SCOPING MEETING SUMMARY
Waimea, Hawai'i, 16 March 1992, 2 PM

Mary S. Quinby-Hunt
10 June 1992

OVERVIEW

The meeting began with presentations by the facilitator and the representative from DOE. The facilitator introduced those on the podium. He then described the general structure of the meeting and its purpose: to hear the issues and concerns of those present regarding the proposed Hawaiian Geothermal Project. He described his role as assuring the impartiality and fairness of the meeting. Dr. Lewis of DOE further defined the scope of the project, introduced those of the EIS team present and briefly described the EIS process.

A number of process issues were covered, including the current State dependence on imported petroleum (>90%), the public nature of the DOE EIS process, DOE's responsibility to consider general impacts to the global situation, and database availability. Dr. Lewis assured those present that the EIS would examine transmission system/cable-related impacts and alternatives to the proposed action, within geothermal and outside it (including coal), including different mixes of supply- or demand-side options on each island using an integrated resource planning approach. With respect to prior and on-going geothermal developments in Puna, Dr. Lewis explained that although DOE will not conduct new environmental reviews of the HGP(A) and other federal geothermal development in Puna, these and the present developments will be considered (including medical records) from the perspective of cumulative impacts.

Political Concerns. More than 60% of those present expressed political concerns including lack of trust in government, lack of concern by government, and skepticism regarding motives and resolve of government. U.S. actions, far more than words, help establish global policy. Thus, the EIS should consider the social and political implications of the message conveyed to the international community and at home, when it permits environmental degradation (including cutting of the rainforest) in the U.S. to support energy generation, and shows lack of respect for the cultural and ethnic resources of its citizens.

Alternatives. Fifty percent of those present requested that the EIS examine alternatives that are more cost-effective, renewable, more environmentally benign, socially acceptable, and renewable energy-supply alternatives. One commenter said that the HGP was the preferred alternative. The economics of the alternatives should be addressed thoroughly. This analysis should be compared with the costs of the "no action," or fossil fuel based alternative.

Nearly 40% expressed the opinion that the EIS should study the possibility that the State's, particularly the Big Island's, energy needs could be met with wind or solar power, including solar hot-water heating and

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conservation/energy efficiency. Commenters noted that solar hot water heating works well elsewhere, even in cool rainy regions, therefore it should work in Hawai'i, particularly with an electrical or gas (propane) backup. They suggested solar collectors or hot water heaters should be required on all new buildings, and suggested conservation measures.

As a major portion of imported fuels are used for transportation, the EIS should examine alternative transportation fuels, on-site or near-site employee housing, and alternative methods for interisland travel.

Purpose and Needs. More than 40% of the commenters questioned whether the HGP was necessary or would significantly contribute to achieving the goal of reducing Hawai'i's dependence on imported petroleum or energy sufficiency, noting that electricity is generated using the residuals from crude oil processed for transportation uses. They commented that if additional energy or energy self-sufficiency were very important, then serious attempts at using conservation or renewables should have been made. One commenter stated that Hawai'i should develop all indigenous energy supply options and believed that geothermal energy was the best way to meet the State's needs.

Resource and Project Reliability, Future Uses. As geothermal has not been shown to be a renewable source of energy, the EIS should identify and assess the impacts due to declining geothermal resources. Although geothermal power generation is a proven technology in some locations, the EIS should identify and assess the problems associated with constructing a geothermal facility on an actively erupting volcano.

The EIS should identify and assess the impacts of future uses developed as a result of the availability of geothermal power, including the consequences of resource decline [or other HGP-related failure] after growth has occurred. Future uses could include further development and industrialization on the Big Island, such as seabed minerals refining.

Affected Environment. Before assessing the impacts of the HGP, the hydrology of the Kilauea East Rift Zone should be understood and air quality measurements establishing background levels for the components of geothermal emissions need to be made.

Competing Uses. The commenters suggested that the EIS should consider the propriety of geothermal development in a residential neighborhood based on the prior experiences with geothermal development in Puna. In addition, the EIS should address the impacts of the HGP, particularly the transmission system, on water availability, recreational uses, and aviation and communications. DOE should scrutinize the complex regulatory situation with respect to land use and geothermal subzone designation.

Potential Environmental Impacts, particularly to Ecological Resources. More than 40% of those commenting said that the EIS should consider the short- and long-term implications of the impacts of the HGP, particularly the power transmission system, on local, State, national, and global ecosystems. Commenters noted that there should be no artificial separation of humans from the environment.

The EIS should address the concern that the HGP could further endanger or extinguish threatened and endangered species; and it should assess the impact of losing species on associated ecosystems: terrestrial (including rainforest), land-based aquatic, marine, or human ecosystems. The EIS should consider the impacts of HGP-associated herbicides on birds and animals. [Herbicides could also impact air and water quality, other terrestrial, marine, or aquatic life, and threatened and endangered species.]

Nearly 30% stated that the EIS should address impacts of the HGP on the last lowland tropical rainforest in the U.S and the organisms in it, including losses to education, science, and medicine. The EIS should examine the contribution of the rainforest to global climate stability.

About 40% of the commenters suggested that the EIS should identify and assess the impacts of the submarine cable on marine life and the seabed.

Aesthetic Impacts. The EIS should consider the aesthetic impacts of the transmission lines. One commenter mentioned that an above ground transmission line could pass through six or seven districts on Hawai'i, whose scenic beauty [as well as peace and quiet] would be disturbed.

Health and Safety Issues. The EIS should identify and assess the health and safety impacts of the HGP, particularly to children, pregnant women and those with respiratory illnesses. It should take into consideration prior experiences with the emissions of geothermal development in Puna, which include instances of respiratory distress and sleep deprivation.

The EIS should address the health and safety effects of the HGP high tension lines and transformers [including emf], and of the herbicides or other chemicals used to maintain the transmission lines. The EIS should assess the hazards of overland transmission lines, including the potential of increased fire danger and electrical hazards.

The EIS should address the concern that a major segment of power generation capacity is linked by a long, exposed, transmission connection to its load.

Economics. Nearly 40% of the commenters declared that the EIS should examine completely the economics

of the HGP and its economic impacts, including a complete analysis of the costs (past, present, and future) of the HGP to the taxpayers, rate-payers, and to the utilities. When estimating costs, the EIS should consider indirect costs and losses of the HGP, such as lowered property values, aesthetic impacts of the transmission line/submarine cable system, and costs of civil disobedience and lawsuits. The EIS should examine who benefits economically from the HGP and should the merits of the Big Island providing energy for the other islands.

The EIS should identify means to provide insurance for those whose property values (*etc.*) decline or are forced to move due to the HGP (referring to prior and on-going geothermal experience). If the transmission lines are to pass through North Kohala, the Kohala Ranch property owners want to know the costs of laying the transmission lines underground and who would pay.

Social Issues. Nearly 40% of those present raised social or socioeconomic issues. The EIS should address the impacts of the HGP on the lifestyles of residents of the Big Island. It should evaluate the social costs of HGP-related civil disobedience. One commenter noted that Hawai'i, which has largely service-related jobs has a low unemployment rate, whereas industrialized regions of the country are where the high unemployment occurs.

Native Hawaiian Issues. About 20% of those presenting said that DOE should respect the religion and rights of Native Hawaiians, and should address the concern that permitting the HGP will constitute desecration of Pele.

MEETING SUMMARY

Spiegel Presentation - Attachment A

DOE Project/Process Description - Attachment B

Process Discussions.

Oil Dependency Mr. Dennison asked what percent of State petroleum use was based on imported petroleum. Dr. Lewis stated that the latest number he had heard was 94%, but that with increased use of coal, the percentage would decline. One commenter noted that the coal is also from foreign sources.

Public Participation With respect to public participation, Dr. Lewis declared that the DOE EIS process is public, thorough, and scientific. He requested that all present review the implementation plan, draft EIS, and final EIS to assure that their concerns have been heard, understood, and addressed. The EIS will present a body of fact; decisions are made based on that body of fact and other factors. DOE will do its best to assure that the statements in the document are true.

International Responsibility Ms. Borgstrom stated that, under the present Executive Order, DOE has a responsibility to consider general impacts to the global situation. Dr. Lewis said that concerns about global impacts and international responsibility, vis a vis human rights, will be addressed in the EIS sections on socioeconomic impacts.

Data-Base Availability One commenter suggested that DOE study the information that has already been presented at prior environmental, regulatory, or judicial reviews of geothermal development in Puna. [Cit. circuit court trial, Honorable Shunichi Kimura presiding, on health issues of geothermal development; hearings related to designation of the Kilauea East Rift Zone as a geothermal resource subzone; and Section 2-25.2 [sic] of the Hawai'i Revised Statutes, seven criteria for propriety of designation as a geothermal subzone; U.S. District Court, Hawaii, lawsuit regarding the propriety of the possible violation of the ceded-lands trust; State-mandated EISs. Before issuing permits for the True/Mid-Pacific geothermal development, the State Department of Land and Natural Resources required scientific reports describing the condition of the rainforest prior to initiating geothermal development projects.] DOE should examine the information that has already been presented in these reviews. Dr. Lewis asked if he would provide an inventory of the referenced records and permits in his statement, as it would greatly facilitate EIS preparations. The commenter agreed to provide the list as soon as he could.

Dr. Lewis asked another commenter if he would provide information on geothermal development in Iceland and the Northwest Economic Associates report. The commenter agreed to.

Cable-Related Impacts. Dr. Lewis stated that the EIS would examine transmission system/cable-related environmental impacts. He noted that the system would probably involve a 250 kVA, multipole, large-structure, cable-transmission system. In fact, one of the reasons scoping meetings were held in Waimea is that this region could be affected by that system.

Prior and On-going Geothermal Development. With respect to prior and on-going geothermal developments in Puna, Dr. Lewis explained that although DOE will not conduct new environmental reviews of the HGP(A) and other federal geothermal development in Puna, these and the present developments will be considered (including medical records) from the perspective of cumulative impacts.

Alternatives. Dr. Lewis stated that the EIS would examine alternatives to the proposed action, including demand-side management, using an integrated resource planning approach. He mentioned that there could be alternative scenarios for achieving the equivalent of an additional 500 MWe on Oahu. Alternatives, within geothermal and outside (including coal) would be considered, as would the possibility of different mixes of supply- or demand-side options on each island.

PRESENTERS Alphabetically, alphanumeric following name indicates number of presentation in Waimea, Hawai'i.

John Broussard	W3
David Caccia	W4
Pam Caccia	W2
Bill Graham	W5
Jay Hanson, West Hawai'i Sierra Club	W10
Brad Houser, Energy Consultants of the Greater Kona Community Council	W9
Alan Kawada, True Geothermal Energy Company, Hawai'i Project Coordinator	W12
Harry Olson, Director, Scientific Observation Hole Program, University of Hawaii	W1
Kelly Pomeroy, Concerned Kohala Ranch Property Owners	W8
Kristin Seaver	W11
Joan Shapiro	W14
Laura Spiegel	W7
Shaina Spiegel	W13
Thomas Zoetewey	W6

PRESENTATIONS

1. PURPOSE OF PROJECT

One commenter stated that Hawai'i should develop all indigenous energy supply options. Hawai'i uses petroleum for ~90% of power production, Hawai'i has no known reserves in the State or within the marine exclusive economic zone, thus all the petroleum must be imported, and the supply is subject to price and supply fluctuations. However, more than 40% of the commenters questioned whether the HGP was necessary or would

significantly contribute to achieving the goal of reducing Hawai'i's dependence on imported petroleum or energy sufficiency. Many noted that:

- the majority of the crude oil used in Hawai'i is used for transportation, and that electricity is generated using the residuals. Therefore, unless the need for petroleum products for transportation were reduced, geothermal power would not in any meaningful way reduce the State's dependence on imported oil.
- if additional energy or energy self-sufficiency were very important, then serious attempts at conservation would have been made and laws requiring solar hot-water heating on State buildings or new homes would be passed.

2. PROPOSED ACTION

2.1 Definition of Project

The EIS should state the uses of the residual oil now used for electricity generation, should the HGP displace its use.

The instrumentation currently used for measurements down wells fails in the 250-300°C range; at higher temperatures, it is nearly impossible to get reliable data. Therefore, it will be necessary to improve the range of instruments to 400-500°C range.

2.2 Resource Concerns

The EIS should address the issues that:

- geothermal has not been shown to be a renewable source of energy. Thus, the EIS should identify and assess the impacts due to a decline in resources used for the HGP (also Sections 2.2, 2.6, 5.9.1 and 5.9.3).
- although the geothermal resource is proven, though the resource needs to be verified and characterized. On Kilauea East Rift Zone, there has been little research to date: HGP(A), Puna Geothermal Venture, the SOH-1 area, the Kapoho SOH-2 area, and the SOH-4 area (near the True/Mid-Pacific Site). The SOH [Scientific Observation Hole] program has been temporarily halted. It is unclear whether geothermal could be developed in 25-30 MW or 50-100 MW increments.

2.3 Geothermal Project Reliability

Although geothermal power generation is a proven technology (since the 1920's), the EIS should identify and assess the problems associated with constructing a geothermal facility on an actively erupting volcano. DOE should examine other successful geothermal developments, noting that those in New Zealand or California (the Geysers and the Imperial Valley) are in Geysers fields, not on an erupting volcano. One commenter believed that further developments require engineering solutions only. Another referred DOE to a contested case hearing regarding the volcanic/seismic hazards of geothermal development before the State Land Board.

2.3.1 *Mitigation Methods*

2.4 Cumulative Impacts of Prior and On-going Geothermal Development

One commenter stated that prior geothermal activities in Puna had severely impacted his family. He noted that the H₂S from the venting affected his nose and sinuses and his appetite. His pregnant wife was unable to sleep due to the noise from drilling. Finally, plywood was installed by the developer as a noise shield, which alleviated the problem. (also Sections 5.1, 5.7.1, 5.7.3, and 5.9.1).

One person noted that property values have (*etc.*) declined and some people have already been forced to move due to the prior and on-going geothermal experience in Puna (also Section 2.4).

2.5 Cable/Transmission Lines

The EIS should state the reliability of the transmission line system, particularly electric hazards. One commenter asked why the State is no longer suggesting the submarine cable.

2.6 Future Uses

The EIS should identify and assess the impacts of future uses developed due to availability of geothermal power (including the consequences of resource [or other HGP-related] failure after growth has occurred), also Sections 2.2, 2.3, and 5.9). These future uses include:

- development on the Big Island, and
- industrialization, such as seabed minerals refining, on the Big Island.

3. ALTERNATIVES TO THE PROPOSED ACTION

Fifty percent of those presenting stated that the EIS should examine alternative energy supply options that are more cost-effective, more environmentally benign, socially acceptable, and renewable, such as wind, solar, conservation, energy efficient technologies, or off-grid options. Possible contributions due to alternative forms of transportation or fuels should also be considered. The economics of the alternatives should be addressed thoroughly. This analysis should be compared with the costs of the "no action," or fossil fuel based alternative.

One commenter believed that prior investigations within the State had examined all the fossil fuel and non-fossil fuel options. He said that they have included consideration of demand-side management, energy conservation, and integrated resource planning. The commenter believes that geothermal is the "best opportunity for development of reliable, non-polluting, environmentally acceptable," cost- and price-competitive energy resource.

3.1 Conservation and Renewables

Nearly 40% expressed the opinion that the EIS should study the possibility that State's, particularly the Big Island's, energy needs could be met with wind or solar power, including solar hot-water heating and conservation/energy efficiency. Commenters noted that:

- that solar hot water heating works well in Israel and is effective in cloudy, rainy Washington State, therefore it certainly should work in Hawai'i. On cool or cloudy days, the system could work but might need an electrical or gas (propane) backup heater. Gas backup would reduce the utilities peak-demand problems. One commenter also noted that propane is more efficient for heating water than most electrical systems.
- solar collectors or hot water heaters should be required on all new buildings in Hawai'i.
- Commenters suggested that the Counties or State could help pay for solar installations with incentives or a bond issue and recover the cost from the building owner in the future.
- If laws were promulgated that required solar hot-water heating, and places existed where the installations were not cost-effective, those locations could be exempted, not used to defeat the law for situations where solar hot-water heating is cost-effective.
- with regard to conservation/energy efficiency measures:

- Absentee land owners could be requested to consider the amount of energy used to light unoccupied dwellings and yards; golf courses could be asked to examine their electricity usage for water pumping.
- More energy-efficient methods of production for goods and services should be developed to help meet the State's goal of energy self-sufficiency.

3.2 Geothermal Alternatives

The EIS should investigate the possibility of developing geothermal resources on Oahu for Oahu.

3.3 Alternatives to the Cable/Transmission Lines

The EIS should consider the costs (including indirect costs, such as impacts to property values and aesthetic impacts) of above and undergrounding the transmission lines. [This could be necessary on a district by district basis, given the variable geology of the State.]

3.4 Transportation

DOE should remember that the major requirements for imported fuels are used in the transportation sector. The EIS should examine the potential contributions of:

- alternative transportation fuels,
- providing on-site or near-site employee housing, and
- alternative methods for interisland travel.

3.5 Fossil Fuel

The alternatives analysis should be compared with the costs of the "no action," which is essentially a fossil-fuel based alternative.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

Before assessing the impacts of the HGP:

- The hydrology of the Kilauea East Rift Zone needs to be understood.

- Air quality measurements establishing background levels of components of geothermal emissions need to be made (e.g. the levels in sensitive locations due to Pu'u O'o or other natural emissions).

5. POTENTIAL ENVIRONMENTAL ISSUES

More than 40% of those present stated that the EIS should consider the short- and long-term implications of the environmental impacts of the HGP, particularly the power transmission system, on local, State, national, and global ecosystems. Commenters noted that when assessing the impacts of the HGP, there should be no artificial separation of humans from the environment.

5.1 Competing Uses

A number of issues concerning competing issues were raised. The commenters suggested that the EIS should consider:

- the propriety of geothermal development in a residential neighborhood based on the prior experiences with geothermal development in Puna (also Sections 2.4, 5.7.1, and 5.7.3). DOE should investigate zoning restrictions for geothermal development that are in place on the mainland.

In addition the EIS should address the impacts of the HGP, particularly the transmission system, on:

- water availability. The commenter mentioned fire hazards associated with the transmission line system exacerbated by drought conditions. [Drought conditions could aggravate any water use/availability issues].
- aviation.
- communication.
- on recreational uses in the rainforest. [The HGP could impact recreational uses of far more than the rainforest, e.g. beaches, recreational areas on other islands.]

One commenter noted that DOE should be aware that land-use regulations and issues are very-sophisticated and highly-complex in the State of Hawai'i, where there is rigorous public review and participation (also Process Discussion and Section 7).

5.2 Air Quality Concerns (See Section 5.4 introduction, re: herbicide impacts.)

5.3 Water Quality Issues (See also Section 5.4 introduction, re: herbicide impacts.)

The EIS needs to establish whether geothermal development activities will affect the ground water. The commenter noted that the interaction between the geothermal waters and other groundwaters is, as yet, not understood. One commenter suggested that DOE should refer to USGS reports on the potential for ground water contamination due to geothermal development on the East Kilauea Rift Zone.

5.4 Ecological Resources

The EIS should address the concern that the HGP could further endanger or extinguish threatened and endangered species and assess the impacts of actually losing species on associated ecosystems, such as the terrestrial (including the rainforest), land-based aquatic, marine, or human ecosystems, (also Sections 5.4.1, 5.4.2, 5.4.4, and 5.9).

The EIS should consider the impacts of HGP-transmission line associated herbicides on birds and animals. [Herbicides used along the transmission lines and for the HGP in general could also impact air and water quality, other terrestrial, marine, or aquatic life, and threatened and endangered species, Section 5.2, 5.3, 5.4.1, 5.4.2, 5.4.3, 5.4.4, and 5.7].

5.4.1 *Impacts on Terrestrial and Land-Based Aquatic Ecosystems.* (See also Section 5.4 introduction, re: threatened and endangered species and herbicide impacts).

About 30% of the presenters said that the EIS should identify and assess the impacts of the HGP on the terrestrial and aquatic ecosystems on Hawai'i.

5.4.2 *Rain Forest Issues.* (See also Section 5.4 introduction, re: threatened and endangered species impacts on associated ecosystems; herbicide impacts.)

About 30% of those commenting said that the EIS should address impacts of the HGP on the last lowland tropical rainforest in the U.S and the organisms in it. The EIS should consider educational and scientific losses as well. (Ref: For permits for the True/Mid-Pacific geothermal development, the State Department of Land and Natural Resources, DLNR, required reports concerning measures to be taken to prevent the introduction of new alien species into the rainforest.)

The EIS should examine the contribution of the rainforest to global climate stability.

5.4.3 Threatened, endangered, or endemic species concerns (See also Section 5.4 introduction, re: herbicide impacts.)

About 20% of the presenters suggested that the EIS should address potential impacts of the EIS on threatened, endangered, and endemic species. Commenters noted that:

- 70/140 native birds are extinct and 30 are endangered. Eighteen percent of the endangered plants in the U.S. lists (37) are Hawaiian. The major cause for decline is loss of habitat; 2/3 of Hawaiian forest cover (50% of the rainforest) has been lost.
- prior to issuing permits for the True/Mid-Pacific geothermal development, the State Department of Land and Natural Resources required scientific reports on impacts to threatened and endangered species in the area, including the Hawaiian hawk (also Sections 5.4.1 and 5.4.2).

5.4.4 Marine Concerns (See Section 5.4 introduction, re: threatened and endangered species and herbicide impacts.)

Nearly 40% of those commenting stated that the EIS should identify and assess the impacts of the submarine cable on marine life and the seabed.

5.5 Geological Issues

5.6 Aesthetic Issues

5.6.1 Noise

5.6.2 Visual Issues

The EIS should consider the aesthetic impacts of the transmission lines (also Sections 3.3 and 5.9.1). The commenter mentioned that an above ground transmission line could pass through six or seven districts on Hawai'i. The scenic beauty [and peace and quiet] of these districts would be disturbed. One commenter noted that both the mauka and makai views along the Kohala Mountain road would be marred should the lines pass through North Kohala.

5.6.3 Odor Issues

5.7 Health and Safety Issues

The EIS should consider the potential loss of medicinal species due to HGP clearing of the rainforest.

The EIS should assess the impacts of herbicides or other chemicals used for the HGP, particularly the transmission lines (also Sections 5.2, and all of 5.4).

5.7.1 *Geothermal Emissions and Effluents*

The EIS should identify and assess the health and safety impacts of the HGP, particularly to children, pregnant women and those with respiratory illnesses. It should take into consideration prior experiences with the emissions of geothermal development in Puna, which include instances of respiratory distress and sleep deprivation (also Sections 2.4, 5.1, and 5.7.3).

5.7.2 *Transmission Line Effects*

The EIS should address the health effects associated with:

- the HGP high tension lines [not necessarily just emf] and transformers.
- herbicides or other chemicals used to maintain the transmission lines.

5.7.3 *Noise*

The EIS should address problems of noise associated with the HGP, based on the prior experiences with geothermal development in Puna (also Sections 2.4, 5.1 and 5.7.1).

5.7.4 *Psychological Impacts*

5.7.5 *Safety, Civil Defense Issues*

The EIS should consider the civil defense issue of a major segment of power generation capacity being linked by such a transmission connection to its load.

The EIS should identify and assess the hazards of overland transmission lines: including the potential of increased

fire danger and electrical hazards associated with high tension lines. The EIS should remember that the HGP may cause increased population, which would (along with drought conditions which do occur on the Big Island) further exacerbate the problems mentioned above. [Also Sections 2.5 and 5.1.]

5.8 Political Issues

More than 60% of those present expressed political concerns including lack of trust in government, lack of concern by government, and skepticism regarding motives and resolve of government.

The EIS should consider the international implications of the message conveyed by the U.S. to the international community, when it permits environmental degradation in the U.S. to support energy generation. U.S. actions, far more than words, help establish global policy. Thus, the EIS should address concerns about the example it sets for the global community when the U.S.:

- permits cutting of the rainforest for the purpose of power generation.
- does not show respect for the cultural and ethnic resources of its citizens, such as places of gathering and ritual or the ethnic identity of those citizens.

The EIS should consider that the need for self-determination is an important political force [ref. John Locke] (also Section 5.9.4).

5.9 Socioeconomic Issues

5.9.1 *Economic Issues*

Nearly 40% of those presenting declared that the EIS should examine completely economics of the HGP and its economic impacts, including a complete analysis of the costs (past, present, and future) of the HGP to the taxpayers, rate-payers, and to the utilities.

- When considering costs, the EIS should consider the indirect costs and losses of the HGP, such as lowered property values, aesthetic impacts of the transmission line/submarine cable system, and costs of civil disobedience and lawsuits (also Sections 3.3, 5.6.2, and 5.9.3). DOE should remember the importance of aesthetics to the tourist industry.

- The EIS should reevaluate the cost of the HGP. DOE should examine the Northwest Economics Associates report on the HGP, which estimates much higher costs for the HGP than prior approximations.
- If the transmission lines are to pass through North Kohala, the Kohala Ranch property owners want to know the costs of laying the transmission lines underground and who would pay.

The EIS should examine the economics of crude oil use within the State to determine whether the HGP would actually result in a lower dependence on imported oil (also Section 1.).

The EIS should identify means to provide insurance for those whose property values (*etc.*) decline or are forced to move due to the HGP, keeping in mind that those property values may have already been negatively impacted by the prior and on-going geothermal experience (also Section 2.4).

5.9.2 *Life Style*

The EIS should address the impacts of the HGP on the lifestyles of residents of the Big Island.

5.9.3 *Social Issues*

Nearly 40% of those present raised social or socioeconomic issues. The EIS should:

- consider the social implications of the messages conveyed to children, who have been told by government that it is wrong to destroy rainforests to provide energy or beef and to respect other rights, religions, and cultures, if the U.S. permits:
 - cutting of its own rainforest for the same purpose.
 - disrespect of Native Hawaiian rights, religion, and culture.
- identify and assess the socioeconomic costs due to a decline in resource after HGP has stimulated growth (also Sections 2.2, 2.3, and 2.6).
- evaluate the social costs of HGP-related civil disobedience (also Section 5.9.1).
- assess the socioeconomic impacts of losing species (also Sections 5.4.1, 5.4.2, and 5.4.4).

One commenter noted that Hawai'i, which has largely service-related jobs, has a low unemployment rate, whereas industrialized regions of the country are where the high unemployment occurs (also Section 5.9.1).

5.9.4 Native Hawaiian Issues

About 20% of those commenting stated that DOE should respect the religion of Native Hawaiians when it prepares the HGP EIS and recognize the Native Hawaiian belief in the right to self determination (also Section 5.8). One commenter referred DOE to *Kalip vs Hawaiian Trust Co.*, 66 Haw 1, a Hawai'i Supreme Court case.

The EIS should address the concern that permitting the HGP will constitute desecration of Pele.

5.9.5 Impacts to Cultural Resources (Archeological/Historical Sites and Regions)

6. COST BENEFIT ANALYSIS

The EIS should examine who benefits economically from the HGP and should weigh the merits of the Big Island providing energy for the other islands.

7. LEGAL ISSUES

The EIS should examine the complex regulatory situation with respect to land use and geothermal subzone designation.

ATTACHMENT A

FACILITATOR PRESENTATION

HAWAII SCOPING MEETINGS

March 7, 1992, Pahoa, Hawai'i
March 9, 1992, Wailuku, Maui
March 12, 1992, Kaunakakai, Moloka'i
March 14, 1992, Honolulu, Oahu
March 16, 1992, Waimea, Hawai'i

Summary of Presentation

Introduction: Mr. Spiegel first introduced himself and Ms. Letts, from West Hawai'i Mediation Services and the Center for Alternative Dispute Resolution, respectively, as professional facilitators. He explained that they were hired to run a fair and impartial scoping meeting. He then introduced Dr. Lewis [Hawai'i Geothermal Project (HGP) Environmental Impact Statement (EIS) Program Director from DOE Headquarters], Carol Borgstrom, Director of the Office of National Environmental Policy Act Oversight, DOE Headquarters], and William Dennison [Assistant General Counsel for the Environment, DOE Headquarters]. The facilitator then stated that his purpose was to remain neutral and keep the meeting on track.

Structure of Meeting: The attendees were advised as follows. The intent of the meeting was to identify issues and concerns that those present had concerning the HGP. The facilitators will do their best to assure that everyone gets to be heard. Only questions with regard to process will be answered. In order to assure this, those who wish to speak will give their presentation in the order that they have registered; individuals will have 5 minutes and organizations and elected officials will have 10 minutes. Speakers are to identify themselves and the group they represent. Those who wish to speak should register; speakers may speak at only one of the planned scoping meetings; if anyone needs more time to finish, he/she may reregister, and time-permitting, they will be given an additional 5/10 minutes, as appropriate. If a presentation is to be given in Hawaiian, an interpreter is available. If necessary, time will be extended as possible. In each meeting there will be a 10 minute break about half way through the meeting. Any written materials can be handed in at the meetings or sent to Dr. Lewis at DOE before 15 April 1992 to assure consideration. Each meeting will be recorded by a court reporter, and tape and video recorders to assure an accurate record of presentations. If requested, the video recorder can be turned off. Transcripts of the meetings will be available in 21 reading rooms in Hawai'i and on the mainland. Attendees were invited to have their names placed on the EIS mailing list (sign up at registration desk) to receive any future EIS-related notices.

Ground Rules: The facilitator requests that those present be courteous to each other, that they do not interrupt

speakers and that they stay within the designated time limits. Private conversations and interviews should be conducted outside the meeting room.

NEPA Background. The scoping meetings were shown to occur between the Notice of Intent (NOI) and the production of the EIS Implementation Plan (IP). Following preparation of the IP, a Draft EIS (DEIS) is prepared. After public review of the DEIS, a FEIS will be available for public review. A total of ten scoping meetings would be held with two each day in Pahoa, Wailuku, Kaunakakai, Honolulu, and Waimea (afternoon, 2-5:30 PM and evening 7-10:30 PM).

Turns meeting over to Dr. Lewis for further comment.

ATTACHMENT B

DOE PROJECT/PROCESS DESCRIPTION

HAWAII SCOPING MEETINGS

March 7, 1992, Pahoa, Hawai'i
March 9, 1992, Wailuku, Maui
March 12, 1992, Kaunakakai, Moloka'i
March 14, 1992, Honolulu, Oahu
March 16, 1992, Waimea, Hawai'i

Summary of Presentation

Introduction: After introducing himself as the Program Director for the Hawaii Geothermal Project Environmental Impact Statement (HGP EIS), Dr. Lewis began his presentation by stating that DOE's mission is "to prepare an Environmental Impact Statement (EIS) for phases 3 and 4 of the Hawaii Geothermal Project (HGP) as defined by the State of Hawaii in its proposal to Congress in 1989," noting that the Proposed Action had been defined by Congress (3/91) and the US District Court in Hawaii (6/91). He then explained that phases 1 [exploration, HGP(A)] and 2 [test of the feasibility of laying and retrieving the submarine cable] were complete. He noted that they were funded by DOE, the State of Hawai'i, and others and had undergone NEPA review. He stated that although phases 1 and 2 had had environmental review, they form an important data base and would be reexamined from the perspective of cumulative impacts. He also noted that the EIS would examine a range of reasonably foreseeable alternatives, both within and outside geothermal.

He then acknowledged Carol Borgstrom, Director of the Office of National Environmental Policy Act Oversight, DOE Headquarters], noting that she was assisted by Dr. Yvonne Weber, and also William Dennison [Assistant General Counsel for the Environment, DOE Headquarters], recognizing his assistance by Janine Sweeney. He introduced the representatives from DOE-OR (Andrea Campbell); ORNL, assisting in the preparation of the EIS (Dr. Amy Wolfe, Dr. Virginia Tolbert), and LBL (Cable and Alternatives, Dr. Mary Hunt). The latter were also to assist in recording highlights of scoping meetings.

EIS Process: Dr. Lewis described the EIS process. Initially an Advance Notice of Intent was published with a request for public comment; 55 letters and hundreds of comments were received in response. Next were information exchange meetings and meetings with cooperating agencies, including several federal, State, and County departments. Information exchange meetings were held with environmental, civic/community associations, public interest, and other groups. At these meetings, concerns and issues were raised. He noted that several agencies would probably elect cooperating agency status, including the Counties of Hawai'i and Maui, the Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, the National Park

Service, and the U.S Geological Survey. These meetings were followed by a Notice of Intent announcing scoping meetings. The results of the scoping meetings will be available for review in the public reading rooms and will be used for preparation of an Implementation Plan, also available for review. Next, a draft EIS is prepared and the public is asked to review this document and comment on it. Finally, a final EIS is published.

Dr. Lewis then turned the meeting over to the Facilitator for process questions.

SCOPING MEETING SUMMARY
Waimea, Hawai'i, 16 March 1992, 7 PM

Mary S. Quinby-Hunt
5 June 1992

OVERVIEW

The meeting began with presentations by the facilitator and the representative from DOE. The facilitator introduced those on the podium. He then described the general structure of the meeting and its purpose: to hear the issues and concerns of those present regarding the proposed Hawaiian Geothermal Project. He described his role as assuring the impartiality and fairness of the meeting. Dr. Lewis of DOE further defined the scope of the project, introduced those of the EIS team present and briefly described the EIS process.

Only six people presented issues and concerns in the evening meeting in Waimea. Their comments are summarized in the order of the meeting summary, below.

Purpose and Needs. Half of the presenters remarked on the purpose and needs of the proposed action. One commenter wanted to assure that the Big Island's immediate energy needs are met, while respecting the rights, health and safety of the residents of Puna. Other commenters asked that the EIS determine future electrical needs for Hawai'i (i.e. Is HGP really necessary?) and consider whether the HGP would meet the State's stated goals for the HGP: reduction of reliance on imported oil.

HGP Reliability. The EIS should consider the impacts of HGP failure modes, including planned and unplanned venting, and leaks in wells due to thermal shock, expansion/contraction of metal, corrosive activity or seismic events. It should address the problems of geothermal development in seismically/volcanically active regions. The EIS should assure that appropriate monitoring is performed by qualified analysts. One commenter stated that a fund should be established to mitigate or compensate residents who are impacted. Fifty percent of those present suggested that the EIS should consider the impacts of HGP transmission line failure, particularly with respect to the reliability of the cable and maritime safety in the Alenuihaha Channel in light of the winds, currents, and sea state prevalent in the channel.

Prior and On-Going Geothermal Development. Fifty percent of those commenting mentioned prior and on-going geothermal development in Puna. One commenter noted that HGP(A) demonstrated that geothermal works, but needs careful monitoring, controls, and strict air quality standards. The EIS should consider prior and on-going experiences with geothermal development in the Puna district when assessing the impacts of the HGP.

Alternatives. Fifty percent of the commenters stated that the EIS should examine alternative energy supply options, such as solar, wind, OTEC, biomass, demand-side options (conservation/energy efficiency), and others, to meet the goals of the State's stated purpose for the HGP. The EIS should examine their technical and economic feasibility/reliability, and their environmental impacts. One presenter believes that only geothermal options can meet the Big Island's energy needs at present, but suggests that development be limited to that sufficient for the Big Island. Others believe that alternative energy options can meet the needs of the State, particularly if the alternative energy supply options could be helped by tax-incentives.

Potential Environmental Impacts. The EIS should fully evaluate the short- and long-term environmental, social, and economic costs and benefits of geothermal development at the scale of the HGP. The EIS should identify and assess impacts of the HGP geothermal emissions on air quality, such as production of acid rain or fog or introduction of toxic substances. The EIS should investigate the impacts of the HGP on water quality (groundwater and catchments) and soils that could result from leaks in well casings given the porous nature of substrate and the unpredictability of volcanic dikes.

The EIS should identify and assess the impacts of the HGP on agriculture; on such crops as papaya, macadamia nuts, orchids, bananas, *etc.*; and on birds and animals. One commenter noted that during the 12 June 1991 incident, birds (chickens, doves, cardinals, owls, pueo, mynahs, and white eyes) and animals (sheep, puppies, and kittens) were found dead or dying. The EIS should also consider the impacts of transmission line emf and other electromagnetic effects on animals. The EIS should address the impacts of the HGP on the rainforest, including the effects of incursion of exotics, segmentation by roads or other HGP-related activities, incursions by humans due to the availability of HGP-related roads, and roads acting as barriers for regeneration or propagation of native (*etc.*) species. The EIS should address the impacts of HGP emissions on threatened and endangered species, such as the Hawaiian hawk, and invertebrates and insects species found in the Puna underground lava tube habitat.

Land-Use Issues. Fifty percent of the commenters requested that the EIS should consider land use issues. The EIS should examine the propriety of geothermal development in a residential neighborhood and whether the HGP would affect the viability of land for use in agriculture.

Geological Issues. The EIS should consider the problems of seismicity and subsidence induced by geothermal development.

Aesthetic Issues. The EIS should assess the aesthetic impacts of the HGP and its changing of the natural and

agricultural landscapes.

Health and Safety Issues. The EIS should assess the impacts of geothermal emissions and noise from the HGP on health and safety of nearby residents, school children in Pahoa, and on agricultural workers. The EIS should examine the electromagnetic effects of the cable, and the issue of the HGP affecting species with medicinal properties. The EIS should assess the psychological effects of the HGP, resulting from stress, anxiety, and the fear that residents could no longer live in their homes. One commenter suggested that DOE examine the psychological impacts observed in Harrisburg, Pennsylvania after the Three-Mile Island incident as comparable.

Economic Issues. Fifty percent of the commenters said they want the EIS to examine the economic feasibility of the HGP and the cable, the economic impacts of geological risks and hazards, the impact of the indebtedness incurred on the taxpayer, and the costs to the ratepayer. The EIS should address concerns about reimbursement (fair compensation) for those who are forced to move due to the HGP, and agricultural job losses. The EIS should evaluate the impacts of the HGP on property values, particularly in Puna [and along the cable route], and costs that aesthetic impacts of the HGP could have on tourism. The EIS should determine the economic benefits of the HGP and identify who receives them. The commenter wanted to assure that consumers and taxpayers receive some of the benefits.

Native Hawaiian Issues. The EIS should examine Native Hawaiian religious beliefs to determine if geothermal development desecrate them.

MEETING SUMMARY

Letts Presentation - Attachment A

DOE Project/Process Description - Attachment B

Process Discussions.

DOE should assure that the EIS provides reliable information to make informed decisions about future geothermal development. Hawai'i Island Geothermal Alliance (HIGA) stated that it supports "continued research, exploratory drilling, and master planning to fully evaluate the environmental, social, and economic costs and benefits of possible additional geothermal development. HIGA believes that prior to development of the HGP plus cable a smaller demonstration should be conducted to determine whether power transmission to other islands is reasonable.

PRESENTERS Alphabetically, alphanumeric following name indicates number of presentation in Waimea, Hawai'i.

June Curtis, Chairperson, Hawai'i Island Geothermal Alliance	W15
William Kalawaianui	W16
Andrew Kier	W17
Pamela McKenna	W20
Steven Tachera, Kohala Keilea	W18
Karl Toubman	W19

PRESENTATIONS

1. PURPOSE OF PROJECT

Half of the presenters remarked on the purpose and needs of the proposed action. HIGA wanted to assure that the Big Island's immediate energy needs are met, while respecting the rights, health and safety of the residents of Puna. HIGA wants: energy that is clean and dependable for the Big Island; that reduces dependence on imported oil; reduces CO₂ emissions, eliminates old, inefficient oil-burning plants; demonstrates the modern pollution control technology works in Hawai'i; and that puts rate decisions under local control.

Other commenters asked that the EIS should determine future electrical needs for Hawai'i (*i.e.* Is HGP really necessary?) and should consider whether the HGP would meet the State's stated goals for the HGP, reduction of reliance on imported oil.

2. PROPOSED ACTION

2.1 Definition of Project

The EIS should examine successful geothermal development elsewhere, such as California, New Zealand, Italy, Japan, and the Philippines, to determine whether geothermal can be developed cleanly and safely.

2.2 Resource Concerns

2.3 Geothermal Project Reliability

The EIS should consider:

- the impacts of HGP failure modes, including planned and unplanned venting, and leaks in wells due to thermal shock, expansion/contraction of metal, corrosive activity or seismic events.
- the problems of geothermal development in seismically/volcanically active regions (also Section 5.9.1).

2.3.1 *Mitigation Methods*

The EIS should assure that appropriate monitoring is performed by qualified analysts.

HIGA believes that a fund should be established to mitigate or compensate residents who are impacted (also Section 5.9.1).

2.4 Cumulative Impacts of Prior and On-going Geothermal Development

Fifty percent of those commenting mentioned prior and on-going geothermal development in Puna. One commenter noted that HGP(A) demonstrated that geothermal works, but needs careful monitoring, controls, and strict air quality standards.

- DOH recognized problems, has [sic] the strictest site-specific standards in the world.
- The EIS should assure that incidents, such as those that occurred at PGV in 1991, do not occur with the HGP. This includes implementing the recommendations of the expert review team.

The EIS should consider prior and on-going experiences with geothermal development in the Puna district when assessing the impacts of the HGP. One commenter noted that noise and emissions have forced his wife to

relocate (also Sections 5.1, 5.2, 5.3, 5.7.1, 5.7.3, and 5.9.1). Impacts to agriculture were also noted (also Section 5.1, 5.2, 5.4.1, 5.4.2, 5.4.3, 5.7.1, and 5.9.1). Another commenter remarked that after the incident at Pohiki, health effects, including psychological effects, were observed.

2.5 Cable/Transmission Lines

Fifty percent of those present suggested that the EIS consider the impacts of HGP transmission line failure, particularly with respect to the reliability of the cable in the Alenuihaha Channel in light of the winds, currents, and sea state prevalent in the channel.

2.6 Future Uses

The EIS should address the consider impacts of the development that could occur in Kohala or on Oahu with the availability of geothermal power.

3. ALTERNATIVES TO THE PROPOSED ACTION

Fifty percent of the commenters stated that the EIS should examine alternative energy supply options to meet the goals of the State's stated purpose for the HGP. The EIS should examine their technical and economic feasibility/reliability, and their environmental impacts. HIGA believes that only geothermal options can meet the Big Island's energy needs at present, and suggests that development be limited to that sufficient for the Big Island. HIGA also recommends the economic and environmental feasibility of the cable be established before committing to its installation.

3.1 Conservation and Renewables

Fifty percent of the commenters stated that the EIS should examine alternative energy-supply options, such as solar, wind, OTEC, biomass, demand-side options (conservation/energy efficiency), and others. HIGA does not believe that these can meet the needs of the Big Island at this time. Others believe that alternative energy options can meet the needs of the State, particularly if the alternative energy supply options could be helped by tax-incentives.

3.2 Geothermal Alternatives

HIGA believes that geothermal is the economically and environmentally preferred alternative for the Big Island (up to 50 MW).

3.3 Alternatives to the Cable/Transmission Lines

HIGA believes that prior to development of the HGP plus cable a smaller demonstration should be conducted to determine whether power transmission to other islands is reasonable.

3.4 Transportation

3.5 Fossil Fuel

Geothermal has lower CO₂ emissions than coal, CO₂ has global climate stability implications.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

5. POTENTIAL ENVIRONMENTAL ISSUES

The EIS should fully evaluate the short- and long-term environmental, social, and economic costs and benefits of geothermal development at the scale of the HGP. HIGA supports the environmental studies necessary to provide the scientific data required to weigh the costs and benefits of the HGP.

5.1 Competing Uses

Fifty percent of the commenters requested that the EIS consider land use issues. The EIS should examine:

- the propriety of geothermal development in a residential neighborhood (also Sections 5.2, 5.3, 5.7.1, and 5.9.1).
- whether the HGP would affect the viability of land for use in agriculture (also Sections 5.3, 5.4.1, 5.7.1, and 5.9.1).

5.2 Air Quality Concerns

The EIS should identify and assess impacts of the HGP geothermal emissions on air quality, such as production of acid rain or fog or introduction of toxic substances. One commenter mentioned prior experiences with toxic emissions and acid precipitation in Puna (also Section 2.4 and 5.7.1)

5.3 Water Quality Issues

The EIS should identify and assess effects of the HGP on water quality and soils. One commenter noted:

- Leaks in well casings could contaminate ground water supplies due to the porous nature of substrate and the unpredictability of volcanic dikes. The commenter noted that, in Puna, many of the wells have such leaks and that geothermal fluids (before and after processing) can contain S, Hg, and so on.
- Geothermal emissions can affect the water quality in catchment systems, commonly used in Puna for drinking and bathing (also Sections 5.2 and 5.7.1).

5.4 Ecological Resources

5.4.1 *Impacts on Terrestrial and Land-Based Aquatic Ecosystems.*

The EIS should identify and assess the impacts of the HGP:

- on agriculture, on such crops as papaya, macadamia nuts, orchids, bananas, *etc.* (also Sections 5.1, 5.2, 5.3, 5.4.2, 5.4.3, 5.7.1, and 5.9.1). The commenter remarked potential phytotoxic effects of geothermal emissions, noting that after the 12 June 1991 incident, orchid crops were blackened 10 miles away (also Section 2.4).
- emissions on birds and animals. The commenter noted that during the 12 June 1991 incident, birds (chickens, doves, cardinals, owls, pueo, mynahs, and white eyes) and animals (sheep, puppies, and kittens) were found dead or dying. Sightings of the Hawaiian hawk dropped (also Section 5.4.3).
- transmission line emf and other electromagnetic effects on animals.

5.4.2 *Rain Forest Issues.*

The EIS should address the impacts of the HGP on the rainforest, including the effects of incursion of exotics, segmentation by roads or other HGP-related activities, incursions by humans due to the availability of HGP-related roads, and roads acting as barriers for regeneration or propagation of native (*etc.*) species. One commenter noted that the land exchange resulted in saving of 2500 acres of Class I rainforest next to Volcanoes

National Park. The Class II and III rainforests where geothermal drilling will occur will need monitoring and care.

5.4.3 Threatened, endangered, or endemic species concerns

The EIS should address the impacts of HGP emissions on threatened and endangered species. The commenter noted that during the 12 June 1991 incident, sightings of the Hawaiian hawk dropped. He also noted that 35 new invertebrates and insects species had been found in the Puna underground lava tube habitat.

5.4.4 Marine Concerns

5.5 Geological Issues

The EIS should consider the:

- impacts of induced seismicity due geothermal development, including reinjection. The commenter noted that reinjection has been known to induce seismicity in Denver, Colorado, and Guatemala.
- the problem of subsidence due to geothermal development, which can "squeeze wells," and affect pipelines and drainage courses. The commenter referred to geothermal associated subsidence in New Zealand and Iceland.

5.6 Aesthetic Issues

5.6.1 Noise

5.6.2 Visual Issues

The EIS should assess the aesthetic impacts of the HGP itself, and the changes it will cause in natural and agricultural landscapes (also Section 5.9.1).

5.6.3 Odor Issues

5.7 Health and Safety Issues

The EIS should assess the health impacts of the HGP due to geothermal emissions, noise, stress, electromagnetic effects of the cable, or the negative impacts on species with medicinal properties.

5.7.1 Geothermal Emissions and Effluents

The EIS should assess potential impacts of the HGP due to emissions of components such as H₂S, on health and safety of nearby residents, school children in Pahoa, and on agricultural workers (also Sections 5.1, 5.2, 5.3, 5.4.1, and 5.9.1).

5.7.2 Transmission Line Effects

The EIS should examine the health impacts of the transmission lines due to emf and other electromagnetic phenomena.

5.7.3 Noise

The EIS should assess the impacts of noise due to the HGP.

5.7.4 Psychological Impacts

The EIS should assess the psychological effects of the HGP that arise from stress, anxiety, and the fear that residents could no longer live in their homes. One commenter suggested that DOE examine the psychological impacts observed in Harrisburg, Pennsylvania after the Three-Mile Island incident as comparable.

5.7.5 Safety, Civil Defense Issues

Two commenters suggested that the EIS should address the risks of accident during marine operations in the Alenuihaha Channel.

5.8 Political Issues

One commenter questioned the motives of those in government who are promoting the HGP.

5.9 Socioeconomic Issues

5.9.1 Economic Issues

Fifty percent of the commenters raised economic issues. They want the EIS to examine the economic feasibility of the HGP and the cable, the economic impacts of geological risks and hazards, the impact of the indebtedness

incurred on the taxpayer, and the costs to the ratepayer. [Ref. report by Northwest Economic Associates.]

The EIS should address the following concerns:

- reimbursement (fair compensation) for those who are forced to move due to the HGP (also Section 2.3.1). Who will buy the homes, the land, and relocate the people?
- agricultural job losses, if the HGP affects the land, crops, or workers, (also Sections 5.1, 5.2, 5.3, 5.4.1, and 5.7.1). One commenter noted that agriculture employs many workers in the Puna district.

The EIS should evaluate the:

- impacts of the HGP on property values, particularly in Puna and along the cable route,
- costs of aesthetic impacts of the HGP on tourism.

5.9.2 Life Style

5.9.3 Social Issues

5.9.4 Native Hawaiian Issues

The EIS should examine Native Hawaiian religious beliefs to determine if geothermal development would constitute a desecration.

5.9.5 Impacts to Cultural Resources (Archeological/Historical Sites and Regions)

6. COST BENEFIT ANALYSIS

The EIS should determine the economic benefits of the HGP and identify who receives them. The commenter wanted to assure that consumers and tax payers receive some of the benefits. HIGA wants to secure "fair and reasonable give-backs for Hawai'i Island residents from geothermal development."

7. LEGAL ISSUES

ATTACHMENT A
FACILITATOR PRESENTATION
HAWAII SCOPING MEETINGS

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March 9, 1992, Wailuku, Maui
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Summary of Presentation

Introduction: Dr. Lewis thanked all those who had helped organize the scoping process, particularly the facilitators, Mr. Spiegel and Ms. Letts, the court reporters, Ms. Heassler and Ms. Vasconcellos, the audiovisual crew, Mr. Pace, and Ms. Patton and Ms. Cardwell who handled registration. After introducing himself as the Program Director for the Hawaii Geothermal Project Environmental Impact Statement (HGP EIS), Dr. Lewis began his presentation by stating that DOE's mission is "to prepare an Environmental Impact Statement (EIS) for phases 3 and 4 of the Hawaii Geothermal Project (HGP) as defined by the State of Hawaii in its proposal to Congress in 1989," noting that the Proposed Action had been defined by Congress (3/91) and the US District Court in Hawaii (6/91). He then explained that phases 1 [exploration, HGP(A)] and 2 [test of the feasibility of laying and retrieving the submarine cable] were complete. He noted that they were funded by DOE, the State of Hawai'i, and others and had undergone NEPA review. He stated that although phases 1 and 2 had had environmental review, they form an important data base and would be reexamined from the perspective of cumulative impacts. He also noted that the EIS would examine a range of reasonably foreseeable alternatives, both within and outside geothermal.

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of Hawai'i, the Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, the National Park Service, and the U.S Geological Survey. These meetings were followed by a Notice of Intent announcing scoping meetings. The results of the scoping meetings will be available for review in the public reading rooms and will be used for preparation of an Implementation Plan, also available for review. Next, a draft EIS is prepared and the public is asked to review this document and comment on it. Finally, a final EIS is published.

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