



SAVE MEDICINE LAKE COALITION, ET AL.

156 IBLA 219

Decided February 7, 2002

Editor's Note: appeal filed sub nom. Pit River Tribe v. BLM, Civ. No. S-02-1314 DFL/JFM (E.D. Calif.), aff'd, (to the extent IBLA aff'd in part BLM decision approving plan of operations) (Feb. 13, 2004) [306 F.Supp.2d 929](#), rev'd No. 04-15746 (9th Cir. Nov. 6, 2006), 469 F.3d 768

Appeal filed, Civ. No. CV-06-00172 BES/RAM (D. Nev. Mar. 30, 2006), aff'd Sept. 19, 2007; appeal filed, No. 07-16878 (9th Cir. Oct. 8, 2007), aff'd May 14, 2009 (2009 WL 1336732)



United States Department of the Interior
Office of Hearings and Appeals
Interior Board of Land Appeals
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Arlington, VA 22203

SAVE MEDICINE LAKE COALITION, ET AL.

IBLA 2000-294, et al.

Decided February 7, 2002

Consolidated appeals from a Record of Decision of the Field Manager, Alturas (California) Field Office, Bureau of Land Management, approving a Plan of Operations for the Fourmile Hill Geothermal Development Project and imposing a moratorium on further development of geothermal resources. CACA-21924 and CACA-21926.

Appeals dismissed in whole and in part; BLM decision vacated in part and affirmed in part.

1. Environmental Quality: Environmental Statements--
Geothermal Leases: Drilling--Geothermal Leases:
Production--National Environmental Policy Act of
1969: Environmental Statements

A BLM decision to approve a plan of operations for developing geothermal resources will be affirmed where BLM has prepared an environmental impact statement taking a hard look at the significant environmental consequences of constructing and operating production and injection wells, a power plant, a transmission line, pipelines, and related facilities, and reasonable alternatives thereto, and where the appellant has failed to carry its burden to demonstrate that BLM failed to adequately consider the impacts on air, surface and groundwater, historic properties, Native American traditional uses and values, and other resources and values, or otherwise failed to abide by NEPA.

2. Endangered Species Act of 1973: Section 7:
Consultation--Geothermal Leases: Drilling--
Geothermal Leases: Production--National Historic
Preservation Act: Undertaking

A BLM decision to approve a plan of operations for developing geothermal resources will be affirmed where an appellant fails to demonstrate that implementation of the plan will result in any violation of the Clean Air Act, the National Forest Management Act of 1976, the Endangered Species Act of 1973, the National Historic Preservation Act,

the Geothermal Steam Act of 1970, or Executive Orders Nos. 12898 and 13007.

APPEARANCES: Stephan C. Volker, Esq., Oakland, California, for the Save Medicine Lake Coalition, Medicine Lake Citizens for Quality Environment, Mount Shasta Bioregional Ecology Center, Klamath Forest Alliance, California Wilderness Coalition, Fall River Wild Trout Foundation, and Mount Shasta Chapter of the California Native Plant Society; Deborah A. Sivas, Esq., Earthjustice Legal Defense Fund, Stanford, California, and Thomas E. Kuhnle, Esq., Palo Alto, California, for the Pit River Tribe, Native Coalition for Medicine Lake Highlands Defense, and Mount Shasta Bioregional Ecology Center; Guy R. Martin, Esq., Robert A. Maynard, Esq., and Richard W. Oehler, Esq., Washington, D.C., for the Calpine Corporation, Calpine Siskiyou Geothermal Partners, L. P., and California Energy General Corporation; Erica L. B. Niebauer, Esq., and Erica L. B. Niebauer, Esq., Office of the Regional Solicitor, U.S. Department of the Interior, Sacramento, California, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE HUGHES

The Save Medicine Lake Coalition (SMLC) and others have appealed from the May 31, 2000, Record of Decision (ROD) of the Alturas (California) Field Office, Bureau of Land Management (BLM), approving a Plan of Operation (Plan or POO) for the Fourmile Hill Geothermal Development Project (Project) in the Medicine Lake Highlands of northern California. 1/ Because the Project would encompass Federal lands whose surface resources are administered by the Forest Service (USFS), U.S. Department of Agriculture (USDA), the ROD was a joint decision of the Alturas Field

1/ The appeals were filed by: The Save Medicine Lake Coalition, Medicine Lake Citizens for Quality Environment, Mount Shasta Bioregional Ecology Center, Klamath Forest Alliance, California Wilderness Coalition, Fall River Wild Trout Foundation, and Mount Shasta Chapter of the California Native Plant Society (collectively, SMLC) (IBLA 2000-294); Pit River Tribe, Native Coalition for Medicine Lake Highlands Defense, and Mount Shasta Bioregional Ecology Center (collectively, PRT) (IBLA 2000-295); California Energy General Corporation (CalEnergy) (IBLA 2000-300); and Calpine Corporation and Calpine Siskiyou Geothermal Partners, L.P. (collectively, Calpine) (IBLA 2000-301).

We note that, in the statement of reasons for appeal filed by SMLC (SMLC SOR), the Mount Shasta Bioregional Ecology Center specifically requests "dismissal from this appeal," since it is also participating in the appeal filed by PRT, and thus seeks to avoid duplicative appeals. (SMLC SOR at 1 n.1.) The Mount Shasta Bioregional Ecology Center thus effectively withdraws its appeal in IBLA No. 2000-294, and seeks dismissal of that appeal. That request is hereby granted.

We further note that SMLC asserts that its appeal is also being pursued by the Sierra Club. (SMLC SOR at 1, 6-7.) Since the Sierra Club was not listed as an appellant in the June 29, 2000, notice of appeal filed by SMLC, it is not a party appellant.

Office (AFO), BLM, and the Forest Supervisors for the Klamath and Modoc National Forests, USFS. We, however, review only BLM's decision.

Calpine holds two Federal geothermal resource leases (CACA-21924 and CACA-21926) 2/ encompassing 4,480.66 acres of Federal land situated in Siskiyou County, California. The leases granted to the lessee the "exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources" underlying the leased lands, "together with the right to build and maintain necessary improvements thereupon," including wells and a power generating plant. See 43 CFR 3200.0-6 (1997).

The lands leased to Calpine are within the Glass Mountain Known Geothermal Resource Area (KGRA) and are believed to contain commercial quantities of geothermal resources, based on the results of exploratory drilling undertaken elsewhere in the immediate area. These lands, along with other lands leased to Calpine and CalEnergy in the vicinity, are located within the Glass Mountain Unit Area, for which CalEnergy is the unit operator. However, the two leases at issue here are not committed to the Unit or subject to Unit requirements. (Final Environmental Impact Statement/Environmental Impact Report Volume 1 (FEIS I) at 1-1, 1-12.) 3/

In 1996, Calpine submitted a POO and special use application for development of geothermal resources on leases CA-21924 and CA-21926. In order to assess the environmental consequences of the proposed POO, BLM and USFS prepared a Draft Environmental Impact Statement (DEIS) on July 10, 1997. Following receipt and review of public comments, an FEIS was published on October 2, 1998. Preparation of the DEIS and FEIS were undertaken in accordance with section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. § 4332(2)(C) (1994), and its implementing regulations (40 CFR Chapter V). 4/

BLM described the "proposed action" as follows in the FEIS:

The proposed action, the Fourmile Hill Geothermal Development Project, is to construct and operate a 49.9 megawatt (MW) (gross) geothermal power plant, with associated production and injection wells, well pads, pipelines, transmission line, and access roads, on leases CA21924 and CA21926 in the Glass

2/ The underlying leases were issued effective June 1, 1988, for a primary term of 10 years, pursuant to the Geothermal Steam Act of 1970, as amended, 30 U.S.C. §§ 1001-1028 (1994), and its implementing regulations at 43 CFR Group 3200.

3/ The FEIS was broken down into several volumes. Volume 1 of the FEIS will be cited as FEIS I; Volume 2 of the FEIS will be cited as FEIS II, and so forth.

4/ The EIS also constituted an Environmental Impact Report (EIR), pursuant to the California Environmental Quality Act (CEQA), Cal. Pub. Res. Code §§ 21000-21176 (West 1976), with the Siskiyou County Air Pollution Control District (SCAPCD) acting as the lead State agency.

Mountain KGRA on the Klamath and Modoc National Forests in Siskiyou and Modoc Counties, California.

(FEIS I at 2-4.)

On May 31, 2000, BLM issued its ROD approving the POO with amendments, discussed below. The ROD and FEIS, taken together, set out the basis of BLM's decision.

The FEIS explains that, under the proposed action, 9 to 11 production wells would be located at 5 proposed production well pads. (FEIS I at 2-10, 2-14.) A well pad about 2.5 acres in size (FEIS I Table 2.2-1) would be constructed for each well, and a drilling rig about 140 to 150 feet in height would be erected. Drilling would continue 24 hours per day (with night-time lighting) for 30 to 45 days. The first season of drilling would involve the drilling of one to two production wells to confirm the presence and viability of the geothermal resource. If the resource was confirmed, the remaining production wells would be drilled and tested during the next two seasons. (FEIS I at 2-14.) Thereafter, one in-fill well would be drilled about every 2 years, in order to maintain the production necessary for continued efficient operation of the power plant. (FEIS I at 2-14 to 2-15.) Following drilling, each well would be flow-tested to determine productive capability, resulting in the venting of steam plumes (composed of steam and non-condensable gases) ranging in height from 40 feet (summer) to 285 feet (winter) for about 30 days. There would be approximately 4.5 miles of production and injection pipelines, which would generally follow the shortest route to and from the power plant, disturbing a total of about 13 acres. (FEIS I at 2-19.)

The geothermal fluids produced (hot water and steam) would be transported via surface pipelines to the proposed 49.9 MW (gross) dual-flash geothermal power plant, where the steam would be directed to two steam turbine-driven generators, and the remaining geothermal water would be directed to the injection wells. The turbine exhaust steam would be condensed and pumped to a cooling tower. (FEIS I at 2-10.)

The power plant would operate 24 hours a day (with night-time lighting) and would consist of a 94-foot tall turbine/generator/condenser building and a 70-foot-tall cooling tower and other structures, all located on a 10.5-acre site. (FEIS I at 2-23, 2-29.) The plant would not be constructed "until after testing of the initial production wells drilled during the first well drilling season confirm[ed] the presence and viability of the geothermal resource." (FEIS I at 2-34.) During operation, steam plumes would be generated by the cooling tower rising to a height of about 110 feet (summer) and 250 feet (winter) above the tower and extending as long as about 375 feet (summer) and 930 feet (winter).

A four-inch diameter pipeline would be laid through existing vegetation from an existing water well at Arnica Sink over a distance of about three miles to provide water during the first year of construction. Thereafter, the pipeline would be removed, and water would be provided by a new well drilled within the wellfield area. (FEIS I at 2-22, 2-23.) In

addition, about two miles of new roadway would be constructed within the well field. Access to the Project area would be provided by existing National Forest roads. (FEIS I at 2-21.)

The well field, power plant, and related structures would be situated approximately three miles northwest of Medicine Lake, on the northwest flank of the Medicine Lake Highlands surrounding Medicine Lake Caldera. The Project area is situated about five miles south of the Lava Beds National Monument, about one mile west of the 11,300-acre Mount Hoffman Released Roadless Area (RRA), and about one mile west of the Modoc Volcanic Scenic Byway, a designated portion of the Forest Service's Primary Forest Route 49, which runs from Medicine Lake north to the National Monument.

Electricity generated by the plant would be conducted approximately 25 miles to the Malin-Warner 230-kV transmission line of the Bonneville Power Administration (BPA), U.S. Department of Energy, by means of a newly-constructed 230-kV overhead transmission line within a 125-foot-wide corridor. (ROD at 4.) The line would mostly be suspended from H-frame wooden structures, 60 to 80 feet in height. Single-pole steel structures, 65 to 95 feet in height, would be used only where necessary due to topographic or climatic conditions. The spacing (i.e., span length) between each transmission line support structure would vary from 500 to 900 feet, with an average of 7.5 support structures per mile. (FEIS I at 2-40, 2-42.)

In all, the proposed action would disturb about 388.5 acres, with 49.7 acres attributable to the well field and power plant and 338.8 acres to the transmission line and substation. (FEIS I Table 2.2-1.) Calpine anticipated that the initial construction phase of the Project would take 3 years and that the power plant would generate electricity for a 45-year period before being decommissioned. (FEIS I at 2-4, 2-10.) Thereafter, the wells, power plant, transmission line, pipelines, and related facilities would be dismantled and removed, and the disturbed areas reclaimed. (FEIS I at 2-11.)

The EIS considered the proposed action (designated as Alternative 1) in detail. ^{5/} (FEIS I at 2-10 through 2-60.) BLM also considered five

^{5/} The proposed action involves (1) producing "geothermal fluids (hot water and steam) from an underground geothermal reservoir" via "9 to 11 two-phase (steam and hot water) production wells that would be drilled at the five proposed production well pad sites"; (2) transporting fluids "via surface pipelines to the * * * geothermal power plant"; (3) producing electricity at the power plant by directing the steam "to two steam turbine-driven generators"; (4) condensing and pumping the "turbine exhaust steam * * * into a cooling tower"; (5) pumping "hot geothermal water (spent brine) and condensate (condensed steam) from the power plant * * * through surface pipelines to" three injection well pads; constructing and/or improving roads in the wellfield and power plant area to allow access to the well pad sites and power plant; (6) transporting "[e]lectricity generated by the power plant generators * * * to a proposed substation at

alternate transmission line routes (designated as Alternatives 2 through 6, respectively) leaving in place other aspects of the proposed geothermal development. (FEIS I at 2-60.) A No Action alternative (not numbered), under which the Project would not be implemented, was also addressed. Id.

BLM determined in its FEIS that "[a]lmost all" of the significant adverse effects of the Project would be reduced to insignificance through the application of identified mitigation measures. (FEIS I at 4-335.) However, BLM identified short-term and long-term significant impacts that could not be reduced to insignificance by the application of mitigation measures and were accordingly considered unavoidable.

BLM found that the primary short- and long-term significant impacts of the Project concerned its effect on traditional religious and other cultural use of the Medicine Lake Highlands by Native Americans, resulting in a disproportionate impact on that group as a minority and low-income population. Specifically, BLM noted that the noise and visual impacts occurring during Project construction and continuing through reclamation would be out of character with traditional-use sites. Although those impacts would not prevent traditional religious and other cultural practices, BLM acknowledged that they might cause tribal members to choose not to use the area for such practices, thereby resulting in a significant impact. (FEIS I at 4-335, 4-336; see ROD at 15.)

BLM also noted that noises generated and/or emissions of PM₁₀ (particulate matter less than 10 microns in size) resulting from construction activity might significantly impact visitors to nearby National Forests and might affect the more distant Class I airsheds of the Lava Beds National Monument. (FEIS I at 4-335.) It also stated that the transmission line would stand out, thus significantly impacting visual resources from viewpoints in the Medicine Lake area. (FEIS I at 4-336.)

In the May 31, 2000, ROD, BLM adopted "Alternative 6" as amended by the ROD. BLM had identified that alternative in the FEIS as "the environmentally superior alternative" under CEQA Guidelines Sec. 15126(d) (4) from among the project alternatives, in that, "other than the No Action alternative," it "would have the least overall effect on the environment." 6/ Its decision was based on consideration of the environmental impacts analyzed in the FEIS and was made after extensive consultations with Native American tribal groups, the Environmental Protection Agency (EPA), the California State Historic Preservation Officer (SHPO),

fn. 5 (continued)

or near the existing BPA * * * transmission line" via a new transmission line; and (7) decommissioning. (FEIS I at 2-10.)

6/ The siting of the transmission line is set out in the FEIS. (FEIS I Fig. 2.3-1.) BLM identified several reasons for preferring the site, including, inter alia, the fact that it avoided construction near Medicine Lake and the associated environmental effects and effects on traditional cultural values there. (FEIS I at 2-69.)

the Advisory Council on Historic Preservation (ACHP), and others. BLM thereby approved the development of geothermal resources in accordance with the POO, including a Mitigation Monitoring and Reporting Program (MMRP). BLM also authorized Calpine to construct, operate, and maintain production and injection wells, pipelines, a power plant, a transmission line, and related facilities on the two Federal geothermal resource leases. ^{7/} However, BLM incorporated a Memorandum of Agreement (MOA) with USFS, SHPO, and ACHP, and adopted various mitigation measures set forth in the FEIS to minimize the potential significant impact on the traditional religious and other cultural practices of Native Americans. (ROD at 15-16.) The MOA required BLM to resolve the effects of the Project on cultural use of the Medicine Lake Highlands by Native Americans stemming from auditory, visual, and other impacts. (MOA at 4-7.) It required BLM to ensure to the maximum practicable extent that Project activities are inaudible at each location where natural quiet is important to such cultural use and invisible (or, at least, minimally visible) at each location where seeing such activities may impact such cultural use. Id. at 4, 5. BLM was required by the MOA to identify such locations and determine necessary mitigating measures in consultation with Calpine, PRT, and other Native American tribes.

The MOA also provided that BLM and USFS (working together with the SHPO, ACHP, PRT, and other Native American tribes) would develop an "Historic Properties Management Program" (HPMP) for the Medicine Lake Highlands, which would involve designing and implementing mechanisms for preserving and enhancing the cultural values of the Highlands. (MOA at 2-4.) Thereafter, BLM and USFS would "carry out their actions affecting the Highlands, including their respective decision-making regarding projects proposed by others, in a manner consistent with the [HPMP]." Id. at 3.

In the ROD, BLM amended Alternative 6 to designate a group to oversee Calpine's compliance with the approved mitigation measures set forth in the FEIS, thus assisting BLM and the USFS to achieve the MMRP's objective of reducing significant impacts to insignificance as far as possible. (ROD at 2; see FEIS I at 5-1 to 5-48.) BLM also placed a moratorium "for a minimum of five years" on further development of geothermal resources elsewhere in the Glass Mountain KGRA (which resources had already been subject to extensive drilling and related activity) pending an "analysis of actual impacts of geothermal development" by the appropriate authorizing agencies.

^{7/} Construction, operation, and maintenance of the 230-kV electrical transmission line, to the extent it crosses National Forest lands outside Calpine's leases, as well as use of National Forest roads to access the Project area, are matters that are entirely within the jurisdiction of USFS. Those matters are accordingly not presently before us, since we have jurisdiction only over appeals concerning those aspects of the Plan subject to BLM's jurisdiction. 43 CFR 4.1(b)(3) and 4.410; Sierra Club (On Judicial Remand), 80 IBLA 251, 269 (1984), aff'd sub nom. Texaco Producing, Inc. v. Hodel, 840 F.2d 776 (10th Cir. 1988).

(ROD at 2; see FEIS I at 1-12, 1-15.) As discussed below, that moratorium was lifted during the pendency of these appeals.

BLM concluded that the adoption of Alternative 6, as modified by the ROD, "balanc[ed] the need for renewable energy and the need to protect visual and cultural values associated with the unique and significant historic properties in the Medicine Lake Highlands." (ROD at 1.) BLM held that its decision to approve the POO was in immediate full force and effect, pursuant to 43 CFR 3200.5(b). 8/

Four separate appeals were filed timely from the Field Manager's May 2000 ROD. By order dated August 23, 2000, we consolidated the four appeals. We recognized Calpine as an intervenor in the two appeals of SMLC (IBLA 2000-294) and PRT (IBLA 2000-295) and SMLC and PRT as intervenors in the appeals of CalEnergy (IBLA 2000-300) and Calpine (IBLA 2000-301). We also granted requests by SMLC and PRT to stay the effect of the Field Manager's May 2000 ROD, pending a final resolution of their appeals.

SMLC and PRT contend that BLM's decision to approve the plan is contrary to section 102(2)(C) of NEPA and various other Federal statutes. They fear that the Project and its attendant geothermal development and related activity will devastate the Medicine Lake Highlands. (SMLC SOR at 2.) They note that the Highlands "remains an irreplaceable symbol of immense cultural importance to Native Americans, and provides outstanding opportunities for solitude, primitive recreation and aesthetic fulfillment for thousands of Americans each year." (Id.; PRT SOR at 3.) SMLC and PRT contend that these values will be threatened if the Project goes forward. (SMLC SOR at 2; PRT SOR at 4.)

SMLC and PRT both contend that BLM violated section 102(2)(C) of NEPA in approving the POO. That statute requires BLM to consider the potential environmental impacts of a proposed action in an EIS when it intends to engage in a "major Federal action" that may "significantly affect the quality of the human environment." 42 U.S.C. § 4332(2)(C) (1994); Sierra Club v. Marsh, 769 F.2d 868, 870 (1st Cir. 1985). Those arguments are addressed below in extenso.

8/ Approval of the plan did not, by itself, authorize any surface-disturbing activities on Federally-leased lands. Rather, such activities required specific authorization by BLM, among other agencies. Thus, the drilling of wells would be authorized only by BLM's approval of Sundry Notices and/or Geothermal Drilling Permits pursuant to 43 CFR Subpart 3261. See 43 CFR 3260.10. In addition, the construction, operation, and maintenance of wells, a power plant, and related facilities would only be authorized by BLM's approval of a Facility Construction Permit, Site License, and Commercial Use Permit, pursuant to 43 CFR Subparts 3272 through 3274. See 43 CFR 3270.10. Any BLM decisions to authorize such activities are separately subject to appeal to the Board pursuant to 43 CFR 3267.11 and 3279.11.

SMLC and PRT challenge BLM's 1988 decisions to issue the underlying leases (CACA-21924 and CACA-21926), arguing that, since the leases are invalid, BLM lacked authority to approve the POO. They assert that the decisions to issue the leases, which irretrievably committed the United States to permitting geothermal exploration and development somewhere in the leased areas, violated section 102(2)(C) of NEPA because no EIS was prepared. (SMLC SOR at 24-33, and PRT SOR at 77-81.) They argue that an EIS was required in order to allow BLM to make an informed decision concerning the likely significant environmental impacts of such activity before making that commitment, when it still had the ability to avoid any such impacts.

The time for objecting to issuance of the two leases at issue here has long since passed. Under 43 CFR 4.411(a), an appellant challenging a BLM decision generally must file a notice of appeal within 30 days from the date it receives the decision or the date of publication of the decision in the Federal Register. Low Landers, 109 IBLA 391, 393 (1989). However, it is also well established that a notice of appeal must be filed within 30 days from the date of actual notice of the decision by the appellant or its authorized representative. Minchumina Homeowners Association, 93 IBLA 169, 173 (1986); Nabesna Native Corp., Inc. (On Reconsideration), 83 IBLA 82, 84 (1984); see St. James' Village, Inc., 139 IBLA 1, 3-4 (1997).

In the present case, SMLC, PRT, and other members of the public had actual notice of lease issuance when BLM issued the EA (No. CA027-EA95-11) and the April 5, 1996, Decision Record for Calpine's proposed Fourmile Hill Area Geothermal Exploration Project, which involved exploratory drilling on leases CACA-21924 through CACA-21926. In any event, as members of the public dealing with the Federal government, they are deemed to have had actual notice by virtue of publication in the Federal Register, 61 FR 28887, 28888 (June 6, 1996), of the Notice of Intent to prepare an EIS concerning the proposed geothermal development of the two leases. See Federal Crop Insurance Corp. v. Merrill, 332 U.S. 380, 384-85 (1947); Venlease I, 99 IBLA 387, 390-91 (1987). Further, the participation by SMLC and PRT in the public comment phase of preparing the FEIS at issue here establishes that they had actual notice of lease issuance more than 30 days before the filing of their notices of appeal from the Field Manager's May 2000 ROD on June 30, 2000. See FEIS I at 1-26 to 1-27; FEIS IV at 24-29, 31-42, 46-47, 49-68, 70-77, 79-92; 9/ see also Letter to EPA from

9/ Volume IV of the FEIS contains copies of comment letters submitted by all of the organizations which join the appeal filed by SMLC, with the exception of SMLC itself. However, SMLC is a coalition composed of almost all of the other organizations which join in that appeal. (SMLC SOR at 4; Notice of Appeal of SMLC, dated July 26, 1999 (Ex. 6 attached to SMLC SOR), at 1.) Volume IV of the FEIS also contains comment letters submitted by all of the organizations which join the appeal filed by PRT.

All of these letters, submitted in response to issuance of the DEIS on July 10, 1997, were dated between Sept. 15, and Sept. 30, 1997, and thus establish that all of these organizations had actual notice of the proposed

Native Coalition for Medicine Lake Highlands Defense, dated Sept. 10, 1999 (Ex. D attached to Calpine Answer) at 2; Notice of Appeal of SMLC, dated July 26, 1999 (Ex. 6 attached to SMLC SOR) at 12-13; Letter to Forest Service from Fall River Wild Trout Foundation, dated Oct. 7, 1996; Resolution No. 96-08-25, dated Aug. 19, 1996, of PRT (Ex. 3 attached to PRT Answer); Letter to Forest Service from California Wilderness Coalition, dated July 8, 1996.

When an appeal is filed more than 30 days after the appellant has had actual notice of the BLM decision appealed from, the Board lacks any jurisdiction to entertain the appeal, and it must be dismissed. Minchumina Homeowners Association, 93 IBLA at 173; see BLM v. Fallini, 136 IBLA 345, 348 (1996). As we said in Ron Williams Construction Co., 124 IBLA 340, 341-42 (1992):

Although this Board is generally reluctant to take any action which would preclude review of appeals on the merits, the purpose of the rule [requiring the filing of an appeal within the 30-day time period] is to establish a definite time when administrative proceedings regarding a claim are at an end in order to protect other parties to the proceedings and the public interest, and strict adherence to the rule is required. See Browder[v. Director, Illinois Department of Corrections, 434 U.S. 257, 264 (1978)].

Thus, to the extent that SMLC and PRT challenge BLM's decisions issuing lease Nos. CACA-21924 and CACA-21926, their appeals are dismissed in part as untimely.

PRT also contends that BLM improperly failed to undertake NEPA review when, on May 8, 1998, it extended the two leases at issue here for 5 years at the conclusion of their 10-year primary term. (SOR at 77-82.) ^{10/} Like the challenge to the issuance of the leases, this matter was not timely raised. PRT had actual notice of BLM's May 8, 1998, decision to extend the leases more than 30 days before filing its present appeal on June 30, 2000, rendering its appeal untimely under 43 CFR 4.411(a) and thus beyond the Board's jurisdiction. See Letter to EPA from Native Coalition for Medicine Lake Highlands Defense, dated Sept. 10, 1999 (Ex. D attached to Calpine

fn. 9 (continued)

development of the geothermal resources underlying Calpine's leases, and thus of lease issuance, more than 30 days before the June 30, 2000, filing of their appeals at issue here.

^{10/} BLM responds that, once the lessee established that it had satisfied the specific prerequisites for an extension, its authority was not discretionary, thus obviating the need to comply with section 102(2)(C) of NEPA. (Answer at 32 (citing ROD at 20)); see State of South Dakota v. Andrus, 614 F.2d 1190, 1192-94 (8th Cir.), cert. denied, 449 U.S. 822 (1980).) But see 30 U.S.C. § 1005(g)(1) (1994) (BLM "may" extend the lease); PRT Reply at 26-27.

As the challenge was untimely, we need not resolve this question.

Answer), at 2; SMLC Notice of Appeal at 12-13; Letters to Forest Service from PRT, dated Oct. 27, and Nov. 2, 1998. To that extent, PRT's appeal is also dismissed in part as untimely. Minchumina Homeowners Association, 93 IBLA at 173.

[1] BLM prepared an EIS here. It is well established that the adequacy of that EIS must be judged by whether it constituted a "detailed statement" that took a "hard look" at all of the potential significant environmental consequences of the proposed action and reasonable alternatives thereto, considering all relevant matters of environmental concern. 42 U.S.C. § 4332(2)(C) (1994); Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976); see 40 CFR 1502.1; Dubois v. U.S. Department of Agriculture, 102 F.3d 1273, 1285-86 (1st Cir. 1996), cert. denied, 521 U.S. 1119 (1997); Silva v. Lynn, 482 F.2d 1282, 1284-85 (1st Cir. 1973); Colorado Environmental Coalition, 142 IBLA 49, 52 (1997); The Sierra Club, 104 IBLA 76, 83 (1988). In general, an EIS must fulfill the primary mission of section 102(2)(C) of NEPA, which is to ensure that BLM, in exercising the substantive discretion afforded it to take an action is fully informed regarding the environmental consequences of such action. 40 CFR 1500.1(b) and (c); Dubois v. U.S. Department of Agriculture, 102 F.3d at 1285-86; Natural Resources Defense Council, Inc. v. Hodel, 819 F.2d 927, 929 (9th Cir. 1987). In deciding whether an EIS promotes informed decision-making, it is settled that a "rule of reason" will be employed. As the Court stated in County of Suffolk v. Secretary of Interior, 562 F.2d 1368, 1375 (2d Cir. 1977), cert. denied, 434 U.S. 1064 (1978):

[A]n EIS need not be exhaustive to the point of discussing all possible details bearing on the proposed action but will be upheld as adequate if it has been compiled in good faith and sets forth sufficient information to enable the decisionmaker to consider fully the environmental factors involved and to make a reasoned decision after balancing the risks of harm to the environment against the benefits to be derived from the proposed action, as well as to make a reasoned choice between alternatives.

The critical question is whether the EIS contains a "reasonably thorough discussion of the significant aspects of the probable environmental consequences" of the proposed action and alternatives thereto. State of California v. Block, 690 F.2d 753, 761 (9th Cir. 1982); Trout Unlimited v. Morton, 509 F.2d 1276, 1283 (9th Cir. 1974).

As we said in Oregon Natural Resources Council, 116 IBLA 355, 361 n.6 (1990):

[Section 102(2)(C) of NEPA] does not direct that BLM take any particular action in a given set of circumstances and, specifically, does not prohibit action where environmental degradation will inevitably result. Rather, it merely mandates that whatever action BLM decides upon be initiated only after a full consideration of the environmental impact of such action.

Appellants have the burden of demonstrating by a preponderance of the evidence, with objective proof, that BLM failed to adequately consider a substantial environmental question of material significance to the proposed action, or otherwise failed to abide by section 102(2)(C) of NEPA. Colorado Environmental Coalition, 142 IBLA at 52.

Appellants PRT and SMLC set out a list of asserted shortcomings with BLM's EIS. We shall consider their objections against the legal background set out above.

PRT argues that BLM failed to "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action" as required by 40 CFR 1502.13. (PRT SOR at 8-13.) It was, we hold, sufficient that BLM specified that the purpose of the Project is "to develop the geothermal resource on Calpine's Federal Geothermal Leases CA21924 and CA21926 to economically produce and deliver electrical energy to BPA and others," thus meeting statutes that "direct the Federal government to foster and encourage private enterprise in the development of alternative energy sources, within appropriate environmental constraints." ^{11/} (FEIS I at 1-3 to 1-4.) BLM was not required to consider whether the leased lands "should be managed for energy development" at all, since it made that decision when it issued Calpine's leases. See Friends of Southeast's Future v. Morrison, 153 F.3d 1059, 1066-67 (9th Cir. 1998). It was lease issuance that constrained BLM's ability to preclude all geothermal development of the leases, not BLM's articulation of the purpose sought to be achieved by the proposed action and alternatives thereto. Sierra Club v. Peterson, 717 F.2d 1409, 1414-15 (D.C. Cir. 1983); Colorado Environmental Coalition, 149 IBLA at 156. Moreover, 40 CFR 1502.13 mandates only a statement "briefly" specifying the underlying need.

SMLC argues that BLM's FEIS improperly failed to adequately consider various "significant adverse environmental impacts" and reasonable measures to mitigate them, thus violating section 102(2)(C) of NEPA. (SMLC SOR at 39-42.) SMLC refers to impacts to air quality (including the impacts to air quality in the mandatory Class I Federal airsheds of the nearby Lava Beds National Monument); the quality and quantity of groundwater underlying the Medicine Lake Highlands which supplies the "Fall River Springs"; the visual resources of the Modoc Volcanic Scenic Byway and Mount Hoffman Released Roadless Area (RRA); year-round and other recreational use of the Modoc Volcanic Scenic Byway and other National Forest roads; old-growth forest and related wildlife within the 125-foot-wide transmission line corridor; rare sugar stick (Allotropia virgata) populations within the transmission line corridor; and the tranquility and natural ambience of the Medicine Lake Highlands during Project operations.

^{11/} BLM cited the Geothermal Steam Act; the Geothermal Energy, Research, Development, and Demonstration Act of 1974, 30 U.S.C. §§ 1101 through 1164 (1994); the Federal Land Policy and Management Act of 1976 (FLPMA), as amended, 43 U.S.C. §§ 1701-1785 (1994); and the Energy Policy Act of 1992, Pub.L. 102-550, Oct. 28, 1992, 106 Stat. 3812-3830.

BLM considered all of the impacts identified by SMLC, and we are not persuaded that its analysis was inadequate. SMLC provides no factual scientific evidence to contradict any of BLM's analysis or to establish any error or omission in that analysis. It offers, at best, contrary opinions, which are not sufficient to demonstrate error in BLM's analysis, or ultimately a violation of section 102(2)(C) of NEPA. Larry Thompson, 151 IBLA 208, 217 (1999).

Using dispersion computer modeling, BLM evaluated the air quality impacts of emissions resulting from construction and other Project activity at 22 receptor locations surrounding the Project area where the public might be found, including a location (No. 15) within the Lava Beds National Monument. (FEIS I at 4-219 to 4-241; FEIS II, Appendix F.) Although this data was set out in Appendix F, BLM focused in the body of the FEIS on the closest receptor locations, noting that they represented the "full range of possible wind directions and the worst-case impacts." (FEIS I at 4-225.) BLM thereby generally determined that none of the Federal and State ambient air quality standards for PM₁₀, hydrogen sulfide (H₂S), and the other criteria pollutants would be exceeded at any of these receptor locations and that no significant air quality impact would result. As the concentration of airborne pollutants would be expected to decrease over distance, the same conclusion would apply to the Class I airsheds of the National Monument, which are located at a greater distance from the Project.

BLM did find one potential significant impact, noting that PM₁₀ emissions associated with construction of the well field, power plant, and transmission line might result in an unavoidable short-term significant impact, since the State 24-hour PM₁₀ standard might be exceeded in close proximity to each of those activities. (FEIS I at 4-231, 4-233 to 4-234; FEIS III at 3-519.) However, this impact would also not be reasonably expected to occur at the more distant Class I airsheds of the National Monument. BLM is not prohibited from taking action because some environmental degradation may result. See Oregon Natural Resources Council, 117 IBLA at 361 n.6. The potential impact frankly noted by BLM does not rise to the level that would justify reversal of BLM's decision to proceed.

PRT argues that BLM failed to consider the potential significant impacts to the quantity and quality of groundwater in the Medicine Lake Highlands aquifer. (PRT SOR at 23-29.) PRT recognizes that BLM is of the opinion that water in the geothermal reservoir does not come from the shallow aquifer, but from depths considerably below the reservoir, and that there is an impermeable geologic layer which separates the aquifer from the underlying geothermal reservoir that prevents groundwater from recharging the reservoir. Id. (citing FEIS I at 3-22 and 4-27). PRT asserts generally that BLM failed to substantiate this conclusion with hydrogeologic mapping" or "any scientific studies." (PRT SOR at 24.)

BLM concluded that there is likely to be no impact on the quantity of groundwater in the aquifer, since geothermal resources would be produced from a depth below the aquifer. BLM relied on Test Hole No. 88-28, drilled

to a depth of 3,604 feet in lease CACA-21926. ^{12/} Data from that test hole was supported by data from other temperature gradient test holes in the immediate vicinity and elsewhere in the Medicine Lake Highlands. BLM placed the aquifer at least 3,000 feet above the geothermal resource (BLM Answer at 16; FEIS I at 3-44), which is located at a minimum depth of 3,500 feet below the surface. (FEIS I at 3-31 to 3-32, 3-40, 3-42, 3-50, 4-26.) BLM further noted that there was an 800-foot thick layer of volcanic tuff limiting the downward vertical movement of water, thus separating the aquifer and the geothermal reservoir. (FEIS I at 3-22, 3-40, 3-42, 3-50; FEIS III at 3-74 to 3-75, 3-119 to 3-125.)

PRT has not shown that there is communication between the geothermal reservoir and the overlying aquifer, such that groundwater will recharge the reservoir. PRT refers to no independent research and cites only to a statement by Robert H. Mariner, U.S. Geological Survey (USGS), to the effect that it is "highly unlikely that the geothermal system is totally isolated from the surrounding groundwater," since "[m]ost, if not all, geothermal systems have some recharge." (PRT SOR Ex. 14 (Letter to Fish and Wildlife Service (FWS) from Mariner, USGS, dated Feb. 19, 1999 (Mariner Letter)) at 1, quoted at PRT SOR at 25.) However, Mariner stated that he had "no evidence" of any communication and actually acknowledged that "some ground water [usually] flows into the geothermal reservoir at great depth," which is precisely what BLM postulates here. (Mariner Letter at 1, emphasis added; see FEIS I at 4-27.) BLM has attributed recharge to underlying groundwater sources, and not from the overlying aquifer, and no evidence is offered that that is not the situation. The record contains adequate scientific evidence supporting BLM's position regarding the loss of groundwater from the aquifer caused by drawdowns in the geothermal reservoir to meet its burden of taking a hard look at environmental consequences.

PRT also asserts that BLM failed to take into account that the re-injection of geothermal fluids back into the geothermal reservoir at a rate of 57.6 million pounds per day might contaminate the overlying aquifer and thus did not properly provide for monitoring and mitigation. (PRT SOR at 25; Ex. 18 (1985 Report of R.N. Horne, "Reservoir Engineering Aspects of ReInjection" (Horne Report)), at 450 and Ex. 55 (February 1993 BPA Resource Programs FEIS (BPA FEIS)) at 38.) PRT offers a statement by Horne to the effect that 10 to 30 percent of re-injected fluids "return[] to the production wells" and a statement by BPA that such fluids have "the potential to contaminate local water tables." (Horne Report at 450, and BPA FEIS at 38.)

The Horne Report states only that such fluids will return to the production wells, and thus may adversely affect future production by causing "steam flow rate declines." (Horne Report at 450.) It does not state that they will then migrate up into the overlying aquifer. We do not know the circumstances under which BPA thinks that such fluids may

^{12/} The well was situated in the SE $\frac{1}{4}$ sec. 28, T. 44 N., R. 3 E., Mount Diablo Meridian, Siskiyou County, California.

contaminate an aquifer or whether it believes that contamination is likely to occur here, given the measures which will be taken to avoid it. In the absence of any explanation on that question, we look to BLM's findings. BLM fully considered the potential for the introduction of geothermal fluids into the aquifer during the re-injection process, concluding that this was unlikely to occur. (FEIS I at 2-16 to 2-17, 4-32 to 4-34; FEIS III at 3-151.) It noted that, since the well bore would be cased and cemented all the way down to the geothermal reservoir underlying the aquifer, the only potential for this to occur would be upon failure of the casing, the probability of which is "low." (FEIS I at 4-33.) BLM has provided that the well bores would be cased and cemented using an approved design and materials based on actual reservoir conditions, in accordance with Geothermal Resources Operational Order No. 2 (40 FR 6793 (Feb. 14, 1975)) and EPA's Underground Injection Control program regulations (40 CFR Parts 144 and 146). Further, reservoir conditions would be periodically tested in place following installation so as to ensure that no leakage develops over time. (FEIS I at 2-16, 5-8; FEIS III at 3-98 to 3-102, 3-134 to 3-137, 3-151; ROD at 21.) BLM specified that the casing had to be designed and constructed so as to "withstand a minimum of 150% the anticipated conditions for tension, collapse and burst pressures." (ROD at 21.) It thus concluded that there would be no significant impact to groundwater quality. (FEIS I at 4-32; ROD at 17.)

Further, BLM has provided for monitoring and, if necessary, mitigating any adverse impacts to groundwater quality stemming from the production and re-injection of geothermal fluids. ^{13/} (FEIS I at 5-4 to 5-5, 5-8; ROD at 16-17.) The monitoring, which would involve drilling shallow and deep monitoring wells downgradient of the production/injection wells and periodically analyzing water quality, was outlined in the FEIS and further specified in the "Medicine Lake Basin Comprehensive Hydrology Monitoring Plan" (CHMP), which was developed in November 1998. Further, when any contamination of water quality is detected, the CHMP provides that Calpine will be required to repair the offending well. PRT argues that BLM failed to specify the monitoring/mitigation measures that will be taken to ensure that geothermal fluids do not leak from the wells into the

^{13/} PRT challenges BLM's mitigation/monitoring plan, which concerns both groundwater quality and quantity, on the basis that BLM did not provide for a sufficient number of monitoring wells, noting that "[s]imilar" projects have required "substantially more monitoring wells." (SOR at 28.) However, it provides no evidence that the other projects are, in fact, "similar." Further, it fails to show that the three monitoring wells situated downgradient of the production/injection wells will not be adequate to assess the impact of well operation on groundwater quality and quantity. (FEIS I at 5-4 to 5-5; ROD at 16.) We also note that this number agrees with the directive of the California Regional Water Quality Control Board to place a "minimum of three ground water monitoring wells * * * in the area of any geothermal * * * production wells." (Letter to Mid-America Energy Holdings, Co., dated May 1, 2000 (PRT SOR Ex. 38) at 2 (emphasis added).)

aquifer during re-injection. (PRT SOR at 27-28.) We disagree. BLM has described the intended monitoring/mitigation efforts in sufficient detail to ensure that environmental consequences have been fairly evaluated, thus satisfying section 102(2)(C) of NEPA. See Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989).

BLM also determined that geothermal development was unlikely to adversely affect the quality and quantity of groundwater flowing from the Fall River Springs, which are located about 35 miles south-southeast of the Project area. (FEIS I at 3-28.) BLM determined that it is unlikely that groundwater underlying the Project area communicates at all with the groundwater feeding the Springs, since they are situated in entirely different drainage basins (separated near the Medicine Lake Caldera) that flow in opposite directions. (FEIS I at 3-22 to 3-27, 3-28, 4-23; FEIS III at 3-145 to 3-148.) Thus, BLM posits that Project activities would not adversely affect the quality and quantity of groundwater emanating from the Springs under any circumstances. (FEIS I at 4-23 to 4-25, 4-32 to 4-34.) Nonetheless, BLM concluded that, even if there is an hydrologic connection between the groundwater underlying the Project area and the Springs, there would still be no adverse effect. It noted that there would be little quantitative impact, since the maximum 10 million gallons of groundwater withdrawn from the Project area for use in drilling and other operations after the first year of the Project would represent "less than 0.004 percent of the annual discharge from the Fall River [S]prings." (FEIS III at 3-149; Mariner Letter at 2.) BLM also noted that there would be no qualitative impact. (FEIS III at 3-148 to 3-152.)

The only Project activity that might affect the Springs is the withdrawal of about 6.9 million gallons of water for use in drilling operations during the first year of the Project from the nearby Arnica Sink well, since the well and Springs are situated in the same drainage basin. (FEIS I at 4-21 to 4-23.) BLM determined, however, that this would not adversely affect the quantity of groundwater emanating from the Springs, because it was unlikely that there was any connection with groundwater at the well and, even if there were, the groundwater withdrawn would represent only a small portion of the water flowing from the Springs:

Discharge from the Fall River springs is estimated at 1,200 cubic feet per second or 283 billion gallons per year. The estimated project water use of 6.9 million gallons from Arnica Sink would be less than 0.003 percent of the annual outflow from the Fall River springs. Use of this amount of water would not measurably affect water availability.

Id. at 4-23; Mariner Letter at 2.

SMLC refers to the fact that hydrogeologist/hydrologist Robert R. Curry, in a July 4, 1999, letter following issuance of the FEIS, rejected BLM's assessment of the likely impact of geothermal development on the quality and quantity of groundwater emanating from the Fall River Springs, thus strengthening the likelihood of harm to the Shasta crayfish (Pacifastacus fortis), a Federally-designated endangered species found

downstream in the Fall River. (SMLC SOR at 45, Ex. 6 (Letter to Stephan C. Volker, Esq., dated July 4, 1999 (Curry Letter), and Declaration of Curry, dated June 15, 1999 (Curry Declaration)).) Curry challenged BLM's conclusion that, since there is no hydrologic connection between the Project area and the Springs, any Project activity that might adversely affect groundwater underlying that area by causing loss to or contamination by the underlying geothermal reservoir is unlikely to have any impact on groundwater emanating from the Springs. However, we find Curry's expert opinion less than definitive, raising only the possibility that there is an hydrologic connection: "It appears from the data gathered to date that the * * * Fall River Springs is connected hydrologically to the hydrogeologic basin underlying the Medicine Lake Highlands." (Curry Declaration at 2, emphasis added; see id. at 2; Curry Letter at 3.) Curry's statements constitute another expert opinion based on available evidence. It is not itself sufficient to demonstrate error in the opinion of BLM's experts. See Life of the Land v. Brinegar, 485 F.2d 460, 472 (9th Cir. 1973), cert. denied, 416 U.S. 961 (1974); Great Basin Mine Watch, 148 IBLA 1, 6 (1999). Nor do we think that it constitutes new information disclosing that the Project will affect the quality of the human environment in a significant manner or to a significant extent not already considered by BLM, thus requiring preparation of a Supplemental EIS.

PRT argues that BLM failed to adequately consider the impacts on the visual resources of the Project and surrounding areas from drilling rigs, power plant, transmission line, pipelines, and related "industrial" activity, which would be "drastically out of character with the natural appearance of the area." 14/ (SOR at 37; see id. at 36-41.)

BLM undertook a comprehensive visual impact assessment which incorporated an analysis of the impacts at 21 Key Observation Points (KOP) surrounding the Project area, which were intended to provide the "full range of typical public views of the proposed action and associated visual

14/ PRT also argues that the location of four of the eight well pads (P-2 and I-1 through I-3) in the S $\frac{1}{4}$ S $\frac{1}{2}$ sec. 21, N $\frac{1}{2}$ sec. 28, and S $\frac{1}{2}$ sec. 29 violates a lease stipulation prohibiting surface occupancy. It is undisputed that the four well pads will be situated within the no-surface occupancy areas. (FEIS I at 3-159.) The remaining well pads and power plant will not be so situated, and thus are not affected by the stipulation.

The relevant stipulation provides:

"No surface-disturbing activities will be allowed on * * * [such] lands, unless the lessee can demonstrate to the satisfaction of * * * [BLM] through an appropriate Plan of Operation or permit application that unacceptable environmental impacts will not occur to areas with exceptional visual qualities."

(Exhibit "A" attached to Leases Nos. CACA-21924 and CACA-21926.) Thus, surface-disturbing activities are precluded only where "unacceptable environmental impacts" would occur. See FEIS I at 3-157. The lessee was free to design and engage in operations that it could convince BLM did not have such impacts. BLM concluded that it did so here. (FEIS I at 4-186; ROD at 9-10.) We find no reason to disturb that conclusion.

impacts that may occur with [P]roject implementation." (FEIS I at 3-133; see id. at 3-132 to 3-140, 3-143 to 3-147, 4-135 to 4-179; FEIS III at 3-401 to 3-408.) These KOP's included sites located along the Modoc Volcanic Scenic Byway and within the Mount Hoffman RRA. (FEIS I at 3-134 to 3-135, 3-137, 3-151.) Based on this assessment, BLM determined that visual resources of the Modoc Volcanic Scenic Byway and Mount Hoffman RRA would not, given mitigation measures (including minimizing vegetation clearing), be significantly adversely affected by the transmission line, cleared right-of-way, and related activity occurring along the route selected by the Field Manager in his May 2000 ROD. (FEIS I at 4-135 to 4-179, 5-33 to 5-35; ROD at 6, 12-13, 17-18.)

BLM also undertook a comprehensive analysis of the visual impacts of proposed drilling rigs and power plant facilities, as well as their associated steam plumes, noise, and night-time lighting, on members of the public who might be present in the surrounding Medicine Lake Highlands. (FEIS I at 4-135 to 4-170, 4-254 to 4-267; FEIS III at 3-392 to 3-399, 3-592 to 3-607.) It concluded that significant adverse visual impacts would generally be mitigated to insignificance. (FEIS I at 4-140, 4-144 to 4-170; ROD at 17-18.) BLM recognized, however, that significant unavoidable impacts would remain in the form of steam plumes visible from the shoreline of Medicine Lake (and elsewhere in the Highlands), which would be associated both with well venting occurring during the time each of the production wells is flow-tested following drilling, and also with operation of the power plant cooling tower, which would occur throughout the life of the Project. (FEIS I at 4-161.)

In addition, BLM assessed the visual impacts of Project activities on Native American traditional cultural values in the surrounding Medicine Lake Highlands. (FEIS I at 4-63 to 4-81; FEIS III at 3-269 to 3-270; MOA at Table 2.) It focused on identified traditional-use sites considered potentially eligible for designation as a "Traditional Cultural Property" (TCP) under the National Register. ^{15/} BLM noted that topographic features are expected to screen the well field and power plant from most of the sites. (FEIS I at 4-72.) The well field would be screened; only night lighting from three sites and steam plumes associated with well venting from five sites (occurring during the construction phase of the Project) would be visible. Id. at 4-72 to 4-74. The power plant would, for the most part, be screened. However, it would be visible from one (and possibly five additional sites) during construction, and one site during

^{15/} PRT argues that BLM should have also considered the visual impacts at Grouse Hill, Fourmile Hill, Doe Peak, and other traditional-use sites in the Medicine Lake Highlands. (PRT SOR at 37, Ex. 27.) However, those sites were either not identified as traditional-use sites by Native Americans during the environmental review process, or were insufficiently identified to be able to permit a visual impacts assessment. PRT fails to establish that any of these sites should be considered traditional-use sites or that there are likely to be any visual impacts at these sites, in terms of their effect on traditional cultural values, which were overlooked by BLM.

operation. Id. In addition, night lighting would be visible from three sites and steam plumes associated with cooling tower operation (occurring during the operation phase of the Project) would be visible from eleven. Id. The transmission line, along the route ultimately selected by the Field Manager in his May 2000 ROD, would be visible from four of the sites during its construction and operation. Id.

BLM concluded that, because industrial elements are being introduced into a forest landscape, the visual impacts of Project activities would be significant to the extent that they caused Native Americans to forego their traditional cultural practices in the Highlands. Since they could not be mitigated, BLM termed them unavoidable. (FEIS I at 4-65 to 4-66, 4-71 to 4-75.) BLM also concluded that, given the fact that Native Americans view the Highlands as a single natural landscape with interconnected spiritual values, the introduction anywhere in the Highlands of visual elements that are out of character therewith would also constitute a significant and unavoidable impact. Id. at 4-65 to 4-66, 4-71 to 4-72.

PRT argues that BLM underestimated the visual impacts of the Project on traditional cultural values. (SOR at 38.) It asserts that steam plumes from the cooling tower of the power plant would be visible "throughout the Highlands," that night-time lighting associated with well drilling would be visible from "much of the area," and that the transmission line would be visible from Mount Hoffman and other "high points" in the area. (PRT SOR at 38.)

BLM states that steam plumes ordinarily occur only during the winter, when (due to deep snow and cold temperatures) the area is unlikely to be used by Native Americans, and occasionally on summer days when the humidity is high. (FEIS I at 2-29 to 2-30, 4-138 to 4-139.) PRT provides no evidence to the contrary. Thus, it appears that the visual impact of steam plumes on traditional-use sites throughout the Highlands is, in any event, likely to be fairly limited.

BLM, in assessing the impacts on traditional cultural values from the standpoint of the visibility of elements of the Project from surrounding locations, focused on the impacts at the traditional-use sites identified as having particular importance to the traditional religious and other cultural practices of Native Americans. However, BLM was aware of visual impacts to other parts of the surrounding Medicine Lake Highlands (FEIS I at 4-144 to 4-179) and that, to the extent that Project activities are visible in other parts of the Highlands and thus cause Native Americans to forego using these areas for traditional cultural practices, the impacts would be significant. Id. at 4-71 to 4-72. PRT fails to show that any other specific sites within the Highlands have particular importance to traditional cultural practices and thus would be expected to be impacted in the same way that the identified sites might be impacted, with Native Americans foregoing their traditional cultural use of the sites. Thus, we find no fault in BLM's failure to specifically address any other sites in connection with the Project's visual impacts on traditional cultural values.

SMLC argues that BLM failed in its FEIS to consider or adequately consider the impacts to sugar stick (*Allotropa virgata*) populations within the transmission line corridor. Sugar stick (*Allotropa virgata*), a USFS managed species, was observed in the wellfield and the power plant area. (FEIS I at 3-91 and 3-92.) BLM originally stated in the DEIS that the proposed action "may result in the loss of * * * several colonies of sugar stick in the wellfield and power plant area" (DEIS at 4-93), although, even without mitigation, the potential loss of that population was not considered significant under CEQA or NEPA. See FEIS III at 3-301. In the FEIS, BLM clarified that such loss "could occur only if no mitigation is implemented." (FEIS III at 3-301.) Further, it reiterated in the FEIS its previous statement in the DEIS that "all known populations of sugar stick within the wellfield and power plant development area would be avoided," adding that "[p]reconstruction surveys would be carried out to ensure that known populations of sugar stick are clearly marked and avoided and no new sugar stick populations are impacted." (FEIS III at 3-302.) BLM's treatment of the Project's effects on that plant was adequate.

PRT argues that BLM "vastly underestimated" the noise impacts of the Project, particularly as they affected Native American traditional religious and other cultural practices. (PRT SOR at 32-36.) BLM undertook a comprehensive noise impact analysis that considered the existing background noise level and the likely added effect of Project activities (especially construction and operation of drilling rigs and power plant facilities) based on actual noise measurements taken at other existing geothermal developments. (FEIS I at 3-201 to 3-207, 4-254 to 4-270.) It assessed the potential noise impacts at varying distances from the well field and power plant, using a conservative straight-line analysis which recognized a reduction in noise attributable to distance, but not to terrain or vegetation. Id. at 4-258 to 4-259, 4-461.

Based on this analysis, BLM concluded that the impact of the Project on forest noise levels from project construction, operation, and decommissioning could result in short-term significant impacts to forest users that come in close proximity to the well field and power plant site, or to the transmission line. (FEIS I at 4-258.) However, there would be an exceedance of the Siskiyou and Modoc County noise compatibility standard of 54 decibels A-weighted (dBA) Leq, 16/ only within 2,100 feet of

16/ The measurement of noise in dBA "weights the various frequencies comprising all sounds to simulate the relative response of the human auditory system to those frequencies." (FEIS I at 3-201; see Letter to MHA Environmental Consulting, Inc. (MHA Consulting) from Dr. Jerome S. Lukas dated Mar. 23, 2000 (Lukas Letter) (PRT SOR Ex. 2) at 1 n.1.) PRT asserts that a C-weighting should have been used, but it fails to demonstrate how using a C-weighting (which would have encompassed the frequencies from 50 to 20,000 Hz), rather than an A-weighting (which encompassed the frequencies from 500 to 20,000 Hz), would have altered BLM's noise impact analysis in any important way. (PRT SOR at 33.) In particular, it has not addressed the fact that human hearing is relatively insensitive to lower frequencies. (FEIS I at 3-202; Lukas Letter at 2.)

construction activity (FEIS I at 4-258) and within 3,200 feet of the well field and power plant site during operations. (FEIS I at 4-259.) BLM noted further that drilling rigs and power plant facilities would generate from 68 to 74 dBA during Project construction and from 72 to 78 dBA during Project operations at a distance of 200 to 400 feet from such activity. Id. at 4-258 and 4-259. Since such impacts would exceed the Siskiyou County noise compatibility standard BLM considered the impact significant and, because it could not be mitigated, unavoidable. Id. at 4-255 to 4-256, 4-258 to 4-260.

BLM determined that the only significant unavoidable adverse auditory impacts during Project operations might be impacts within 3,200 feet of the well field and power plant, solely as a result of exceeding Siskiyou County's noise compatibility standard. Id. at 4-258 to 4-267; ROD at 18. BLM, however, recognized that the sound would degrade with distance from the source, diminishing to 54 dBA Leq at a point 2,100 and 3,200 feet from the well field and power plant, during Project construction and operation. Thus, beyond that point, and therefore throughout most of the Medicine Lake Highlands, Project noises might be heard at times, but they would not be considered significant. This was borne out by modeling which predicted the noise impacts at various noise sensitive receptor sites located some distance away in the vicinity of Medicine Lake to the south, which modeling can be equally extrapolated in other directions to the north, east, and west in the Highlands. (FEIS I at 4-260 to 4-267.)

BLM also provided for monitoring whether noise generated by the Project exceeds predicted thresholds. If so, Calpine would be required to modify Project operations. (ROD at 18.) PRT challenges this mitigation measure, arguing that the failure to define the monitoring mechanism means that the modification requirement "will go unrealized." (PRT SOR at 35.) BLM has left it to Calpine to devise the precise monitoring mechanism. However, BLM retains the ability to ensure that monitoring takes place and to require Calpine, in accordance with the measure, to actually modify its operations when BLM determines that the thresholds are crossed, thus ensuring that the benefits of the measure are fully realized.

PRT questions the accuracy and reliability of BLM's noise impact analysis. ^{17/} However, it fails to establish any error or omission in

^{17/} PRT states (PRT SOR at 32) that BLM also prepared a "Supplemental Noise Impact Study," consisting of a Mar. 23, 2000, letter to MHA Consulting from Dr. Lukas, a Mar. 28, 2000, issue paper (PRT SOR at Ex. 21), and an Apr. 10, 2000, table entitled "Modeled Noise [L]evels Associated with Traditional Cultural Properties and Activities with the Fourmile Hill Geothermal Project" (PRT SOR at Ex. 20). This Supplemental Noise Impact Study was not included in the FEIS. However, it is in the case record and appears to have been relied upon by the Field Manager in issuing his May 2000 ROD.

We have reviewed that study and are not persuaded that it conflicts with the noise impact analysis in the FEIS, or is itself flawed. It generally establishes the extent to which Project activities will be heard

BLM's analysis. PRT provides no contrary evidence demonstrating that the noise impacts will be greater in the immediate vicinity of the well field and power plant or elsewhere in the surrounding Medicine Lake Highlands.

BLM also specifically assessed the noise impacts of Project activities on Native American traditional religious and other cultural practices in the surrounding Medicine Lake Highlands. Based on interviews with Native Americans and subsequent research, BLM had identified traditional-use sites in the Project area and the surrounding Medicine Lake Highlands that are considered potentially eligible for designation as TCP's on the National Register of Historic Places. (FEIS I at 3-64 to 3-73, 4-62 to 4-63; Medicine Lake Highland and Timber Mountain Ethnographic Report, dated September 1998 (Ethnographic Report), at 18-28.) It focused on the noise impacts at these sites. (FEIS I at 4-63 to 4-66, 4-68 to 4-69; FEIS III at 3-267 to 3-268; "Table 1," dated Apr. 10, 2000, attached to MOA.) BLM determined that the noises generated by drilling and other activity during the construction phase of the Project would be most audible at the five sites closest to the well field and power plant. (FEIS I at 4-68.) However, given the limited 3-year duration of such activity, this impact was regarded as short-term. BLM also determined that noises generated by power plant operation would be audible only at these five sites. Id. at 4-69.

BLM could not, however, determine the precise impact of noises generated by the Project on traditional uses of the identified sites, since it could not, based on its interviews, assess the extent to which Native Americans actually used each of the sites and, ultimately, whether they would actually forego traditional uses at these sites because such impacts interfered with religious and other cultural practices. It thus concluded that these impacts would be potentially significant and, since they could not be mitigated, unavoidable. Id. at 4-65 to 4-66, 4-68 to 4-72. Further, BLM concluded that, given the fact that Native Americans view the Highlands as a single natural landscape with interconnected spiritual values, the introduction of incompatible audible elements anywhere in the Highlands would also constitute a significant and unavoidable impact. (FEIS I at 4-65 to 4-66, 4-71 to 4-72.)

Contrary to PRT's assertion that BLM is unaware of the noise impacts in the "Traditional Cultural Places District" (TCPD) of the Medicine Lake Caldera and the surrounding Medicine Lake Highlands as a whole, we believe that the record shows otherwise and that BLM exhibited an appreciation for such impacts on Native Americans engaged in traditional religious and other cultural activity. We agree that BLM focused on the noise impacts at specific sites within the Caldera and Highlands. However, there is nothing to suggest that this was not a representative sample, since the sites are scattered throughout the Caldera and Highlands. (Ethnographic Report at 28.)

fn. 17 (continued)

at TCP sites in the Medicine Lake Highlands, demonstrating that none of the impacts will rise to the level of significance adopted by BLM for Native American and other members of the public using the Highlands (54 dBA Leq).

Further, BLM considered not only the level but also the frequency of pitch, duration, and other characteristics of the sound generated by Project activities. (FEIS I at 4-68 to 4-69.) In addition, it was well aware that the fact that Project noises would be man-made and modern would, by itself, have an adverse impact on the spiritual contemplation necessary to Native American religious practices. (FEIS I at 3-74, 4-63, 4-71; ROD at 15.) Moreover, BLM recognized that it was the degree to which the noises generated by the Project interfered with traditional uses of the Highlands (whether because of their duration, pitch, man-made character, or whatever reason) that afforded any impact its significance. (FEIS I at 4-68 to 4-69.)

PRT cites the MOA provision requiring BLM (in consultation with Calpine, Pit River and other Native American tribes) to identify during Project implementation locations where natural quiet is important to Native cultural use of the Highlands and to ensure that Project activities are inaudible at those locations. It asserts that the provision reflects a "major omission" in BLM's NEPA review of the Project, in that BLM has not "actually evaluated noise impacts on Native American traditional cultural values and uses in all locations that require natural silence." (PRT SOR at 32.)

We find no such omission. There is no evidence that BLM failed to determine locations where natural quiet is important to Native cultural use of the Highlands. The record shows extensive consultation with Native American tribes and tribal members. (FEIS I at 3-66 to 3-68, 3-73 to 3-76.)

PRT also argues that the specific MOA provision requiring BLM to ensure, to the maximum practicable extent, that "Project activities are inaudible at each" location where natural quiet is important to Native cultural use of the Highlands through the use of "noise-deadening devices, through careful control of pipe and machinery handling, and through scheduling and other means" (MOA at 4) is inadequate, because it fails to "address[] * * * pipe clanging and drawworks brake" noise associated with well drilling, both of which are "fairly high-pitched" sounds which will occur 24 hours per day, for up to 90 days, in the case of each well. (PRT SOR at 33-34, Ex. 36.) BLM was aware that specific measures could be undertaken to address such noise:

The drawworks brake noise can be reduced somewhat by putting noise barriers near the brake on the drawworks. * * * Pipe clanging when tripping out of the hole can be reduced by telling the crew to slow down (at night especially), and putting a soft rope around the top ends of the pipe stands. * * * [T]elling the crew to slow down and be aware of the noises at night can go a long way.

(PRT SOR at Ex. 36) Thus, compliance with the MOA plainly entails using such measures. We are not persuaded that such efforts will be inadequate to reduce the noise associated with drilling rig equipment to the point

that it will, in fact, be inaudible at distant locations where natural quiet is important to Native cultural use of the Highlands.

PRT argues that BLM "omitted noise produced by the increased traffic resulting from construction and operations, which can be as high as 200 trips per day," and that "[n]oise from big-rig trucks and noise from pick-up trucks and personnel shuttles [has] not been included in the Noise Impact Study." (PRT SOR at 33-34.) The FEIS notes that traffic is likely to reach a maximum of 228 trips per day during the summer, comprised of up to 160 trips per day carrying construction workers traveling to and from the area and up to an additional 68 truck trips per day for construction vehicles (such as water trucks) delivering and/or hauling materials. (FEIS I at 4-211.) We note that mitigation measures requiring carpooling (ROD at 18) will reduce the number of daily trips to the site. Although it did not specifically refer to truck trips, BLM did acknowledge that "[c]onstruction and decommissioning activities for the proposed project could result in short-term noise increases in the Medicine Lake area" and that "the period of highest construction noise would occur during the summer of the second construction season" (FEIS I at 4-260), which corresponds to the high period of vehicular traffic. Accordingly, we cannot say that BLM was unaware of noise impacts from vehicular trips. We also believe that such noise impacts would be for a short duration and would not significantly impact the forest visitor. In any event, it is clear that such impact, like other noise impacts, would be subject to monitoring to ensure that the predicted noise thresholds are not exceeded during construction and operations. See ROD at 18.

PRT argues that BLM failed to consider the cumulative impacts of "additional geothermal power plants beyond the Project" that "have been and are still being contemplated in the Medicine Lake Highlands and therefore are reasonably foreseeable." (PRT SOR at 42). PRT refers to the Telephone Flat project and asserts that the fact the "lessees have not applied for development permits for" other unnamed projects "or formally announced plans to construct them is not determinative of whether they are reasonably foreseeable and therefore properly part of the cumulative impacts evaluation." Id. at 43. SMLC asserts that Calpine and CalEnergy hold extensive leases throughout the Glass Mountain KGRA, noting that they had proposed an "extensive geothermal development on a portion of these lands, denominated the 'Telephone Flat' project," adding that the FEIS "neglects to address the undoubtedly severe cumulative impacts of their construction on the environmental and cultural resources of the area." (SMLC SOR at 43-44.)

A "cumulative impact" is "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions." 40 CFR 1508.7; see 40 CFR 1508.25(a)(2); Southern Utah Wilderness Alliance, 122 IBLA 165, 169-70 (1992). The "Telephone Flat Geothermal Development Project" (Telephone Flat Project) had been proposed by CalEnergy on nearby Federal leases (CACA-12371 and CACA-12372). BLM, in an ROD issued on the same day as the May 2000 ROD at issue here, rejected the Telephone Flat Project, which would have involved the construction and operation of a similar well field and power plant on about 156 acres of land, situated about 4.5 miles

from the Project well field and power plant, within the Medicine Lake Caldera. Since CalEnergy has appealed that ROD, BLM's decision regarding that project has not been finally resolved. However, at the time BLM considered the environmental impacts of the Project at issue here in the FEIS, the Telephone Flat Project had been formally proposed and had to be considered to have been reasonably foreseeable. Thus, BLM was required to consider the cumulative impacts of both projects in the FEIS.

40 CFR 1508.7 and 1508.25(c); Park County Resource Council, Inc. v. United States Department of Agriculture, 817 F.2d 609, 623 (10th Cir. 1987); Howard B. Keck, Jr., 124 IBLA 44, 53 (1992), aff'd, Keck v. Hastey, No. S92-1670-WBS-PAN (E.D. Cal. Oct. 4, 1993). It did so. (FEIS I at 4-307 to 4-329.)

BLM concluded that the Telephone Flat Project was, besides the present Project, the only other reasonably foreseeable future geothermal development in the Medicine Lake Highlands, due to limited opportunity to sell geothermal power. (FEIS I at 4-307 to 4-308, 4-332; ROD at 21.) We agree. Unlike some situations involving the drilling of oil and gas wells, the exploration for and development of geothermal wells requires extensive financial planning, in view of the required expenditures for piping, heat exchangers, cooling towers, and generation equipment. In the absence of any showing that a geothermal project has gone beyond the talking stage, it cannot be said that it is reasonably foreseeable. Further, it is not to be presumed that nearby or even neighboring geothermal leases will be developed simply because the Project is successfully completed, unlike with oil and gas leases, where drilling of protective wells in the vicinity of successfully completed wells must usually be anticipated. The fact that the transmission line and other facilities authorized under the current Project can be utilized to facilitate future development does not, by itself, establish that such development is reasonably foreseeable. See Headwaters, Inc. v. BLM, 914 F.2d 1174, 1181-82 (9th Cir. 1990). The fact that successful completion of the Project might encourage other developers to enter geothermal ventures does not rise to the level of causation necessary to invoke the provisions of the regulations. 40 CFR 1508.7; see 40 CFR 1508.25(a)(2).

PRT fails to identify any specific plans for additional geothermal power plants in the vicinity of the Project, but relies on an intent to develop unnamed leases. ^{18/} (PRT Reply at 14.) As far as we are aware, the possibility of further geothermal development is too speculative to be regarded as reasonably foreseeable here. We agree with BLM that the environmental effects of any growth-induced geothermal development projects are too speculative to be estimated at this time. (FEIS I at 4-333.) BLM properly considered the cumulative impacts of approving both the Project at issue here and the Telephone Flat Project and disregarded other projects that were not reasonably foreseeable. Howard B. Keck, Jr., 124 IBLA at 53.

^{18/} PRT provides documents referring to, in addition to the Project and Telephone Flat, projects at Vale, Oregon, and Newberry Volcano in central Oregon. (PRT SOR Ex. 6.) It appears that those projects are located some distance from the instant Project and evidently predate it.

PRT argues that BLM failed to consider the socioeconomic impacts of the Project, from the standpoint of the likelihood that the "desecration of sacred lands" will adversely affect the social cohesion of Native American communities, as well as the social and economic welfare of individual community members. (SOR at 44-46.)

BLM considered the socioeconomic impacts of the Project, as required by section 102(2) (C) of NEPA and 40 CFR 1508.14. (FEIS I at 4-76 to 4-77, 4-296 to 4-297; see Tongass Conservation Society v. Cheney, 924 F.2d 1137, 1142-44 (D.C. Cir. 1991).) It did not specifically address the potential for social upheaval in the Native American community. However, we find no evidence, in the record or offered on appeal, to support PRT's assertion that the Project threatens to destroy or even disrupt the social and/or cultural identity of Native Americans, thus adversely affecting Native Americans as a community or individually. We regard impacts of that nature and magnitude as remote and highly speculative, and thus something which BLM was not required to address. Coeur d'Alene Audubon Society, Inc., 146 IBLA 65, 70 (1998).

SMLC argues that BLM violated section 102(2) (C) of NEPA by failing to consider the potential environmental impacts of "Modified Alternative 6." (SOR at 38-39.) It asserts that this modified alternative, which was a revision by the May 2000 ROD of Alternative 6 considered in the FEIS, was adopted without any analysis of its likely environmental impacts, and thus without any opportunity for public review and comment, as required by NEPA.

The May 2000 ROD modified Alternative 6, adopted portions of the Alternative 5 and 6 transmission line routes (segments A3, B1, and C1, running from the power plant as far as the route of an existing 500-kV transmission line, and then segment C2 from that route to BPA's Malin-Warner 230-kV transmission line) and linked them together with a new, almost 3-mile-long segment along the route of the existing line. (ROD at 6.) Further, in deciding whether to adopt the modified alternative, the ROD simply relied on the existing analysis of environmental impacts in the FEIS, finding the alternative "very similar in environmental effects to both Alternatives 5 and 6." Id.

SMLC fails to demonstrate that this analysis was not sufficient to inform BLM of the potential impacts of the modified alternative. SMLC identifies no impact which had not already been adequately considered in the FEIS, or any new or additional impact which BLM should have addressed. (SOR at 38-39.) Nor has SMLC demonstrated that the addition of the short linking segment is a "substantial change" to the proposed action relevant to environmental concerns, thus requiring a supplemental EIS in accordance with 40 CFR 1502.9(c). It has, thus, failed to show that BLM did not comply with section 102(2) (C) of NEPA.

SMLC argues that BLM's decision to approve the Plan violated section 102(2) (C) of NEPA because BLM "ignored" the No Action Alternative by failing to adequately consider the social and economic benefits to be derived from not allowing geothermal development of the Project area. SMLC asserts that BLM thereby failed to promote the public interest and

other statutory objectives of FLPMA and other Federal statutes. (SOR at 33; see id. at 33-38.) SMLC also argues that Calpine pressured BLM with threats that it would be deemed to have breached Calpine's contractual rights under the leases and/or engaged in an unconstitutional taking of Calpine's property rights by not expeditiously approving geothermal development. SMLC asserts that, as a result, BLM did not afford the No Action Alternative good faith consideration. (SOR at 36-38.)

We find no evidence that BLM's consideration of the No Action Alternative was not undertaken in good faith. We are not persuaded that BLM failed to adequately consider the social and economic benefits of the No Action alternative. The FEIS contains an analysis of particular adverse social and economic impacts of adopting the proposed action, noting that they would be avoided under the No Action Alternative. (FEIS I at 4-292 to 4-306.) SMLC finds this discussion inadequate, referring broadly to the social and economic benefits generally offered by National forests and public lands, including supporting hunting, fishing, and other recreational opportunities, which benefits are "incompatible with geothermal development." (SOR at 34; see id. at 34-35.) However, SMLC fails to demonstrate that any of these benefits would be jeopardized by the development proposed here, or that they were not already adequately considered by BLM elsewhere in the FEIS, in the course of analyzing the impacts of the proposed and No Action alternatives on recreational and other resource values associated with National forests and public lands. It fails to describe or quantify any specific social or economic benefit which BLM should have considered, but did not. We conclude that it failed to demonstrate any deficiency under section 102(2)(C) of NEPA.

SMLC also challenges the assertion in BLM's May 2000 ROD that the No Action Alternative was not chosen because "no impacts * * * warrant the den[ial] of the Project," arguing that it is "without supporting analysis" since the Project "poses many serious impacts." (SOR at 36; ROD at 7.) The assertion merely reflects the Field Manager's decision that, while there are impacts of approving the Project (fully addressed in the FEIS and ROD), he was not persuaded to adopt the No Action Alternative. Beyond that, SMLC simply expresses a contrary preference for adoption of the No Action Alternative. We have long said that the fact that an appellant would prefer that BLM adopt another alternative (including No Action) does not demonstrate that BLM erred in its environmental analysis, or otherwise violated section 102(2)(C) of NEPA. Rebecca S. Andersen, 145 IBLA 206, 219-20 (1998); Hoosier Environmental Council, 109 IBLA 160, 173-74 (1989).

SMLC and PRT argue that BLM failed to consider reasonable alternatives to the proposed action that would eliminate or substantially reduce its adverse environmental impacts, thus violating section 102(2)(C) of NEPA. (SMLC SOR at 42-43; PRT SOR at 13-14.) They assert that BLM should have considered: Alternative sitings for the well field, power plant, transmission line, and pipelines; burying the transmission line and pipelines; authorizing the development of other geothermal resources; and authorizing the development of non-geothermal sources of electricity (such as solar, wind, and energy conservation).

BLM is required by section 102(2)(C) of NEPA and its implementing regulations to rigorously explore and objectively evaluate in an EIS all reasonable alternatives to the proposed action that will accomplish its intended purpose, are technically and economically feasible, and yet have a lesser or no impact. 42 U.S.C. § 4332(2)(C) (1994); 40 CFR 1500.2, 1501.2, 1502.1, and 1502.14; 46 FR 18026, 18027 (Mar. 23, 1981); City of Carmel-by-the-Sea v. U.S. Department of Transportation, 123 F.3d 1142, 1155 (9th Cir. 1997); Dubois v. U.S. Department of Agriculture, 102 F.3d at 1286-87; Methow Valley Citizens Council v. Regional Forester, 833 F.2d 810, 815-16 (9th Cir. 1987), rev'd on other grounds, 490 U.S. 332 (1989); Howard B. Keck, Jr., 124 IBLA at 53-54. All this ensures that the BLM decisionmaker "has before him and takes into proper account all possible approaches to a particular project." Calvert Cliffs' Coordinating Committee, Inc. v. United States Atomic Energy Commission, 449 F.2d 1109, 1114 (D.C. Cir. 1971).

We are not persuaded that BLM failed to consider reasonable alternatives to the proposed action. It is clear that BLM was not required to consider the alternatives of authorizing the development of other geothermal resources or non-geothermal sources of electricity since they would not satisfy the purpose of the proposed action, which is to permit Calpine to develop the geothermal resources underlying the two leases at issue here. This was not a situation where BLM was deciding whether to issue the leases, in the first instance. Compare with Natural Resources Defense Council, Inc. v. Morton, 458 F.2d 827, 833-38 (D.C. Cir. 1972) (cited in PRT Reply at 4).

BLM did consider, consistent with the purpose of the proposed action, alternative sitings of the well field and power plant within the lease area and the transmission line and pipelines connected thereto, as well as burial of the transmission line and pipelines. However, it excluded alternative sitings for the well field from detailed analysis because the economic feasibility of the Project depended on placing the field close to the location having the greatest probability of accessing a commercially viable geothermal reservoir through reservoir fractures, or because such sitings would have greater environmental impacts. (FEIS I at 2-2 to 2-3, 2-76 to 2-77; ROD at 8.) Alternative sitings for the power plant were excluded from detailed analysis because economic feasibility similarly dictated that the plant be located not more than one mile from the well field, or because such sitings would have greater environmental impacts. (FEIS I at 2-2 to 2-3, 2-76 to 2-77; BLM/USFS Supplemental Environmental Assessment (EA), dated Sept. 14, 1984, at 8; ROD at 8.) BLM also did not give detailed consideration to burying the transmission line and pipelines because of the prohibitive cost and the greater environmental impacts resulting from disturbance of the land during construction, maintenance, and operation. (FEIS I at 2-74 to 2-76, 2-78; ROD at 7-8.) Neither SMLC nor PRT have demonstrated any error in BLM's analysis, or otherwise justified requiring BLM to consider any excluded alternative.

SMLC and PRT refer to the fact that the California Division of Mines and Geology (CDMG) rejected BLM's assessment in the FEIS of the risk of earthquakes and surface faulting in the Medicine Lake area. They claim

that BLM thus failed to address the potential for the catastrophic release of toxic gases by the Project, threatening nearby residents, Project workers, Native Americans, and other visitors to the area. (SMLC SOR at 44-45; PRT SOR at 29-30, 90-91, and Ex. 9 (Letter to Mount Shasta Bioregional Ecology Center from CDMG, dated Jan. 7, 2000 (CDMG Letter)).)

BLM relied on the facts that, although there are numerous active faults in the vicinity of the Project area, not many earthquakes have occurred, and that those that have occurred have been of low intensity. It found that the volcano had erupted three times in the past 1,500 years (FEIS I at 3-7), or on average once every 500 years. It accordingly assessed the earthquake risk for that area (as well as the risk to Calpine's workers and facilities resulting from a potential blowout or rupture) as low. (FEIS I at 4-8; see id. at 3-2 to 3-3, 3-6 to 3-7, 4-8 to 4-9; FEIS III at 3-75.) BLM was aware of the presence of harmful gases in geothermal fluids. (FEIS I at 3-42.) However, given the relatively low risk posed by earthquakes, BLM regarded the likelihood that such gases would be released as a result of an earthquake as similarly low. In any event, the Field Manager provided that BLM's final approval of all surface facilities associated with the Project would have to "satisfy the necessary requirements for seismic hazard safety," thus ensuring that toxic gases would not be released into the environment given the "most current information available regarding the seismic hazard potential in the [P]roject area." (ROD at 21.) We will not presume, at this point, that this cannot be accomplished.

BLM noted the presence of two faults 50 and 75 miles from the Project area capable of generating earthquakes of a magnitude of 5 or greater. (FEIS I at 3-7.) However, it did not thereby ignore two other faults (Gillem and Mayfield) running through the Medicine Lake Highlands that are "capable of [generating] earthquakes" of a magnitude as high as 7, or the fact that this "same system of faults" extending through the Medicine Lake area had experienced an earthquake of a magnitude of about 6 in September 1993 in Klamath Falls, Oregon, about 45 miles to the north. (PRT SOR at 20 (CDMG Letter at 1).) BLM did not expressly acknowledge the presence of the Gillem and Mayfield faults. The FEIS, however, contains a map of the Project area ("Figure 3.2-1" (FEIS I at 3-3)) depicting fault lines in the immediate vicinity of Medicine Lake, and thus part of this fault "system."

Further, there is no suggestion that BLM's express reference to the two distant faults intimated, as suggested by CDMG, that "[o]ther faults in the area are not considered capable of producing earthquakes greater than magnitude 5.0." (CDMG Letter at 1.) BLM noted that the nearby faults have the "potential to produce surface rupture and strong ground shaking." (FEIS I at 3-6.) BLM did not specifically rule out the possibility that any of these faults might also be "capable" of generating earthquakes of this magnitude, even as high as 7. It simply indicated that this had not occurred in the vicinity of the Project area. BLM relied on the history of seismic events in the vicinity of the Project area, which would have been associated with the system of faults running through that area, and which indicated that the likelihood of an earthquake occurring during the life of

the Project, with a magnitude greater than 5 or even as high as 7, was low. (FEIS I at 3-6 to 3-7, 4-8.)

SMLC and PRT argue that BLM's decision to approve the Plan violated section 102(2)(C) of NEPA because BLM failed to prepare a Supplemental EIS to take into account significant new information relevant to environmental concerns and bearing on the proposed action or its impacts. They point to new (post-FEIS) evidence concerning seismic activity and to post-FEIS designation of historic sites. (SMLC SOR at 44 and PRT SOR at 89.)

BLM is required to prepare a Supplemental EIS if new information discloses that such action would affect the quality of the human environment "in a significant manner or to a significant extent not already considered." Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 374 (1989). However, BLM is not required to prepare a Supplemental EIS simply because new information comes to light or might be appropriate for further review. Headwaters, Inc. v. BLM, 914 F.2d at 1176-77. Rather, such information must, when looked at in light of what BLM already considered in its existing EIS, present "a seriously different picture of the likely environmental harms stemming from the proposed action." State of Wisconsin v. Weinberger, 745 F.2d 412, 420 (7th Cir. 1984). In the face of new information, BLM is required to "consider it, evaluate it, and make a reasoned determination whether it is of such significance as to require" a Supplemental EIS. Warm Springs Dam Task Force v. Gribble, 621 F.2d 1017, 1024 (9th Cir. 1980). Such a determination will not be overturned when there is no showing, on the basis of the new information, that the existing environmental analysis has not already adequately considered the significant impacts of the proposed action. See State of Wisconsin v. Weinberger, 745 F.2d at 420-24.

PRT argues, based on reports issued by USGS after issuance of the FEIS, that BLM failed to consider the potential impacts to the Project of volcanic activity in the Project area, underestimating the likelihood that the Medicine Lake Caldera will erupt and the damage an eruption might cause. (PRT SOR at 30-31.) They cite a statement in a USGS report that there have been 17 eruptions in the last 12,000 years, or, on average, about once every 700 years. (PRT SOR Ex. 48 (USGS Internet Abstract dated July 27, 2000) at 1.) That, however, is not at odds with the statement in the FEIS that the volcano has erupted 3 times in the past 1,500 years (FEIS I at 3-7), or, on average, about once every 500 years. Accordingly we are not convinced that the USGS report shows that BLM erred in its assessment regarding the likelihood that the volcano will erupt during the life of the Project.

SMLC and PRT refer to the fact that the National Park Service (NPS), following issuance of the FEIS, determined that a large area encompassing Medicine Lake and the surrounding Medicine Lake Caldera, situated just south of the Project area, was eligible, as a TCPD, for inclusion in the National Register, thus requiring additional analysis of the impacts of the Project on the Native American cultural resources which supported that determination. (PRT SOR at 56, 59-60; SMLC SOR at 45-46, Ex. 10 (NPS Determination of Eligibility Notification dated July 16, 1999 (NPS

Notification)).) We note that the TCPD was determined to be eligible for National Register designation because NPS found that it "represents a significant concentration of locations and physical features associated with the spiritual beliefs and continuing traditional practices of local Native Indian groups." (NPS Notification at 3.) NPS, however, declined to extend the boundaries of the TCPD further north into the Highlands in the absence of sufficient evidence concerning the "character and nature of this larger area and its use by Native American traditionalists." Id. at 4.

BLM considered in its FEIS the likely impacts of the Project on specific traditional-use sites in the Medicine Lake Highlands (as well as the Highlands as a whole) from the standpoint of their importance to the "spiritual beliefs and continuing traditional practices" of Native Americans. (FEIS I at 4-59 to 4-75, 4-79 to 4-81.) SMLC and PRT have failed to show that BLM did not consider the impact of the Project on any specific "location" or "physical feature" encompassed by the National Register eligibility determination, or that BLM's analysis would be changed by that determination.

Nor have they demonstrated that the Project is likely to ultimately affect the potential listing of the TCPD on the National Register. Thus, we are not persuaded that the eligibility determination constitutes new information which discloses that the Project will affect the quality of the human environment in a significant manner or to a significant extent not already considered by BLM, thus requiring preparation of a Supplemental EIS.

SMLC, supported to some extent by PRT, contends that BLM's decision to approve the Plan violates the Clean Air Act, as amended, 42 U.S.C. §§ 7401-7671q (Supp. IV 1998), because BLM failed to ensure that Federal and State ambient air quality standards would not be exceeded. (SMLC SOR at 15-24.) Calpine is required by the terms of its Federal geothermal resource leases to comply with "applicable laws" and accordingly must ensure that emissions generated by lease activities do not violate the Clean Air Act. See 43 CFR 3262.6 (1997). SMLC points to BLM's admission that the State 24-hour ambient air quality standard for PM₁₀ "could" be exceeded by emissions occurring during construction of the power plant. (SOR at 16 (citing FEIS I at 4-231).) It asserts that this establishes a Clean Air Act violation requiring a decision that the Project should not proceed.

BLM stated as follows in the FEIS concerning PM₁₀ concentrations:

Result of [dispersion] modeling indicate that the maximum impact during the construction of the wellfield and power plant would occur at receptor 20 (located on Primary Forest Route 49, near the plant site) during the first year of construction when the majority of the earthwork and road construction would occur. The estimated maximum impact of the project at this receptor would result in a 24-hour average PM₁₀ concentration of about 21 µg/m³. This

concentration, when added to typical background concentrations, is below the Federal and state 24-hour average standards of 150 $\mu\text{g}/\text{m}^3$ and 50 $\mu\text{g}/\text{m}^3$ (respectively). All other adjacent receptor locations would have lower PM_{10} concentrations as a result of wellfield and power plant construction. Exceedances of the state 24-hour PM_{10} standard could, however, occur in close proximity to wellfield and power plant construction activities.

(FEIS I at 4-231.) BLM explained that predicted exceedances would be limited to an area within approximately 250 feet of the right-of-way center line and that neighboring campgrounds and the closest house were outside that area. Id. at 4-231 to 4-232. BLM further explained that its conclusion that exceedances "could" occur at all was based on computer modeling presuming a worst-case construction scenario and worst-case meteorological conditions, and that "actual impacts were expected to be lower." Id. at 4-231. BLM concluded that "[t]here could be a significant short-term, localized impact to air quality in close proximity to construction activities, as the state 24-hour PM_{10} standard could be exceeded." Id. at 4-233. Although BLM listed mitigation measures (including watering all active and inactive construction areas, reducing vehicle speed, and covering exposed truck loads) that would be expected to reduce PM_{10} emissions, it nevertheless concluded that there would be "[s]ignificant and unavoidable" impacts "on a short-term basis," presumably on account of the possibility that the State 24-hour PM_{10} standard could be exceeded as discussed above. (FEIS I at 4-232 to 4-233.)

BLM's Field Manager stated as follows in the ROD:

The [FEIS] stated [that] emissions from the site are expected to be within applicable standards, except for those for [PM_{10}] which will occur during the plant construction phase of the Project. As stated in the [FEIS], the air modeling used a series of conservative assumptions that overestimated the impacts, thus we believe the actual impacts on air quality will be less than projected. However, in order to ensure that short-term significant air quality problems do not occur during construction, the emissions will be carefully monitored and if they exceed the thresholds established in the [FEIS], Calpine will be required to initiate additional measures to reduce the impacts. These measures will include reduced activities, more extensive fugitive dust control measures, or redesign of the Project.

(ROD at 14.)

BLM's response to the possibility that the State PM_{10} standard could be violated was adequate to assuage appellants' concerns here. Not only did BLM provide for mitigation to prevent the problem, it allowed for monitoring to determine if such a violation occurs and, if so, required Calpine to reduce activities, utilize further fugitive dust control

measures, or even redesign the Project to reduce that impact. It is hard to imagine a more thorough response to a potential problem.

PRT argues that BLM failed to abide by SCAPCD's Rule 6.1.E, which is apparently binding under the Clean Air Act. ^{19/} (SOR at 22.) That provision requires that a net increase in PM₁₀ emissions (after application of Best Available Control Technology (BACT)) from a new stationary source in a "non-attainment area" be mitigated by an offsetting decrease unless the source "will not 'make any existing violation of [a PM₁₀] standard worse, at the point of maximum ground level impact.'" PRT stresses that BLM admitted that fugitive dust emissions associated with construction of the transmission line, which is located within the Northeast Plateau Air Basin (regarded by EPA as an attainment area for PM₁₀ but as a non-attainment area by the California Air Resources Board (CARB) (FEIS I at 3-194, 4-251)), would exceed the State 24-hour PM₁₀ standard at locations close to such activity. (SOR at 22 (citing FEIS I at 3-194, 4-231).) PRT asserts that, since BLM has failed to ensure that the existing violation of the PM₁₀ standard in the non-attainment area will not be made worse, BLM failed to abide by Rule 6.1.E, and thus violated the Clean Air Act, in the absence of offsets.

BLM has not admitted that the standard will be violated and has taken steps to see that it will not or that, if it is, the violation will be of short duration. Still, the FEIS admits that the State PM₁₀ standard could be exceeded in the immediate vicinity of Project activities, and thus also somewhere within the 14,920-acre Northeast Plateau Air Basin. Rule 6.1.E applies only where the construction of a new or modified "stationary source" results in a net increase in emissions of 250 or more pounds of PM₁₀ during any day. (SCAPCD Rule 6.1.B.1; see FEIS I at 4-219.) It remains to determine whether that will occur. But, BLM has put into place a process to determine whether such an increase occurs and to deal with it effectively, whether by eliminating the exceedance or (as contemplated by Rule 6.1.E) reducing other emissions in the area. We accordingly find no basis to disturb its decision on account of its treatment of PM₁₀ emissions.

SMLC argues that BLM failed to ensure that H₂S emissions during the venting and operation of wells will not exceed Federal and State ambient air quality standards because there is "no actual data" regarding the chemical, physical, and flow characteristics of the geothermal resources that will be produced: "If the geothermal resource produces more H₂S than estimated in the FEIS, Calpine's air emissions may exceed applicable standards." (SOR at 17-18 (citing Friesen Letter at 4-5).)

^{19/} It appears that Rule 6.1.E constitutes a requirement of the Clean Air Act since it is part of "The State of California Implementation Plan for Achieving and Maintaining the National Ambient Air Quality Standards" (SIP) approved by EPA. See 40 CFR 52.23 and 52.220; SMLC SOR Ex. 1 (Letter to Mount Shasta Bioregional Ecology Center and SMLC from Ronald A. Friesen, dated July 13, 2000 (Friesen Letter)) at 2-3.

The geothermal reservoir underlying the specific leases at issue here has never been produced or even tested. (FEIS I at 3-40, 3-42; see March 2000 Engineering Analysis at 28.) BLM's assessment of the amount of H₂S likely to be emitted by wells during venting and operation is based on the expected characteristics of these resources and what is generally known about such resources in the vicinity. (FEIS I at 4-234; FEIS II, Appendix F, at F-12; ROD at 15.) Such testing has occurred since 1984 in connection with the drilling of four deep exploratory test wells near the Project area. (FEIS I at 4-234; see id. at 1-12 to 1-13, 2-30, 3-38, 3-42 to 3-43; March 2000 Engineering Analysis at 28.) It supports BLM's expectation that H₂S levels will be low. Even if the chemical characteristics of the Project's geothermal reservoir are other than expected, BLM provides that Calpine will be required to redo the dispersion computer modeling and, if necessary, utilize additional emissions abatement measures to ensure that H₂S emissions do not exceed Federal and State ambient air quality standards. (FEIS I at 2-30 to 2-31, 5-40 to 5-41; ROD at 15.) SMLC and PRT offer no evidence that further abatement measures will not succeed in bringing H₂S emissions into compliance with such standards.

PRT also asserts that there is a "serious discrepancy" in the FEIS regarding expected H₂S emissions by the Project during normal operations. (PRT SOR at 19, Ex. 53 (quoting from Letter to Forest Service from NPS, dated July 17, 2000) at 1.) It notes that BLM concluded at FEIS I at 4-230 that the Project will emit, on average, 7.2 tons per year. It asserts that SCAPCD stated that the Project will emit between 17.1 and 18.8 tons per year in a March 2000 "Engineering Analysis" prepared by NewFields West in connection with SCAPCD's deliberations concerning approving an ATC/Temporary PTO. (PRT SOR Ex. 52 at 26.) However, NewFields West did not conclude that it anticipated such emissions. Rather, it simply noted that SCAPCD's authorization would allow such emissions. See Calpine Answer Ex. E (Letter to EPA from SCAPCD, dated Aug. 30, 2000 (SCAPCD August 30 EPA Letter)) at 3. Thus, we find no discrepancy regarding expected actual emissions.

PRT also argues that admitted uncertainty regarding the H₂S content of geothermal resources which will be produced from the proposed wells, and thus of emissions from the power plant, casts doubt onto BLM's conclusion that such emissions will not cause surface water in Medicine Lake to exceed the applicable Federal water quality standard. (PRT SOR at 26 (citing ROD at 17, 26).) BLM analyzed the likely impacts to surface water quality, based on expected H₂S content and a worst-case scenario projected over the 45-year life of the Project. (FEIS I at 4-34 to 4-38; FEIS III at 3-169 to 3-178, 3-189 to 3-191.) It thereby concluded that H₂S and other emissions by the power plant would not cause the quality of any surface water to exceed any Federal water quality standards, initially or over time. (FEIS I at 4-36 to 4-38; FEIS III at 3-170; ROD at 17, 26.) PRT fails to establish any error in BLM's analysis, or to demonstrate that emissions are likely to result in a Federal water quality violation.

PRT also asserts that, even if such standards are not exceeded, BLM is required when any pollutants "from Project air emissions" are deposited into surface waters to ensure that Calpine provides a certification and

obtains a National Pollutant Discharge Elimination System (NPDES) permit, as required by sections 401 and 402 of the Clean Water Act, as amended, 33 U.S.C. §§ 1341, 1342 (1994). (SOR at 26; see id. at 26-27.) It states that, since BLM failed to do so, it violated these statutes. PRT offers no legal analysis in support of its assertion, which is far from clear as a legal matter. In the absence of such, we hold, BLM was not required to take the action urged by appellants. 20/

SMLC and PRT argue that BLM failed to abide by SCAPCD's Rule 6.1.D 21/ to ensure that Calpine employ BACT for emissions of nitrogen oxides (NO_x) by the emergency operation of a diesel generator at the power plant. (SMLC SOR at 18-20; PRT SOR at 16-18.) They assert that, in deciding that BACT was not required in the case of diesel generator use, BLM improperly relied on SCAPCD's erroneous conclusion that the 250 Pounds/day NO_x threshold triggering the BACT requirement would not be exceeded. They argue that BLM's reliance was improper because SCAPCD reached a conclusion that is directly contradicted by CARB and EPA, and because SCAPCD employed an emission factor for the expected level of NO_x emissions by a diesel generator that is rejected by CARB and EPA. (SMLC SOR at 18-20 and PRT SOR at 17-18.) 22/

BLM concluded in its FEIS that NO_x emissions from Project activities, including the emergency operation of a diesel generator at the power plant during power outages, would not exceed Federal and State ambient air quality standards for NO_x at any of the receptor locations surrounding the Project area. 23/ (FEIS I at 4-222 to 4-225, 4-240.) The Field Manager also addressed Rule 6.1.D, concluding in the May 2000 ROD that the 250 Pounds/day NO_x threshold would not be exceeded by "diesel generators at the power plant." (ROD at 15.) He thus determined that BLM would not

20/ In any event, if an NPDES permit is required, EPA will presumably require it.

21/ Rule 6.1.D states that "[n]ew stationary sources [of air pollution] * * * shall be constructed using best available control technology." In accordance with Rule 6.1.B, this requirement "shall apply," in the case of NO_x emissions, only where such sources "result in * * * [a] net increase in emissions of 250 or more Pounds during any day of [such] pollutant."

22/ SMLC also asserts that SCAPCD failed to comply with the review/comment provisions of its Rule 6.1.G. We have no authority to consider that question.

23/ BLM based its air impacts assessment on expected emissions by each of the Project activities, including the emergency use of a diesel generator at the plant, which it anticipated would occur on an infrequent basis: "Based on operating experience at similar facilities, Calpine estimates that an average of three or four short-duration plant upsets, averaging about six hours duration, will occur in a typical year. Approximately once every two years, Calpine expects that a planned outage (plant shutdown) will occur, typically lasting two or three days. Calpine anticipates that an unplanned, long-term upset (lasting 10 to 15 days) may occur every three to ten years." (FEIS I at 4-224.)

violate the Clean Air Act by failing to ensure that Calpine employed BACT in the case of the emergency operation of a diesel generator at the power plant. Both BLM and SCAPCD concluded, using an EPA-approved emission factor, that the daily emission of NO_x by such a generator would at most be only 234 Pounds per day. (FEIS II, Appendix F, at F-11 to F-12, F-19; SCAPCD May 11 Letter at 2.)

In opposing this determination, SMLC and PRT offer first the conclusion by CARB that emissions by the generator alone will exceed the NO_x threshold. EPA, relying on CARB's assertion, also asserted that this "may" occur. (EPA May 16 Letter at 2 (citing CARB May 2 Letter).) CARB noted that NO_x emissions by the power plant "can" exceed the NO_x threshold. (May 2 Letter.) It seems to have reached this conclusion on the basis of its earlier assertion that, given the lack of knowledge regarding what specific generator would be used in the case of the Project, it believed that the emission factor for diesel generators used by SCAPCD was too low and thus had underestimated NO_x emissions. (CARB March 16 Letter at 2; see EPA May 16 Letter at 2.) It thus suggested that SCAPCD use a "more conservative NO_x emission factor," in which case the NO_x emissions would rise to 685 pounds per day. (CARB March 16 Letter at 2.) SCAPCD specifically responded to this suggestion, standing behind the use of the EPA-approved emission factor, which was still in effect, and there is no evidence that CARB or EPA ever faulted this final determination. See PRT Reply Ex. 9 (SCAPCD May 11 Letter) at 2-3; SCAPCD August 30 EPA Letter at 2-3; Letter to Medicine Lake Citizens for Quality Environment from CARB, dated June 8, 2000 at 1.

This correspondence provides no definitive conclusion by either CARB or EPA that SCAPCD was wrong in its assessment or, ultimately, that NO_x emissions by a diesel generator would exceed the NO_x threshold, thus triggering the BACT requirement of Rule 6.1.D.

SMLC and PRT cite the conclusion by EPA that, since properly aggregating diesel generator use in connection with both emergency power plant operation and periodic in-fill well drilling during the life of the Project can result in total NO_x emissions exceeding the NO_x threshold, such generators are required to employ BACT. (EPA May 16 Letter at 1; see Friesen Letter at 3-4; FEIS II at 4-229; FEIS II, Appendix F, at F-19.)

SCAPCD, as a condition of approving the Final ATC/Temporary PTO, expressly limited emergency diesel generator use to 100 hours/year and diesel fuel consumption to 925 gallons/day after plant startup, thus diminishing expected NO_x emissions. SCAPCD required that Calpine ensure, by adjusting the daily fuel use limitation, that NO_x emissions by that diesel generator not exceed 250 Pounds/day, if testing undertaken within 30 days after generator startup disclosed the potential to emit more than 250 Pounds/day. (Calpine Answer Ex. F (Final ATC/Temporary PTO dated Aug. 1, 2000) at 9-10.) In addition, SCAPCD states that it has required that the NO_x threshold not be exceeded in the case of power plant operations. (May 11 Letter at 3; see Final ATC/Temporary PTO at 15.)

It is only when emergency operation of the power plant coincides with in-fill well drilling that that possibility exists. However, SCAPCD also states that, even though the BACT requirement is not triggered, it has further provided that BACT be employed in the case of diesel generator use, thus complying fully with Rule 6.1.D. (May 11 Letter at 3-4; see Final ATC/Temporary PTO at "Page 9 of 16" to "Page 10 of 16," "Page 15 of 16"; SCAPCD Rule 6.1.I.1 (defining BACT); FEIS II, Appendix F, at F-65 to F-69 (discussing what constitutes BACT for NO_x emissions by stationary diesel engines).)

SMLC and PRT provide no evidence establishing that, despite the requirements of the ATC/PTO, the NO_x threshold will still be exceeded. In addition, Calpine is required to employ BACT in the case of diesel generator use. Thus, we find no violation of Rule 6.1.D concerning NO_x emissions by the emergency operation of a diesel generator at the power plant, alone or together with other Project activities.

SMLC argues that BLM failed to determine whether air pollutants generated by the power plant will impair the "pristine" visibility within the mandatory "Class I" Federal airsheds of the two designated wilderness areas within the Lava Beds National Monument, located close to five miles north of the Project area, thus violating section 169A of the Clean Air Act, as amended, 42 U.S.C. § 7491 (1994). (SOR at 22.)

Congress, in section 169A(a) (1) of the Clean Air Act provided for the "prevention of any future * * * impairment of visibility in mandatory class I Federal areas which * * * results from manmade air pollution." 42 U.S.C. § 7491(a) (1) (1994). The Administrator of EPA was directed to promulgate regulations to assure compliance with the Act. 42 U.S.C. § 7491(a) (4) (1994). These regulations require SIP's to determine whether the visibility of a mandatory Class I Federal airshed will be impaired for every new "major stationary source" of air pollutants. 40 CFR 51.307. A geothermal power plant would qualify as such a source only where it emits or has the potential to emit, on an annual basis, 250 tons or more of any criteria pollutant. 40 CFR 51.301(p) (referring to 40 CFR 51.24(b) (1) (1985)).

BLM concludes that the plant at issue here does not qualify as a "major stationary source," given its assessment of the amount of NO_x and other criteria pollutants which the plant will or has the potential to emit. (FEIS I at 4-219.) SMLC provides no evidence that BLM erred in assessment, or that the quantity of actual or potential emissions will exceed the annual 250-ton threshold. Thus, we find that BLM was not required by section 169A of the Clean Air Act to determine whether the power plant will impair the visibility of the Class I airsheds of the Lava Beds National Monument.

SMLC and PRT contend that BLM's decision to approve the Plan violates the National Forest Management Act of 1976 (NFMA), as amended, 16 U.S.C. §§ 1600-1687 (1994). (SMLC SOR at 46-52; PRT SOR at 69-74.) SMLC argues that BLM failed to ensure that, in constructing the transmission line and associated maintenance road along the route selected in the ROD, trees will

be harvested "only where * * * soil, slope, or other watershed conditions will not be irreversibly damaged" and "protection is provided for streams * * * from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment," as required by section 6(g) (3) (E) of the NFMA, as amended, 16 U.S.C. § 1604(g) (3) (E) (1994). (SOR at 46.) It asserts that such assurance is not provided by the FEIS, which failed to determine whether the new transmission line route is "underlain by unstable slopes, weak or erosive soils, or mass wasting features." Id.

BLM considered impacts to watershed conditions and surface water from timber cutting and other activity associated with transmission line/maintenance road construction, including soil, slope, and other characteristics along the new transmission line route. (FEIS I at 3-3, 3-7 to 3-10, 3-14 to 3-22, 3-30 to 3-31, 3-33 to 3-34, 3-36, 4-3 to 4-4, 4-11 to 4-18, 4-28 to 4-32, 4-40 to 4-42; ROD at 6.) It determined that the Project would result in minor increases in soil erosion rates through grading and other construction activities and that these changes would be adverse, but not significant. The effects of such erosion would be limited to localized adverse but insignificant impacts on a few intermittent streams crossed by the transmission line and associated maintenance road. (FEIS I at 4-12 to 4-18, 4-28 to 4-32, 4-40 to 4-42; ROD at 6.) SMLC provides no evidence that there are likely to be any detrimental impacts to watershed conditions or surface waters, violative of section 6(g) (3) (E) of the NFMA.

SMLC also argues that BLM failed to ensure that the construction, maintenance, and operation of the transmission line, roads, pipelines, and other Project activities will not violate the requirement of section 6(g) (3) (B) of the NFMA, as amended, 16 U.S.C. § 1604(g) (3) (B) (1994), to maintain a "diversity of plant and animal communities." (SOR at 46-52.) It asserts that BLM did not recognize that the large-scale clearing of old-growth forest stands necessary to make way for a power plant, well field, transmission line, roads, and pipelines will eliminate plants and wildlife, particularly by damaging the habitat of sugar stick and other special-status plant species, fragmenting and degrading wildlife habitat, and other effects.

BLM fully analyzed the impacts of the Project on plants and animals. (FEIS I at 3-78 to 3-131, 4-82 to 4-134; ROD at 16.) It recognized, in the case of the alternative adopted in the ROD, that there would be a loss of about 161.6 acres of vegetation as a result of construction of the well field, power plant, and transmission line, which would in turn affect wildlife. (FEIS I at 4-104, 4-108 to 4-109, 4-128, 4-132 to 4-134; ROD at 6.) Most of this loss would be attributable to the transmission line, which would be spread out, in a 125-foot-wide corridor, across 25 miles. (FEIS I at 4-86, 4-104, 4-126.) BLM did not, for the most part, regard the consequences of this loss as significant for either plants or animals, since the vegetation and associated wildlife habitat is generally common and widespread throughout the surrounding area. (FEIS I at 4-84 to 4-89, 4-97 to 4-100, 4-103 to 4-104, 4-108 to 4-109, 4-128, 4-132 to 4-134; ROD at 6.)

BLM, however, noted that there are isolated stands of late seral stage forest present within the Project area, including along the adopted transmission line route. (FEIS I at 3-79, 3-84, 3-87, 3-89, 3-93, 3-101, 3-106 to 3-109, 3-115 to 3-116, 3-123 to 3-124, 3-129; ROD at 6.) BLM stated that about one acre of such forest would be lost in the power plant and well field area (FEIS I at 4-86) and that construction of the transmission line has "the potential to affect isolated stands of late seral stage forest and individual trees and snags with [diameter breast height] greater than or equal to 18 inches." (FEIS I at 4-104 to 4-105.) BLM regarded the loss of any old-growth forest, and the corresponding effect on dependent wildlife, as a significant impact, but provided for mitigating it to insignificance. (FEIS I at 4-84, 4-87 to 4-89, 4-100, 4-103 to 4-105, 4-108 to 4-110, 4-128, 4-132 to 4-134; ROD at 6, 16.)

Although SMLC alleges (SMLC SOR at 48-50) that any ground-disturbing activity will destroy populations of special-status plant species such as sugar stick, as a result of either direct impacts on the plants themselves or indirect impacts on the surrounding environment and thus the microclimate and other habitat requirements of the plants, we find no evidence to support that assertion, particularly in light of BLM's requirement that all populations that are currently or may later be identified (during required preconstruction surveys) be marked and avoided. (FEIS I at 4-92 to 4-93; see Letter to Forest Service from Barbara M. Leitner, dated Oct. 26, 1998; Letter to Calpine from Leitner, dated Sept. 24, 1997.) Further, BLM has required, in the case of sugar stick and other "Survey/Manage" species, that a buffer "sufficient * * * to protect the population" be established around any occurrence of the species. (FEIS I at 4-93.)

SMLC also argues that the Project's impacts on wildlife violate section 6(g) (3) (B) of the NFMA, 16 U.S.C. § 1604(g) (3) (B) (1994). To the extent that that statute (which requires the preparation of resource management plans on National Forest System land) can be viewed as establishing substantive requirements, it appears that SMLC argues that BLM has failed, in the words of that provision, to "provide for diversity of plant and animal communities." SMLC overlooks language in that provision providing that such action must be taken "to meet overall multiple-use objectives, and within the multiple-use objectives of a land management plan." Further, such action must be taken "based on the suitability and capability of the specific land." In view of the care taken by BLM to analyze the Project's effects on the land where it is sited and the imperative to pursue multiple use of the resources, we find no violation of its presumed duty to provide for diversity of plant and animal communities. We are not convinced that the Project "will act as a 30-mile[-long] barrier to wildlife species," as SMLC claims. (SMLC SOR at 51.)

SMLC and PRT also argue that the turbine building, cooling tower, and numerous steam plumes associated with well field and power plant operations will violate section 6(i) of the NFMA, as amended, 16 U.S.C. § 1604(i) (1994), because they will conflict with the visual quality objectives (VQO) of the Klamath National Forest Land and Resource Management Plan (LRMP), which requires that management activities not be visually evident (Retention) or visually subordinate to the characteristic landscape

(Partial Retention). (SMLC SOR at 41; PRT SOR at 38-39; see FEIS I at 3-137.) Section 6(i) of the NFMA requires resource permits and "other instruments for the use and occupancy of National Forest System lands [to] be consistent with the land management plans." We find no statutory violation, since BLM has provided for mitigating the Project's visual impacts, such that Project structures and activities are consistent with USFS' VQO objectives. (FEIS I at 4-135, 4-140 to 4-142, 4-144 to 4-179, 4-182; ROD at 13, 17.) SMLC and PRT fail to establish error in BLM's analysis, or ultimately that there will be a violation of section 6(i) of the NFMA.

PRT further argues that BLM has failed to demonstrate that the Project will satisfy the requirement of the Modoc National Forest LRMP to conserve properties deemed eligible for inclusion in the National Register and to protect the use of sites considered important to Native American traditional religious and other cultural practices, thus also violating section 6(i) of the NFMA. (PRT SOR at 72-74.) BLM specifically concluded that there would be no such violation, because the requirements of the Modoc National Forest LRMP would be satisfied. (FEIS I at 4-185; ROD at 26.) Absent any evidence that eligible properties will be degraded in any way or that the use of sites for Native American traditional religious and other cultural practices will be physically impaired or precluded, we find no violation of the Modoc National Forest LRMP, and thus of section 6(i) of the NFMA.

[2] SMLC contends that BLM's decision to approve the Plan violates section 7(c) (1) of the Endangered Species Act of 1973 (ESA), as amended, 16 U.S.C. § 1536(c) (1) (1994), because BLM failed to undertake an "adequate" biological assessment (BA), considering whether the proposed geothermal development is likely to adversely affect bald eagles (Haliaeetus leucocephalus) and Shasta crayfish, Federally-designated threatened and endangered species which may be present in the Project and/or surrounding areas. (SMLC SOR at 55.)

BLM is required by section 7(c) (1) of the ESA to prepare a BA in order to determine, as a preliminary matter, whether any threatened or endangered species that might be present in the area of proposed operations is "likely to be affected" by such operations. 16 U.S.C. § 1536(c) (1) (1994); see Enos v. Marsh, 769 F.2d 1363, 1368 (9th Cir. 1985). Preparation of a BA is required so that BLM may determine whether it is required by section 7(a) (2) of the ESA, as amended, 16 U.S.C. § 1536(a) (2) (1994), to consult with FWS to decide whether the proposed operations are likely to jeopardize the continued existence of the threatened or endangered species, or destroy or adversely modify its critical habitat, and thus whether such operations must be changed or rejected. Enos v. Marsh, 769 F.2d at 1368; Oregon Natural Resources Council, 116 IBLA at 366-67.

BLM prepared a BA ("Biological Assessment and Evaluation," dated Feb. 12, 1999) in connection with its preparation of the FEIS. In the case of bald eagles, BLM concluded that there was not likely to be any

adverse effect, except to the extent that the transmission line might affect individual eagles due to the potential for accidental collisions. (BA at 106-125, 153-54; FEIS I at 3-109, 3-124, 3-131, 4-113 to 4-115, 4-122 to 4-123, 4-126 to 4-130, 4-133 to 4-134; ROD at 6, 18-19.) It noted that, with mitigation, the incidence of collision would be very low. (BA at 112-13.) In the case of Shasta crayfish, BLM also concluded that there was not likely to be any adverse effect, absent a possible impact on the groundwater which feeds the Fall River Springs, which it considered remote. (BA at 87-106, 155; FEIS I at 3-28; FEIS III at 3-378 to 3-380; ROD at 6, 18-19.)

USFS, on behalf of itself and BLM, also engaged in formal consultation with FWS pursuant to section 7(a) (2) of the ESA. FWS issued a Biological Opinion pursuant to section 7(b) (3) of the ESA, as amended, 16 U.S.C. § 1536(b) (3) (1994), generally concurring in BLM's assessment that adverse effects on bald eagles and Shasta crayfish are, for the most part, unlikely. (Calpine Answer at Ex. H (Letter to Forest Service from FWS dated Apr. 16, 1999 (FWS April 16 Letter); Letter to Forest Service from FWS dated Aug. 11, 1999 (FWS August 11 Letter)); ROD at 19, 24.) However, FWS also concurred in the potential for the loss of individual eagles from accidental collisions with the transmission line:

[T]he conservation measures proposed by [USFS] and the project applicant will reduce the already low likelihood that bald eagles may be killed or injured over the 45-year life of the project as a result of collisions during adverse weather conditions or when foraging near power lines. For this reason, * * * the [FWS] and [USFS] agreed that the effect of transmission line construction and operation on the bald eagle was not expected to be discountable, insignificant, or beneficial. Therefore, the agencies agreed that a determination that the project is likely to adversely affect the bald eagle is appropriate.

(FWS April 16 Letter at 2; see FWS August 11 Letter at 1; ROD at 10, 19, 24.) Accordingly, FWS issued along with its Biological Opinion an Incidental Take Statement, concluding in accordance with section 7(b) (4) of the ESA, as amended, 16 U.S.C. § 1536(b) (4) (1994), that the killing or injuring of any bald eagle would be incidental to and not an intended consequence of the Project, and thus would not be prohibited by section 9(a) of the ESA, as amended, 16 U.S.C. § 1538(a) (1994). (FWS April 16 Letter at 9-11; FWS August 11 Letter at 1.) FWS specified monitoring measures to ensure that the future incidence of any taking was minimized, which BLM has, along with the proposed "conservation measures," incorporated in its ROD. (FWS April 16 Letter at 5-6, 9-11; ROD at 19, 24-25.) Based on its entire analysis, FWS concluded that the Project is not likely to jeopardize the continued existence of the species, or destroy or adversely modify its critical habitat. (FWS Letter at 8-10; see FWS August 11 Letter at 1.)

SMLC fails to demonstrate how BLM's BA is inadequate and we find no evidence to that effect. We find that BLM fully complied with section 7 of the ESA.

SMLC and PRT contend that BLM's decision to approve the Plan violates section 106 of the National Historic Preservation Act (NHPA), as amended, 16 U.S.C. § 470f (1994), because BLM failed to assess the adverse effects of allowing geothermal development on historic properties deemed eligible for inclusion in the National Register of Historic Properties (National Register) in consultation with the SHPO and ACHP. (SMLC SOR at 55-56, and PRT SOR at 46-69.) They assert that BLM failed to make a good faith effort to identify all historic properties within the Project area which might potentially be affected and to evaluate and determine whether they are eligible for inclusion in the National Register, thus compromising its ability to address whether and to what extent they might be adversely affected by the Project and whether and how such effects might be mitigated or avoided.

Section 106 of the NHPA requires a Federal agency to "take into account the effect of [a proposed Federal] undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register." 16 U.S.C. § 470f (1994) (emphasis supplied); see 36 CFR 800.1(a); United States v. Jones, 106 IBLA 230, 250-51, 95 I.D. 314, 325 (1988). In accordance with regulations implementing section 106 of the NHPA, such a review requires that the agency make a reasonable and good faith effort to identify all historic properties within the area potentially affected by the proposed undertaking, evaluate and determine whether identified properties are eligible for inclusion in the National Register, assess the adverse effects upon the identified properties deemed eligible, and develop and evaluate the means to mitigate or avoid such effects. ^{24/} 36 CFR 800.1(a), 800.4, 800.5, and 800.6; Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.2d at 805; Corridor H Alternatives, Inc. v. Slater, 166 F.3d 368, 370 (D.C. Cir. 1999); Pueblo of Sandia v. United States, 50 F.3d 856, 859 (10th Cir. 1995); FEIS I at 4-51.

Eligible historic properties may include "[p]roperties of traditional religious and cultural importance to an Indian tribe." 16 U.S.C. § 470a(d) (6) (A) (1994); see Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d at 805. Such a property is termed a "Traditional Cultural Property" (referred to herein as TCP). See FEIS I at 3-71 to 3-73; Pueblo of Sandia v. United States, 50 F.3d at 859-60 n.2.

^{24/} An "adverse effect" exists "when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." 36 CFR 800.5(a) (1); see FEIS I at 4-61.

The identification/evaluation of historic properties and subsequent analysis/mitigation of adverse effects is required to be undertaken in consultation with the SHPO and any Indian tribe that attaches religious and cultural significance to an historic property that may be affected by a proposed Federal undertaking. 16 U.S.C. § 470a(b) (3) and (d) (6) (B) (1994); 36 CFR 800.2(c) (1) and (3), 800.4, 800.5, and 800.6; Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d at 805. However, the role afforded to Indian tribes is for the purposes of consultation only: It does not imbue tribes with a final say in the decisionmaking process. See 36 CFR 800.2(c) (3). Thus, when the Federal agency and the SHPO, with the concurrence of the ACHP, agree on the mitigation of adverse effects, they alone are required, prior to agency approval, to execute an MOA which will govern the undertaking. 36 CFR 800.6(b) (2) and 800.6(c). In addition, when the MOA concerns historic properties located outside Indian tribal lands, the Federal agency may invite the Indian tribe that attaches religious and cultural significance to such properties either to execute or concur in the MOA. 36 CFR 800.6(c) (2) (i) and (c) (3). However, the refusal of that tribe to execute or concur in the MOA "does not invalidate the Memorandum of Agreement." 36 CFR 800.6(c) (2) (iii) and (c) (3). This is the situation here. (FEIS I at 1-26; Ethnographic Report at 35; ROD at 12, 16; MOA at 1-2; PRT SOR at 65.)

The FEIS contains an extensive analysis of the potential impact of geothermal development under the Project on cultural resources, including TCP's situated in the Project area. (FEIS I at 3-52 to 3-77, 4-51 to 4-81; FEIS III at 3-228 to 3-277.) BLM's study included talking with members and representatives of the Pit River and other Native American tribes, during initial scoping and continuing through preparation of the DEIS and FEIS and thereafter, prior to issuance of the ROD. (FEIS I at 3-64 to 3-73; ROD at 12, 22-24.) BLM thereby identified a total of 111 cultural resource sites, along with 34 TCP's, in the area of the well field and power plant and within 0.25 miles of the proposed and alternative transmission line routes, as a result of undertaking a "Class III" intensive survey in the area of the well field and power plant and a sampling survey along the transmission line routes. (FEIS I at 3-53 to 3-54, 3-57 to 3-63, 4-67.)

Based on its analysis, BLM concluded that, with the implementation of mitigation measures, the Project "will have no adverse impacts on surface and subsurface prehistoric and historic resources" and "w[ill] not result in physical surface disturbance effects at any of the 34 sites identified * * * as having traditional use or significance to American Indians." (FEIS I at 4-53, 4-66.) Further, BLM concluded that there would be no significant impact on any cultural resources, which meant that there would be no adverse effect on any resource considered eligible for listing on the National Register. (FEIS I at 4-52, 4-57 to 4-58; ROD at 6, 25.)

We find that BLM's action constituted a reasonable and good faith effort to identify historic properties, including TCP's. PRT fails to demonstrate that BLM's interviews and other contacts with members and representatives of Native American tribes did not comport with the directives of 36 CFR 800.4(a) (4) and (b) to "[g]ather information from any Indian tribe * * * to assist in identifying [historic] properties" and to identify such properties "in consultation with * * * any Indian tribe."

Such an effort may include "oral history interviews." 36 CFR 800.4(b)(1). The effort undertaken by BLM is distinguishable from the meager effort which the court found lacking in Pueblo of Sandia v. United States, 50 F.3d at 860-62. There is no convincing evidence that BLM failed to identify "all historic properties," including TCP's, within the area that might be affected by the Project.

PRT argues that there are "many unidentified [historic] sites" in the vicinity of the Project area. (PRT SOR at 68). There is no evidence that any TCP's were overlooked because field surveys (undertaken to document the physical features of already-identified TCP's) were performed during the winter, when snow blanketed the ground. Although PRT has had ample opportunity to visit the area when the ground has been clear, it has not identified any such TCP.

When it issued its July 16, 1999, eligibility determination concerning the Medicine Lake Area TCPD, NPS stated that there might be other eligible TCP's in the Medicine Lake Highlands, which might be identified in the course of further consultations with Native Americans. However, as noted, PRT has not identified any such property, despite the fact that BLM has engaged in the "additional consultation with * * * interested Native American groups" recommended by NPS. (NPS Notification at 1.) BLM cannot be faulted for not considering TCP's that have not yet been identified.

PRT notes that there was one identified cultural resource site that BLM did not formally evaluate for purposes of determining its eligibility for inclusion in the National Register. (PRT SOR at 57.) That site (apparently number P104H), located in the well field and power plant area, was found unlikely to be deemed eligible, since it corresponds to an area disturbed by a road, and thus was not formally evaluated. (FEIS I at 3-60, 4-53, 4-56.) PRT does not show how the site might be eligible for National Register designation under appropriate criteria (36 CFR Part 63). In any event, BLM concluded that the site is unlikely to be adversely affected by the Project, since it is located outside the area which will be subject to any new disturbance. (FEIS I at 4-53, 4-56.) Moreover, BLM determined that, even assuming that the site is eligible, it is not likely to suffer any adverse effects that BLM would have to consider mitigating or avoiding in accordance with 36 CFR 800.6(a). PRT has not effectively challenged BLM's treatment of that site.

PRT is correct that BLM did not during preparation of the FEIS fully survey the proposed and alternative transmission line routes for cultural resources, because it did not want to unnecessarily disturb such resources and also desired to avoid the expense of surveying routes that might not be selected. (PRT SOR at 50 (citing FEIS I at S-11).) Rather, BLM surveyed the routes, using a sampling method:

[A] total of 42 sample units were surveyed, distributed across the various transmission line segments and used to represent the transmission line alternatives * * *. The impact zone corridor is proposed to be 125 feet wide. Field reconnaissance

covered a wider strip than this impact zone. Each sample unit was 660 feet in length and 248 feet in width, and encompassed 3.75 acres each, resulting in coverage of a total of 182 acres. A representative variety of terrain and vegetation types were contained in each sample unit.

(FEIS I at 3-54.) Based on this sampling, BLM estimated the number of sites likely to be encountered along the entirety of each of the routes. Id. at 4-53 to 4-54. The survey approach comports with 36 CFR 800.4(b)(1), which provides that the required reasonable and good faith effort to identify historic properties "may include background research, consultation, oral history interviews, sample field investigation, and field survey." (Emphasis added.)

BLM required that, following selection of the final route, the sample survey will be expanded to encompass Class III intensive surveys along the entirety of that route before any construction or other surface-disturbing activity is undertaken. (FEIS I at S-11, 3-53 to 3-54, 4-53 to 4-58; FEIS IIII at 3-230.) It required that Calpine, using a qualified archaeologist, survey the selected route for cultural resources (both inside and outside the transmission line corridor) that might be affected by construction and other activity, and then to avoid or mitigate adverse impacts on any discovered resources. (FEIS I at 4-54 to 4-55, 4-57 to 4-58; FEIS III at 3-230; ROD at 19; MOA at 5-6.) Where cultural resources had already been identified and determined to be eligible, BLM required analysis/mitigation of adverse effects. (FEIS I at 4-55, 4-57 to 4-58; MOA at 5-6.) Where cultural resources cannot be avoided, BLM required that the site be evaluated for eligibility for inclusion in the National Register, followed by analysis/mitigation of adverse effects. (FEIS I at 4-54 to 4-55, 4-57 to 4-58; FEIS III at 3-230; ROD at 19; MOA at 5-6.)

With the exception of TCP's, however, it is clear that, at the time the FEIS was prepared and even later when the ROD was issued, BLM had not completed the process of identifying/evaluating specific historic properties within the Project area, for the purpose of determining their eligibility for inclusion in the National Register. 25/ Nonetheless, in the case of the well field and power plant area and sampled portions of the transmission line routes, BLM fully analyzed the likely adverse

25/ We note that the MOA, which was incorporated in the ROD, declared that the Medicine Lake Highlands would, as a whole, be considered eligible for inclusion in the National Register and that every specific location "of possible cultural importance" that had not yet been evaluated for eligibility would be considered eligible, either on its own or as a part of the Highlands. (MOA at 7.) Thus, the MOA seems to accord eligibility to every cultural resource site which has been or may later be identified along the selected transmission route. Be that as it may, what is important is that BLM, when it issued the ROD, had already provided for avoiding or mitigating adverse effects on such sites (MOA at 5) and cannot properly be faulted for failing to take those effects into account in considering whether to approve the Plan.

effects on all identified cultural resource sites, concluding that there will be no such effects, since the sites will, when necessary, be avoided. Thus, while BLM has not fully evaluated the eligibility of the sites, it has rendered such evaluation unnecessary by fully protecting the sites from any adverse effects. BLM provides that, before permitting any surface-disturbing activity, it will identify cultural resource sites along the selected route, and similarly protect them from any adverse effects. In those instances when it cannot afford such protection, BLM provides that it will identify/evaluate such sites, and analyze/mitigate adverse effects, thus complying fully with section 106 of the NHPA.

PRT argues that BLM was required to comply fully with section 106 of the NHPA before it issued the ROD: "Contrary to prevailing authority, [BLM] attempted an adverse effects determination without first identifying and evaluating" the eligibility of historic properties for National Register designation. 26/ (PRT SOR at 60; see id. at 46-47, 50-52, 54-55, 60-62, 67-69.) We do not agree. Regulation 36 CFR 800.4(b)(2) provides that a Federal agency may, in an ROD, "defer final identification and evaluation of historic properties" in the case of alternatives which involve corridors or large land areas, so long as it initially establishes the likely presence of historic properties within the area potentially affected by each alternative and then proceeds with final identification/evaluation, followed by analysis/mitigation of adverse effects, once the specific aspects or locations of the alternative are refined. 27/ See 64 FR 27064 ("This new section is * * * intended to provide Federal agencies with flexibility when several alternatives are under consideration and the nature of the undertaking and its potential scope and effect has therefore not yet been completely defined"). It is intended to "encourage more cost-effective approaches to survey and identification," by allowing Federal agencies to "make preliminary decisions on alternative locations or alignments without having to conduct the more intensive identification efforts necessary to deal with the final design and siting of a project." 64 FR 27060. That is what BLM did here, in the case of the proposed and five alternative transmission line corridors. It determined the likely

26/ PRT also indicates that BLM was required to comply fully with section 106 of the NHPA before it issued the FEIS. (SOR at 56.) We find nothing in the applicable law or Muckleshoot, cited by PRT, supporting that requirement.

27/ Noting only that it was promulgated in 1999, PRT asserts that 36 CFR 800.4(b)(2) "does not apply to the Project." (PRT SOR at 63 n.25.) Although the regulation was promulgated after the FEIS was issued, it was effective before the Field Manager issued his ROD in 2000. 64 FR 27074 (May 18, 1999). Accordingly, BLM was authorized to defer final identification/evaluation of other historic properties along the transmission line corridors until after the ROD was issued. The fact that BLM may rely on the regulation to defer final identification/evaluation of historic properties distinguishes the instant case from Romero-Barcelo v. Brown, 643 F.2d 835, 858-60 (1st Cir. 1981), rev'd on other grounds, 456 U.S. 305 (1982), which was decided before the regulation was promulgated.

presence of historic properties in the corridors, but deferred the final identification/evaluation of historic properties until after it had issued the ROD, selecting a particular corridor. (FEIS I at 4-53 to 4-58; ROD at 19; MOA at 5-6.) It thus issued its preliminary decision on the Project, providing that a Class III intensive survey along the selected route would be undertaken before the necessary permits, rights-of-way, and other authorizations were finally issued.

PRT argues that its contention that BLM violated section 106 of the NHPA by failing to complete the process of identifying/evaluating historic properties along the proposed and alternative transmission line routes, prior to issuing the ROD, is supported by the court's decision in Corridor H Alternatives v. Slater, *supra*. (PRT SOR at 67-68.) We disagree. In that case, the Federal Highway Administration (FHWA) was specifically required by section 4(f) of the Department of Transportation Act, 49 U.S.C. § 303(c) (1994), to determine whether a proposed highway project must use land on which there is an historic property deemed eligible for inclusion in the National Register and to minimize any harm thereto, thus requiring the agency to first determine whether any such property was situated on land proposed to be crossed by the highway. 166 F.3d at 370-71. Furthermore, the FHWA was required, by regulation, to make its section 4(f) determination, at the latest, in the ROD. *Id.* at 372-74. Accordingly, in the circumstances of that case, the FHWA was required to identify/evaluate historic properties potentially affected by the highway project at least by the time it issued its ROD. The Court found that the agency had failed to do so, and had thus not satisfied section 4(f). *Id.* at 371-72, 374. However, it was plainly not section 106 of the NHPA, but rather section 4(f) and its implementing regulations, which required identification/evaluation of historic properties by the time the ROD was issued. For that reason, we find no support in Corridor H Alternatives for the proposition that section 106 of the NHPA, by itself, requires the identification/evaluation of historic properties no later than issuance of an ROD.

The record amply demonstrates that, before issuing the ROD, BLM properly took into account the effect of the Project on historic properties which are eligible for inclusion in the National Register. 16 U.S.C. § 470f (1994). In any event, it must be remembered that the ROD is not the end of the process, so far as the authorization of surface-disturbing activity is concerned. Rather, it is clear that such activity must await the further issuance of the necessary permits, rights-of-way, and other authorizations by BLM and USFS. It is undoubted that the entire section 106 process must be completed before a Federal agency approves the expenditure of Federal funds on or issues a license for a Federal undertaking. 16 U.S.C. § 470f (1994); 36 CFR 800.1(c). Thus, both BLM and USFS have until they issue the specific authorizations to complete the section 106 process. To hold that BLM has violated the statute at this point would be premature.

PRT asserts that BLM failed to afford the ACHP a reasonable opportunity for informed consultation, as required by section 106 of the NHPA. (PRT SOR at 62-63 (citing Pueblo of Sandia, 50 F.3d at 862).) We disagree.

The SHPO and ACHP are both signatories to the MOA, thereby agreeing that, upon implementation of the MOA, BLM will be deemed to have afforded the ACHP that opportunity, and further that BLM has properly taken into account the effects of the Project on historic properties. See 36 CFR 800.6(c).

PRT contends that BLM failed to fulfill its duty, under section 101(d)(6)(B) of the NHPA, as amended, 16 U.S.C. § 470a(d)(6)(B) (1994), and 36 CFR 800.2(c)(3), to consult with Indian tribes, in a manner respectful of tribal sovereignty and mindful of the government-to-government nature of the relationship. The record does not support such a contention. BLM has already consulted and now provides for continuing consultation during Project implementation. (FEIS I at 1-26 to 1-27; ROD at 12, 22-24; MOA at 5, 7.) The fact that BLM did not adopt the recommendations of a Native American tribe does not establish that the tribe's concerns were ignored, or that the preceding consultation was not generally "meaningful," as PRT alleges. (PRT Reply at 20.)

Beyond consultation, there is no evidence that the statute or its implementing regulations require BLM to obtain an Indian tribe's concurrence before engaging in a Federal undertaking, or provide any Indian tribe with a veto power over any such undertaking. See PRT SOR at 64; United States v. Jones, 106 IBLA at 251, 95 I.D. at 325. Rather, the principal aim of section 106 of the NHPA is, in consultation with the SHPO, ACHP, and relevant Indian tribes, to seek to accommodate historic preservation concerns with the needs of Federal undertakings. 36 CFR 800.1(a). Thus, the fact that an Indian tribe is dissatisfied with BLM's identification/evaluation of historic properties and/or analysis/mitigation of adverse effects, or that it opposes the Project because it believes the Project will severely impact a sacred, traditional area, does not establish a violation of section 106 of the NHPA.

PRT argues that USFS and BLM failed to comply with Executive Order (EO) No. 13007 (61 FR 26771 (May 24, 1996)) ("Indian Sacred Sites"). PRT argues that the Solicitor has held that EO No. 13007 directs BLM to adopt a policy choice "in favor of preserving the physical integrity of [such] sites unless such a choice is impracticable, forbidden by law, or clearly inconsistent with essential agency functions." (PRT SOR at 85, Ex. 39 (Memorandum to Secretary from Solicitor dated Dec. 27, 1999) at 6.) We find no evidence here that any sacred sites will be destroyed or their physical integrity otherwise adversely affected. (PRT SOR at 85.) We do not find sufficient PRT's reference to statements in the record concerning unmitigated impacts of Project activities (SOR at 86 (citing FEIS I at 4-54 to 4-55)), since it is clear that BLM provides for the protection and, if necessary, recovery of any cultural resources discovered during Project implementation, thus ensuring that, following mitigation, there will be "no adverse impacts on surface and subsurface prehistoric and historic resources." (FEIS I at 4-53; see FEIS I at 4-55 to 4-57, 4-66 to 4-68, 4-79 to 4-81; ROD at 11, 15.) PRT's assertions that mitigation will be inadequate are unsupported.

PRT also charges a violation of EO No. 12898 (59 FR 7629 (Feb. 16, 1994)), "Federal Actions to Address Environmental Justice in Minority

Populations and Low-Income Populations"). We find no evidence, however, that BLM failed, as required by the EO, to identify and address any disproportionately high and adverse environmental effects of the Project on a minority and low-income population. 59 FR at 7629. We will not find such a violation merely based on the fact that, by approving the Project, BLM permits unavoidable significant impacts on the traditional religious and other cultural use of the Medicine Lake Highlands by Native Americans to occur. See PRT SOR at 84 (citing FEIS I at S-30 to S-36). Rather, BLM's efforts, in consultation with the Native American tribes, to identify all of the impacts on such use of the Project area and the Highlands generally, including the corresponding effects on this minority and low-income population, and then to adopt measures, where possible, to mitigate such impacts, are all that is required by the EO. See FEIS I at 4-59 to 4-81, 4-296 to 4-297; ROD at 11-13, 15-16, 22-25; MOA at 1-2, 4-7.

It does not contain anything which might be construed as a substantive prohibition or limitation on the Project.

BLM has an obligation to consider the impacts of its actions on the property and other interests of Native Americans. However, it is not precluded from approving the Project at issue here by virtue of the Department's fiduciary obligation to Native American tribes, as alleged by PRT. (PRT SOR at 87-89 (citing Seminole Nation v. United States, 316 U.S. 286, 296-97 (1942), and Pyramid Lake Paiute Tribe of Indians v. U.S. Department of Navy, 898 F.2d 1410, 1420 (9th Cir. 1990).)) BLM must consider the impacts of its actions on tribes in light of its competing responsibilities:

[A]lthough the United States does owe a general trust responsibility to Indian tribes, unless there is a specific duty that has been placed on the government with respect to Indians, this responsibility is discharged by the agency's compliance with general regulations and statutes not specifically aimed at protecting Indian tribes.

Morong Band of Mission Indians v. Federal Aviation Administration, 161 F.3d 569, 574 (9th Cir. 1998); see Pyramid Lake Paiute Tribe of Indians v. U.S. Department of Navy, 898 F.2d at 1421; Northern Cheyenne Tribe v. Lujan, 804 F. Supp. 1281, 1285-86 (D. Mont. 1991). We hold that, by complying fully with the applicable statutes and regulations at issue here, including taking into account the potential impacts on Native Americans, BLM fulfilled its fiduciary obligation.

PRT contends that BLM's decision to approve the Plan violates sections 17 and 24 of the Geothermal Steam Act of 1970 (GSA), 30 U.S.C. §§ 1016 and 1023 (1994), and its implementing regulations, 43 CFR 3260.11, 3262.11(a), 3270.11, and 3275.12(a). PRT contends that these provisions require BLM to ensure that authorized development and utilization of geothermal resources comport with principles of multiple use of Federal lands and resources and protect air and water quality, cultural resources, and other aspects of the human environment. (SOR at 82-84.)

Nothing in the portions of the statute or any of the implementing regulations cited by PRT specifically requires BLM, when deciding whether to authorize development and utilization of geothermal resources, to preclude or curtail a lessee's right to develop its leased geothermal resources. Rather, the cited statutory and regulatory provisions simply require a lessee, when undertaking approved operations, to endeavor to accommodate other land uses and to protect aspects of the human environment. See 43 CFR 3261.3(a) (1997). Accordingly, we agree with PRT that the statute does not confer on lessees an "unconditional right to develop geothermal resources" with little or no regard for anticipated impacts on the quality of the human environment and other land uses. (PRT SOR at 82.) As part of BLM's mandate, it is required by various statutes, including section 102(2)(C) of NEPA and section 106 of the NHPA, to consider such impacts, so as to achieve an appropriate balance, recognizing that resource development is likewise considered to be in the public interest. Thus, BLM must afford a lessee its "implied right to reasonable * * * land use for development," but do so in a manner which "assure[s] reasonable compatibility of any proposed utilization with other authorized uses and resource values of the land." 43 CFR 3250.0-6 (1997). We think that BLM has fulfilled that aim through its FEIS and ROD.

SMLC contends that BLM's decision to approve the Plan, specifically authorizing the issuance of rights-of-way for electrical transmission lines and pipelines across National Forest lands for use in conjunction with the Project, violates the requirement of section 501(a) of FLPMA, as amended, 43 U.S.C. § 1761(a) (1994), that rights-of-way be "in the public interest." (SOR at 57.) It argues that BLM's failure to comply with NEPA and the other Federal statutes at issue here, by conducting the required studies before taking such action, renders these rights-of-way not in the public interest. The approval of the Plan did not result in the issuance of rights-of-way. Any decision to grant rights-of-way across National Forest lands will be a decision of USFS, not BLM. Thus, the Board does not have jurisdiction to review the propriety of that action. Sierra Club (On Judicial Remand), 80 IBLA at 269.

The appeals by Calpine and CalEnergy object to the manner in which BLM has chosen to permit geothermal development activity in the Medicine Lake Highlands.

Calpine and CalEnergy both challenged the ROD to the extent that it imposed a moratorium on further geothermal development in connection with their Federal geothermal resource leases elsewhere within the Glass Mountain KGRA for a minimum of 5 years but possibly indefinitely. (Calpine SOR at 15-17; CalEnergy SOR at 10-17.) On June 28, 2001, BLM, through counsel, notified this Board that it had issued a decision rescinding the moratorium. BLM accordingly requested that the appeals of Calpine and CalEnergy be denied as moot. On July 30, 2001, Calpine and CalEnergy responded, indicating that they do not oppose the BLM notification and, presumably, BLM's motion to dismiss. 28/ As BLM wishes to

28/ Calpine expressly reserved its position and arguments that the moratorium is a breach and taking of its lease property rights. Such

withdraw the decision being appealed, and as we hereby vacate that portion of BLM's decision, there is no further relief that we can grant to Calpine and CalEnergy. Accordingly, the appeals of Calpine and CalEnergy from the imposition of the moratorium are hereby dismissed as moot.

Calpine also challenges various terms and conditions imposed on its activities by the Field Manager's May 2000 ROD. It argues that these "onerous" terms and conditions go beyond what was incorporated in the mitigation plan addressed in the FEIS and that such terms were adopted without Calpine's consent, are without legal authority, and violate its lease rights to develop and utilize geothermal resources by "substantially encumber[ing] Project economics, financing, and practicality of operations." (Calpine SOR at 14.)

Calpine objects to the requirement in the ROD that it establish a public oversight group. (SOR at 17-18.) Such group is intended to "review monitoring data and Calpine's * * * compliance with various impact thresholds established in the FEIS" during Project implementation and (presumably) offer comments drawn from such review. (ROD at 2.) Although the make-up and exact functioning of the group is not specified, we find nothing indicating that it has any authority regarding actual implementation of the Project. We cannot agree with Calpine that by establishing that group BLM has "abdicate[d] its lease administration and oversight responsibilities." (Calpine Reply at 6.) Rather, primary responsibility for such review still resides in BLM and USFS. (FEIS I at 5-2.)

There is no evidence that establishment and operation of the group will violate the procedural and other requirements of the Federal Advisory Committee Act, as amended, 5 U.S.C. App. (1994), as alleged by Calpine. (Calpine SOR at 17-18.) BLM states that it will comply with that statute. (Answer at 8; see Letter to Calpine from Field Manager, dated June 16, 2000.) To the extent any specific action violates that Act, it can be addressed at the time it occurs.

Calpine objects to provisions in the ROD for the mitigation of significant adverse impacts during Project implementation on Native American land uses and values in the Medicine Lake Highlands, which impacts might result from the intrusion of unnatural improvements into a natural setting in which traditional religious and other cultural practices occur. (SOR at 18-34.) Specifically, Calpine challenges the ROD provision

fn. 28 (continued)

argument can be raised in connection with any future decision reimposing any moratorium.

We note that BLM had no authority to rescind the moratorium, as Calpine and CalEnergy's appeal of the decision imposing the moratorium had removed BLM's authority to take further action on the matter during the pendency of their appeal. See James C. Mackey, 96 IBLA 356, 362-63, 94 I.D. 132, 135-36 (1987). In these circumstances, it is appropriate to treat Calpine and CalEnergy's non-opposition to the motion to dismiss as a motion to vacate that part of BLM's decision that imposed the moratorium, and to grant that motion.

requiring BLM to consult with Native American tribes to identify additional measures to mitigate such impacts. (SOR at 19-20.) Calpine also objects to the requirement in the ROD that such impacts be mitigated in accordance with provisions of the MOA. Three MOA provisions are challenged: Establishment of an "Historic Properties Management Program" (HPMP) for the Medicine Lake Highlands; providing for compilation of an "Environmental Quality Assurance Plan" (EQAP); and providing for the specific resolution of certain effects of the Project. Id. at 21-34.

The ROD/MOA does set forth additional measures for mitigating significant adverse impacts of the Project on Native American land uses and values which were not specifically addressed in the FEIS and were adopted without Calpine's consent. Calpine's due process rights are fully protected by its right to appeal the imposition of additional measures to this Board. The ROD provides that BLM will consult with Native American tribes during Project implementation to identify additional mitigation measures that will minimize significant impacts on Native American use of the Highlands. (ROD at 15.) However, there is no suggestion that any such measures will be imposed on Calpine without the opportunity for obtaining administrative review before final imposition.

For example, Calpine admits that the ROD does not state how the HPMP Program will apply to the Project. Nevertheless, it fears that incorporation of the HPMP subjects it to the "risk of Project operations being subjected to renewed evaluations, review, delay, and imposition of additional terms and conditions based on redefinition of Highland values, boundaries, and cultural value preservation and enhancement mechanisms." (SOR at 23, 24.) The HPMP has yet to be developed and will principally identify mechanisms for generally preserving and enhancing the cultural values of the Highlands. As such, it is designed to guide future BLM decision-making regarding proposed geothermal development and other proposed activity elsewhere in the Medicine Lake Highlands. (MOA at 3.) BLM concedes that, when and if the HPMP is developed and brought to bear in any future proposed decision-making, Calpine or any other affected lessee may object in accordance with the procedure for raising objections set forth in the MOA and may bring an appropriate appeal from any resulting adverse BLM decision, pursuant to 43 CFR 4.410(a). (MOA at 8; BLM Answer at 9.) Since Calpine has not been adversely affected thereby, the appeal from that part of the ROD requiring establishment of an HPMP is properly dismissed as premature. See 43 CFR 4.410.

The EQAP is designed to contain only those mitigation measures and other requirements already imposed on Calpine. (ROD at 25.) We find no indication that the mere compilation of such measures will result, as argued by Calpine, in the imposition of "further or refined terms and conditions," whether or not adverse to its lease rights. (Calpine SOR at 23.)

Additional measures adopted in the MOA for mitigating certain effects of the POO are presently vague and do not require specific action. 29/ As things develop, those measures may or may not adversely affect Calpine, depending on the actual course of Project implementation. We will not merely assume that such mitigation will be at variance with Calpine's lease rights. Calpine is required by its leases to "minimize[] adverse impacts * * * to cultural * * * and other resources, and to other land uses or users." (Calpine SOR at 13, quoting from Lease.) The additional measures imposed by BLM are consistent with that provision. If, in implementation, they exceed BLM's authority or otherwise illegally restrict Calpine's rights, they can be challenged at that time.

We note the MOA provision requiring Calpine to establish a fund for reimbursing Native American tribes for work they undertake in connection with implementing the monitoring and mitigation measures spelled out in the MOA, as well as developing and implementing the HPMP. See SOR at 26-28 (citing MOA at 6). Although Calpine is not generally adverse to funding such efforts, it objects to this "open-ended" provision. (Calpine SOR at 27.) We find no specific legal authority for this funding requirement in Calpine's leases, the underlying statute, or the regulations. Nonetheless, Calpine has not shown us legal authority precluding BLM from imposing such a requirement as a condition to its approval of the Plan. Since BLM has the authority to require, as a condition of its approval, that adverse cultural impacts be mitigated, it follows that it has the authority to ensure that such efforts receive the funding which is necessary to their implementation. We need not, however, adjudicate this provision at this time since it has yet to have any adverse effect on Calpine. See 43 CFR 4.410(a); Laser, Inc., 136 IBLA 271, 274 (1996); Powder River Basin Resource Council, 124 IBLA 83, 89 (1992). Calpine must await a BLM decision specifically requiring it to place money into the fund. We agree that, at that time, BLM should have "much better delineated [the funding] with reasonable limits and accountability," thus ameliorating Calpine's concerns. (Calpine SOR at 28.)

In addition, Calpine objects to the MOA provision requiring it to post a surety in an amount sufficient to cover not only the costs of site

29/ For example, BLM must ensure to the maximum practicable extent, that Project activities are inaudible at each location identified, in consultation with Native American tribes and others, as a location where natural quiet is important to tribal cultural use; and that the visibility of Project activities is eliminated or minimized at each location identified, in consultation with Native American tribes and others, as a location where seeing such activities or their byproducts may impact tribal cultural use. Further, BLM must ensure the treatment of specific archaeological sites for the purpose of data recovery when they cannot be fully protected; the "appropriate revegetation" of disturbed lands, using plants selected in consultation with Native American tribes; and the restoration of affected lands to a "natural condition," in consultation with Native American tribes. BLM is required to establish and implement a "strict" program of monitoring mitigation efforts, affording Native American tribes and the SHPO every opportunity to participate in monitoring. (MOA at 4-6.)

reclamation (including well plugging and abandonment, power plant, transmission line, and pipeline removal, and site restoration), but also the costs associated with restoring the affected lands to a "natural condition." (SOR at 28-29 (citing MOA at 6-7).) It appears that a reclamation bond which also contains an amount sufficient for restoration to natural condition will exceed the minimum amounts specified in 43 CFR 3261.18(a) (drilling operations) and 3273.19(a) (utilization operations). See 43 CFR 3214.13. However, such additional amount can be justified on the basis that it is necessary to fully cover the allowable costs to reclaim the surface and/or to comply with the specific conditions of BLM's approval of drilling and utilization operations, as properly determined by BLM in accordance with 43 CFR 3214.14. See 43 CFR 3214.12 ("Your bond must cover * * * [r]eclamation of the surface * * * [and] [c]ompliance with the requirements of 43 CFR 3200.4"). We thus agree with BLM:

BLM does not agree that * * * bonding [necessary to cover the costs of restoring affected lands to natural condition] is over and above that required by the regulations. * * * [BLM] is not imposing additional extra-lease requirements on * * * Calpine, but merely requiring it to comply with final reclamation of the site, as contemplated by the leases, secured by a bond, and as determined necessary by lessor.

(Answer at 10-12.) Again, once BLM requires a reclamation bond which includes a specified additional amount, Calpine may appeal such decision. Laser, Inc., 136 IBLA at 274.

In summary, we conclude that, in the absence of any showing that BLM violated section 102(2)(C) of NEPA in the course of its review of potential environmental impacts or otherwise acted contrary to applicable law, the Field Manager, in his May 2000 ROD, properly approved Calpine's Plan of Operations for the Fourmile Hill Geothermal Development Project. That ROD is affirmed.

Except to the extent that they have been expressly or impliedly addressed in this decision, all other errors of fact or law raised by any of the appellants have been considered and rejected.

Accordingly, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the appeals of SMLC and PRT are dismissed to the extent they challenge issuance and extension of the leases at issue here (CACA-21924 and CACA-21926); the May 31, 2000, ROD of the Field Manager, approving Calpine's Plan of Operations for the Fourmile Hill Geothermal Development Project, is vacated to the extent that it imposed a moratorium on further geothermal leases and the appeals of

Calpine and CalEnergy are dismissed in part as moot to the extent that they challenged that moratorium; and that ROD is affirmed to the extent that it approved Calpine's POO for the Project.

David L. Hughes
Administrative Judge

I concur:

Bruce R. Harris
Deputy Chief Administrative Judge