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February 1, 1990

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Dr. Allan Marmelstein
William Meyer
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Vicki H. Tsuhako
Colonel F. S. Wanner

[Addresses are listed in the Appendix]

Re: Hawaii Geothermal Plant/Inter-Island Cable Project

Dear Sirs and Madam:

I am writing this letter to each of you as the designated representatives of the nine federal agencies that are currently participating in the 500 megawatt geothermal plant\inter-island cable project in Hawaii. I am an attorney with the Sierra Club Legal Defense Fund in Honolulu and represent the following three non-profit environmental organizations: Sierra Club, Blue Ocean Preservation Society and Greenpeace Hawaii.

We have been following the development and progression of the Hawaii geothermal plant/inter-island cable project with great interest. As you know, the project's goal is to harness the geothermal resources in the Kilauea Rift Zone on the island of Hawaii and transmit the resulting electricity to Oahu (with a possible 50 megawatt power tap on Maui) via an inter-island cable. It is the largest and most complex development project of any kind ever undertaken in Hawaii. As explained in detail below, there is extensive federal participation in all aspects of this project,

including financing, planning and permit issuance. This direct participation triggers the need for a federal Environmental Impact Statement ("EIS") under the National Environmental Policy Act of 1969 ("NEPA"). Unfortunately, however, your agencies have failed to initiate the federal EIS procedures.

The purpose of this letter is to request that you immediately commence the federal EIS process for this project. If you fail to do so by March 5, 1990, our clients have directed us to file a lawsuit in federal district court to compel your compliance with NEPA. We will also apply to the Court for a moratorium on all further federal involvement with the project until an EIS is done. Although NEPA does not require that we give any notice before a NEPA lawsuit is filed, we are sending this 30-day courtesy notice to give the involved agencies one last opportunity to comply with their NEPA obligations.

GENERAL PROJECT BACKGROUND

In the early 1980s, the federal and Hawaii state governments began jointly pursuing development of this geothermal project. The state enacted laws granting favorable excise tax treatment to sellers of geothermal energy, designating geothermal subzones for development purposes, and granting agency authority to set geothermal royalty rates. In conjunction with these state actions, the U.S. Department of Energy began providing funding for research, design, construction and routing of an undersea cable specifically designed to transmit geothermal-based electricity from the Big Island to Oahu.

In 1988, to hasten the geothermal energy development process, the Hawaii state legislature enacted "The Geothermal and Cable System Development Permitting Act" ("the 1988 Act"), codified at H.R.S. §§ 196D-1, et seq. This Act envisions a 500 megawatt geothermal project with two interrelated parts: (1) construction of twenty geothermal power plants (with wells, steam gathering systems, converter stations and transmission lines) on the Big Island, and (2) an inter-island deep water electrical transmission cable system (with overland portions on Maui and Hawaii) for transporting the resulting electrical energy to Oahu. The 1988 Act also streamlines the governmental approval and permit process to bring the project to fruition more quickly.

It is undisputed that the cable and geothermal plant portions of the project are inextricably intertwined. The Hawaii state legislature stated in the 1988 Act as follows:

> (6) The development of such a cable system will not be undertaken without the firm assurance that a sufficient amount of geothermally generated electric energy will be continuously available to be transmitted through a cable system once it becomes operational;
>
> (7) The fundamental interrelationship between the development of geothermal resources and a cable system and the magnitude of the cost to undertake each of these developments clearly indicate that neither will be undertaken without the firm assurance that the other also will be undertaken in a synchronized and coordinated manner to enable both developments in substance to be completed concurrently, ... (H.R.S. § 196D-2(6) and (7); emphasis added.)

This policy statement linking the two major project components has been repeated in countless other agency reports and documents. Indeed, in the September 29, 1988 meeting of the Interagency Group that is coordinating geothermal development (of which eight federal agencies are permanent members), the participants were told that the geothermal and cable aspects of the project were "inseparable, and so when we discuss the geothermal project we must include the cable as an integral portion of that project."

The Hawaii Department of Business and Economic Development ("DBED") prepared a Request for Proposals ("RFP") dated March 10, 1989 which solicited bids from private companies to prepare a master development plan. The RFP states that 500 megawatts of power should be developed from the geothermal resources, envisions that a master plan be completed by March 31, 1990 and targets May-October 1990 for preparation of a draft version of a state EIS. After receiving bids, DBED chose ERC Environmental and Energy Services Company ("ERC") to prepare the master plan.

The master development plan process is moving forward quickly and should be completed by March 31, 1990. ERC held public informational meetings in November 1989 (which, unfortunately, did not allow for any substantive question and answer interaction between the public and planners). ERC is now completing its internal "working group" meetings and finalizing the master plan

document. Preparation of the state EIS will begin in April or May 1990.

At the same time, Hawaiian Electric Company ("HECO") has published an RFP for a private sector entity to finance, develop, own and operate the overall project. Five international consortia responded to the RFP and HECO reportedly has just chosen a winning bidder. The estimated cost to finance the complete project is in the range of $1.75 billion to $4 billion. HECO has agreed to buy up to 500 megawatts of "competitively priced" electric power produced by the project. It is anticipated that large federal subsidies, loans, and loan guarantees will be necessary to make the project financially feasible for private investors.

FEDERAL PROJECT PARTICIPATION

The federal government has been and will continue to be closely involved in all phases of this project. In the September 29, 1988 meeting of the Interagency Group, Gerald Lesperance (Alternate Energy Analyst with DBED) noted: "The ongoing geothermal program has been a combined federal/state effort." Federal participation includes direct financial assistance, direct planning and coordination of the project, and issuance of many federal permits, certifications, reviews and approvals. Each of these areas will be discussed briefly below.

A. Financial Participation

Since 1981, the U.S. Department of Energy ("DOE") has contributed approximately $27 million to the Hawaii Deep Water Cable Program. The federal money has been used not only for research, manufacture, testing and deployment of the special cable needed for this project, but also to choose ocean routes for the submarine cable and to study bottom conditions along the routes. This cable will be the longest and deepest cable laid to date anywhere in the world because of the depth of the ocean floor and distances between the islands. At the present time, a new cable has been designed, has undergone laboratory testing and, most recently, has undergone at-sea tests with approximately $4 million in DOE funds.

DOE is now about to contribute another $15 million in federal funds for research and development activities at the geothermal plant sites on the Big Island. This request was discussed at the

hearing on national energy strategies held by DOE in Honolulu on January 11, 1990. Specifically, these funds are to be used for surface and aerial exploration surveys, drilling of both observation and full-diameter, deep-exploration wells, and other activities designed to further private sector interest in the 500 megawatt project. DBED has also asked the state legislature to appropriate $3 million which will be used to "better attract federal funding."

B. Federal Participation In Planning

Federal and state agencies have played a major role in developing and guiding this project. The 1988 Act sets up an "Interagency Group" (initially composed of representatives of involved state and county agencies) to shepherd the project along by consolidating tasks, speeding approvals and streamlining permit procedures. H.R.S. § 196D-6. The 1988 Act directs the group to "invite and encourage the appropriate federal agencies having jurisdiction over any aspect of the project to participate in the interagency group." H.R.S. § 196D-6(a). Further, the 1988 Act suggests joint preparation with the federal agencies of any necessary environmental impact statements.

As you know, eight federal agencies have formally joined the Interagency Group as permanent members. The list of federal agency members and their designated representatives (according to the Group's records) is as follows: U.S. Army Corps of Engineers (Colonel Wanner), U.S. Pacific Fleet (Admiral Jeremiah), U.S. Coast Guard (Rear Admiral Kozlovsky), Environmental Protection Agency (Vicki H. Tsuhako), U.S. Geological Survey (William Meyer), U.S. Fish & Wildlife Service (Allan Marmelstein), National Park Service (G. Bryan Harry), and National Marine Fisheries Service (John Naughton).

The Interagency Group is the key coordinating body for the full 500 megawatt project. As William Paty, Chairperson of the state Board of Land and Natural Resources, told the Group in a meeting on September 29, 1988: "It is this group that can make the geothermal project happen." In the last year, the Group (through its staff from DLNR and DBED) has formulated a set of state administrative rules for geothermal plant and cable development permitting and is attempting to consolidate the permit approval process. It has received written comments and input from each of the eight federal agency members and is moving quickly to push this project forward.

C. Federal Permits, Certifications, Approvals and Reviews

The third major area of federal participation is in permitting/approvals/consultations/reviews for various aspects of the project. During the project's life, the following activities under federal environmental laws will become necessary:

1. A section 404 permit under the Clean Water Act (33 U.S.C. § 1344) must be issued by the U.S. Army Corps Of Engineers ("Corps") for discharge of dredged or fill material for the project. Other federal agencies -- including the Environmental Protection Agency ("EPA"), U. S. Fish and Wildlife Service ("F&WS") and National Marine Fisheries Service ("NMFS") -- must review and provide recommendations concerning the permit.

2. Permits under sections 9 and 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §§ 401 and 403) must be issued by the Corps for construction of structures (including cables) in navigable waters. Other federal agencies (such as NMFS and F&WS) also participate in this process.

3. Construction or operation of the geothermal plants will require state certification under section 401 of the Clean Water Act (33 U.S.C. § 1341). The state Department of Health ("DOH") and the Corps will participate in this certification.

4. The twenty geothermal power plants will each need to acquire discharge permits for their effluent under section 402 of the Clean Water Act (33 U.S.C. § 1342). The "closed cycle" design of the power plants will require use of large quantities of water for cooling and resupply due to evaporation. Although DOH will have permit issuance authority, federal agencies -- including EPA, Corps and F&WS -- will also review the permits.

5. Each of the geothermal plants will require three separate permits under the federal Clean Air Act: (1) an authorization to construct a potential air pollution source; (2) a permit to operate a potential air pollution source; and (3) a certificate of prevention of significant deterioration. (42 U.S.C. §§ 7401-7642.) Although DOH will issue these permits, other federal agencies (such as EPA) will also participate.

6. The project requires exemptions under the federal Marine Mammal Protection Act for takings of certain non-depleted stock of marine mammals. (16 U.S.C. §§ 1361, et seq.) These exemptions must be issued by NMFS (and possibly F&WS as well).

7. Since both the land and ocean portions of this project directly affect areas of occurrence and critical habitat for federally listed threatened or endangered species, the federal permitting agencies will be required to undergo mandatory consultation with F&WS and NMFS under section 7 of the federal Endangered Species Act (16 U.S.C. § 1536). Eleven listed threatened or endangered bird and mammal species occur along the proposed transmission cable corridors, and at least four threatened or endangered marine animals are impacted by the undersea cable.

8. A portion of the proposed transmission cable corridor on the Big Island is within the approach/departure zone of Bradshaw Airport and will require Federal Aviation Administration consultation and approval.

9. The project will require a permit for ocean dumping of dredged material from the Corps (in consultation with NMFS and concurrence by EPA) under section 103 of the Marine Protection Research and Sanctuaries Act of 1972 (33 U.S.C. § 1413).

10. The U. S. Navy will have to review and approve the route selection for the undersea cable and any other marine structures.

11. The project will require a federal coastal zone consistency certification by the Office of State Planning under section 307 of the federal Coastal Zone Management Act ("CZMA") (16 U.S.C. § 1456). Several federal agencies -- including the Corps and NMFS -- will participate in the CZMA process.

12. The U. S. Coast Guard must receive notification of (and probably approve) the location and manner of laying of the submarine cable.

13. The U. S. Geological Survey must receive notification to its Charting and Geodetic Services for the cable structures.

14. A permit for underground injection control will have to be issued under the Safe Drinking Water Act (42 U.S.C. §§ 300f et seq.). This permit will be issued by DOH, with review by EPA.

15. The project will need several permits (required by federal law) for treatment, storage and disposal of hazardous wastes, as well as for registration of underground storage tanks. DOH will have primary responsibility for these permits. However, under the applicable federal hazardous waste laws, EPA will be included in reviewing the permits.

16. The Federal Highway Administration must give approvals for all work or activities to be performed on interstate highways.

17. The Federal Energy Management Agency will have to examine the project under the federal floodplain regulations.

18. Under the Historical Preservation Act, all relevant federal permitting agencies will have to consult with the Advisory Council of Historic Preservation on whether the action will affect any site included or proposed for inclusion on the National Register.

In sum, this project involves permits or approvals under most of the federal environmental laws. Several of these permits standing alone -- such as the Corps' § 404 permit under the Clean Water Act -- are sufficient to trigger NEPA. When all of these permits and reviews are examined together, it is evident that federal involvement pervades every aspect of this huge project.

THE MANDATE OF NEPA

The National Environmental Policy Act of 1969 ("NEPA") requires that an EIS be prepared for any "major Federal actions significantly affecting the quality of the human environment..." 42 U.S.C. § 4332(2)(C). As you know, the Council on Environmental Quality ("CEQ") has published regulations that guide federal agencies in determining the applicability of NEPA. See 40 C.F.R. §§ 1501.1, et seq. CEQ's regulations state that an EIS "shall provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 40 C.F.R. § 1502.1.

There can be no dispute that the 500 megawatt geothermal plant/inter-island cable project is a "major federal action" for purposes of NEPA. It is the largest development project ever undertaken in Hawaii and is being actively funded, guided and permitted by many federal agencies. As noted above, the federal participation includes: (1) $27 million in project funding (with another $15 million now under consideration by DOE), (2) active project participation, planning and promotion through membership on the Interagency Group, and (3) many federal permits,

certifications and approvals by at least ten federal agencies under numerous federal statutes.

Further, it is clear that the project "significantly affects" the human environment. As you know, it involves construction and operation of twenty separate power plants in the eruptive zone of Kilauea (the world's most active volcano), together with geothermal wells (125-150 estimated), steam gathering systems, converter stations and roads. The Puna rain forest (one of the last tropical rain forests in the country) will be laced with hundreds of drill platforms connected by high-voltage electric lines, roads and pipes. The transmission cable will be laid across Hawaii and Maui and will require clearing corridors (because of the dangerous electromagnetic field generated by the cable) for installing the 100-foot high cable towers. These corridors will be located in parks, recreation areas, forest reserves and other significant natural areas. Construction of these facilities will involve degradation (allowing introduction of alien species) of native Hawaiian ecosystems and destruction of valued lowland tropical rain forest. Their operation will pose public health risks from poisonous hydrogen sulfide gas, possible blow-outs, induced seismicity from reinjection of waste brine, subsidence and the cable's electromagnetic field.

The ocean portion of the project will have an equally dramatic impact on the marine environment. Installation of the oil-filled cable will involve dredging of the ocean floor and construction on the coral reefs. During operation, this high-voltage direct-current submarine cable will be subjected to oscillating bottom conditions which will move and repeatedly abrade away its protective coating. This could lead to failure of the cable, draining of the oil within it, a major adverse impact on the marine environment and a very difficult repair job. In addition, the potentially high impact of the cable's electric and magnetic fields on marine life is not yet fully understood. The twenty power plants and associated facilities will involve large areas of development in the fragile coastal zone areas, with resultant nonpoint and point source pollution into coastal waters.

Thus, this massive project involves serious and irreversible impacts on our vulnerable environment. In recognition of this fact, the State of Hawaii is about to begin preparing an EIS. Given the pervasive federal involvement, the involved federal agencies must promptly conduct and prepare their own independent assessment of environmental risks, alternatives and mitigation measures in a federal EIS.

NEPA requires that this EIS be done at the earliest possible opportunity. The applicable CEQ regulations mandate that federal agencies begin the NEPA process "at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts." 40 C.F.R. § 1501.2. In fact, the EIS should be prepared "at the feasibility analysis (go-no go) stage." 40 C.F.R. § 1502.5. As a practical matter, once a project gains momentum, planning is advanced, designs are finalized and actual work begins, it becomes harder to modify, re-evaluate or halt the project. Thus, an EIS must be prepared at an early stage when alternative courses of action are still possible and environmental damages can be mitigated. E.g., Port of Astoria, Oregon v. Hodel, 595 F.2d 467, 478 (9th Cir. 1979); Sierra Club v. Marsh, 872 F.2d 497, 504 (1st Cir. 1989) (the risk implied by a violation of NEPA is that real environmental harm will occur through inadequate foresight and deliberation).

Not only must the NEPA EIS be started immediately, but it must cover both the power plant and cable portions of the 500 megawatt project. As discussed above, it is undisputed that these two project components are "inseparable" and will be developed together or not at all. Section 1508.25 of the CEQ regulations requires that an EIS consider "connected," "cumulative" and "similar" actions. A "connected" action is defined as a "closely related" action, including actions that "are interdependent parts of a larger action and depend on the larger action for their justification," and as actions that "cannot or will not proceed unless other actions are taken previously or simultaneously." 40 C.F.R. § 1508.25(a)(ii) and (iii). The regulations define "cumulative" actions as "actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same case." 40 C.F.R. § 1508.25(a)(2).

The geothermal plant/inter-island cable project fits squarely within these guidelines. The linkage between the cable and geothermal plants is so close that they must be viewed together. There is no reason to build the 500 megawatt plants unless the cable exists to transmit 100% of the resulting power to Maui and Oahu. There is no reason to lay the special deep water cable unless there is electricity being generated on outer islands for transmission to Oahu.

The Ninth Circuit (of which the Hawaii federal district courts are a part) takes a broad view on connected or cumulative projects. In the recent case of Save the Yaak Committee v. Block, 840 F.2d

714 (9th Cir. 1988), the Court held that the U. S. Forest Service had to consider in its EIS the impacts of the timber harvesting and feeder roads (connected actions), as well as of the main road reconstruction itself. Id., at 720. Accord, Thomas v. Peterson, 753 F.2d 765, 761 (9th Cir. 1985) (both the road and the associated timber sales had to be analyzed in an EIS); Port of Astoria, Oregon v. Hodel, 595 F.2d 467, 480 (9th Cir. 1979) (agency EIS should consider both the supply of federal power and the private magnesium plant that was to use it); Colorado River Indian Tribes v. Marsh, 605 F. Supp. 1425, 1433 (C.D. Cal. 1985) (EIS should consider not only stabilization of river bank but also private housing built as a result).

Hawaii District Court Judge David Ezra, sitting by special designation in Idaho, agreed strongly with these views in a recent decision. Morgan v. Walter, Civil No. 89-1233 (October 30, 1989). One of the issues faced by the court on a motion for preliminary injunction was whether a water diversion facility on a creek was sufficiently related to a fish propagation facility in an adjoining canyon (which the water was being used for) so as to require that the Corps and Bureau of Land Management consider them together in an EIS. Judge Ezra held that they were connected for NEPA purposes because the facility could not exist absent the diversion.

CONCLUSION

The geothermal plant/inter-island cable project is now poised at the "go-no go" stage: HECO has just chosen the private project developer; the master plan is almost complete; the cable design and testing are finished; the state and county agencies are ready to issue fast-track permits for all aspects of the project; and large amounts of federal and state geothermal plant development monies are about to be appropriated. Thus, now is the time for federal EIS preparation. By actively participating as a partner in the geothermal plant/inter-island cable project (and thereby injecting yourselves into its planning and financing), you have triggered the EIS mandates of NEPA. However, none of you have initiated the EIS process.

Unfortunately, there has not yet been any meaningful opportunity for public debate of the project's serious environmental, economic and social consequences. Nor has there been a thorough evaluation of important alternative measures such as a rigorous energy conservation program. The state's vigorous promotion of the project makes the outcome of the expedited state

EIS process a foregone conclusion. However, as you know, the federal EIS must independently scrutinize the impacts of the project. It must thoroughly review the alternative of not doing the project (the "no action" alternative), and thereby fully discuss energy conservation alternatives and Hawaii's realistic energy needs. It must lift the veil of secrecy over those aspects of the project that have not been disclosed and must permit full public participation in the EIS process. In short, it must determine whether we face an environmental and economic disaster (as now appears extremely likely) or a carefully planned, low-risk project.

Please notify us by March 5, 1990 that you will immediately begin the EIS process. You should publish a notice of intent to prepare an EIS in the Federal Register no later than March 31, 1990 and begin the scoping process immediately. If you do not do so, we will file a federal NEPA action and move the Court to enjoin any further federal participation until NEPA's EIS requirements have been satisfied.

I am sure you will agree that, regardless of whether one is "for" or "against" this mammoth project, it is important to disclose, analyze and publicly discuss all its environmental and economic impacts together with its viable alternatives. Under NEPA, you have responsibility to make sure that this formidable task is accomplished.

If you have any questions concerning this matter, please feel free to contact me.

Very truly yours,

Paul P. Spaulding, III

Paul P. Spaulding, III

cc: Governor John D. Waihee, III
William W. Paty, Jr.
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