware of and has considered these mitigation measures. All mitigation measures, monitoring requirements, and operating conditions will be compiled in an Environmental Quality Assurance Plan (Plan). This Plan will assist the Forest Service and other permitting agencies to monitor compliance throughout the life of the Project. The Forest Service/BLM ROD also added the following stipulations as mitigators: 1) that a public oversight group be established to review the monitoring program for the Project, and 2) that there is a 5-year moratorium on future geothermal development within the Glass Mountain KGRA.

As noted in Section III, BPA may terminate Project contracts if Calpine fails to satisfy any of the Federal, state, or local mitigation requirements.

In addition to the Memoranda of Agreement referred to in Section II.E of this ROD, Calpine has made commitments to the Klamath and Shasta Tribes to provide jobs and scholarships for tribal members. BPA will make honoring these commitments a condition of the PPA.

VII. DECISION

Upon consideration of the entire record and attachments and after consultation with the United States Department of Energy, I have decided to execute PPAs and TSAs with Calpine to purchase and transmit up to all of the electricity generated by the Fourmile Hill Geothermal Development Project.

Upon consideration of the entire record, including all of the discussions and material submitted after issuance of the FEIS, and with the understanding that the Project will significantly impact certain Native American values in a manner that cannot be mitigated below the level of significance, I have decided to execute Power Purchase and Transmission Service agreements for the Project. I fully comprehend the interests of the Pit River tribal members, who continue to oppose the Project, and make this decision with considerable empathy toward their concerns. However, in my capacity I must base my decision regarding a particular project upon a weighing of the totality of the circumstances and I have done so in this instance.

As detailed in the FEIS, this Project will be important with respect to the vitality of geothermal power in the region. It will result in economic benefits to the people of Siskiyou County as well as employment opportunities for Native Americans in the area. With the exception of Native American values, short-term noise and visual impacts during construction and operation, and the long-term visual impact to some locations from the transmission line and power plant steam plumes, impacts of the Forest Service/BLM's Selected Alternative will generally be less than significant or none. To further reduce these impacts, I whole-heartedly encourage any interested parties to fully participate in the public oversight group noted in Section VI.

As noted in Section III, a contract clause will be included in the PPA allowing BPA to terminate the contract if Calpine does not comply with all mitigation plans and environmental requirements.

Issued in Portland, Oregon, on November 20, 2000.

/s/ Stephen J. Wright _____

Stephen J. Wright
Acting Administrator and
Chief Executive Officer

bcc:

Adm. Chron. File – A-7

Official File – KEC (EQ-14-2, Fourmile Hill Geothermal Development Project)

Katherine P. fisher:kpf:4375:9/18/00, Final revision 10/26/00

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