

PROJECT STATUS  
HAWAII GEOTHERMAL/UNDERSEA CABLE PROJECT

July 25, 1989

The following outline status report on the major issue areas involved in implementing the Hawaii Geothermal/Undersea Cable Project is provided to update participants knowledge, clarify understanding, discuss unresolved issues, and aid in strategy development.

Hawaii Deep Water Cable Program (HECO)

- o All Congressional funding to complete the research is in place
- o U.S. DOE and HECO have completed final contract negotiations
- o Final phase at-sea testing, deployment, and retrieval of a surrogate cable scheduled for October-November 1989
- o Test results should be available to the public/bidders in early 1990

Implementing Act 301, SLH 1988, Geothermal Permit Streamlining Act (DLNR)

- o DLNR has developed draft administrative rules
- o Public hearings to consider rules were held throughout State in June 1989
- o DLNR staff and the BLNR are reviewing public comments for final rule making
- o Current goal to recommend rules for Governor's approval this summer
- o DLNR has established an Interagency Coordinating Group that includes Hawaii County representatives. However, lack of representation has been raised as an issue by their Planning Director.

Geothermal Resource Verification and Characterization Program (DBED, UH)

- o HNEI Slim Hole Project, managed by Dr. Harry Olson, is still seeking land use permits for the \$3 million project
  - Well drilling permits have been obtained from DLNR
  - County Geothermal Resource Permit mediation process was completed on July 6, mediator's report filed with the County on July 17
  - Planning Commission deferred decision on the permit until the first week of August
  - Private sector is watching what occurs with this permit with great interest
  - Permit application for SOH 3 in State conservation lands is pending review and approval by DLNR

- o 1989 Legislature also provided \$2.6 million for additional geothermal exploration work; plans to utilize these resources must be firmed up
- o DBED expects to request additional \$3 million for 1990 Legislature for geothermal exploration
- o State request for Federal funding for geothermal exploration being pursued by consultants, Cassidy and Associates
  - Requesting \$15 million total, spread over three years
  - Money was not included in the House markup of the Appropriations bill (no "new start" criteria by Committee)
  - Cassidy and Associates are pursuing the Senate version with Senator Inouye's assistance
- o True/Mid-Pacific has initiated their exploration program; their initial overzealous road-clearing activities has caused problems
  - Work is currently stopped, pending BLNR enforcement action
  - Hawaii County has expressed concern over their lack of jurisdiction over this incident

Request for Proposal (RFP) to Select Private Consortium (DBED, DLNR, HECO)

- o Technical RFP development by HECO, their consultants, DBED representative, forming a Working Committee (RFP issued May 1989)
- o RFP scope provides for privately owned and financed "complete" project (geothermal, power plants, and transmission) with power delivered to HECO grid
- o Contract arrangement is private PPA; alternatives such as cost sharing; build, own, transfer, public financing not considered at this time
- o RFP Steering Committee (HECO, DLNR, DBED, Mr. Quinn) meets regularly to guide policy framework for RFP
- o All-day open bidders conference held on June 5, 1989; over 125 persons attended, several issues of concern to bidders were discussed
  - Proposers were concerned over their lack of ability to acquire overland transmission routes. Through DOT, the State may be able to use Chapter 227, HRS, "Energy Corridors" to acquire rights-of-way. 277
  - Proposers wanted clarification on other land acquisition issues. They were advised that the State cannot use eminent domain to acquire access for geothermal fields and power plants to be owned by the private sector.

- Proposers inquired of the level of State financial assistance available. This was not quantified, but the State is open to indirect financial assistance.
- Permitting assistance was raised as an issue. DBED and DLNR are committed to provide assistance, but the developer must apply for site-specific and technology-based permits.
- Formal written response to questions issued by HECO/State on July 12, 1989
- o Next milestone is a second-round of proposers meetings (individually this time) about September 5
- o Technical proposals due November 1, 1989, financial proposals due December 1, 1989; HECO wants to negotiate power purchase agreement by the end of 1990

Develop Geothermal Master Plan, Conduct Public Involvement Program (DBED)

- o On June 30, 1989, a contract for \$400,000 was negotiated and awarded to ERC Energy and Environmental Services for first phase Master Development Plan, public involvement program, and overland transmission corridor analysis
- o FY 1989-90 CIP of \$800,000 will increase scope to complete planning and prepare programmatic EIS, completion date before end of 1990
- o Consultant currently working on a detailed work plan
- o DBED is sponsoring another roundtable on August 1, 1989, with the Puna Community in Hilo. ERCE and subconsultant, Communications Pacific, will join State representative in a July 29 coordination session.
- o DBED (Kaya) and HECO (Bonnet) presented a talk on the project to Waimea-Kawaihae Community Association on July 6. A similar presentation has been requested by the Kona Chamber of Commerce.

HGP-A and Puna Geothermal Venture (PGV) (NELH)

- o HGP-A continues to receive media attention
- o NELH, in writing and in person, has addressed items of immediate concern to Hawaii County Planning
- o Critical power needs of HELCO at present argue for maintaining HGP-A operation.
- o HELCO expects to have additional generation (diesel, at Keahole) on line about October, pending issuance of air quality permits
- o PGV has expressed interest in using the existing steam resource when their first plant is on line. Requires BLNR approval.

- o There are numerous operating commitments to ongoing research at HGP-A and NELH's Puna Research Center that rely on this same steam
- o PGV's geothermal permit from Hawaii County is also in mediation. The same parties are involved as those with SOH, with the addition of County Planning and Council Chair Kokubun.

#### Specialized Consultants (DBED)

- o Gerald Sumida of Carlsmith et al has been retained as special counsel to the State for the project
- o ENEL-Italian National Electric Energy Organization
  - Has proposed to DBED to provide expertise on program review and oversight, assistance with evaluations of State/HECO RFP, and preparation of a geothermal resource development plan
  - Contract currently pending Governor's approval
- o DBED is also pursuing specialized expertise in financial program development

#### Miscellaneous

- o Mayor Akana has recently formed a Geothermal Advisory Commission to "advise and advocate" on behalf of geothermal to the Mayor and Council
- o DBED has intervened before the PUC regarding Kalaeloa oil-fired cogeneration plant; issues are conformance with State policy, effect of additional fossil plants on a transition to geothermal in 1995, and use of demand-side management techniques to defer need for additional generation capacity
- o DBED is also conducting a workshop to "identify and deal with impediments to renewable energy development" on July 26 and 27
- o Governor's Advisory Board continues to provide needed counsel on the project; next meeting planned in Hilo
- o Budget and Finance and PUC address policy questions regarding financial mechanisms, financial assistance, direct or indirect subsidy, other incentives, attracting foreign capital
- o Department of Health needs to issue final rules for Air Quality Permitting (relating to emissions, particularly hydrogen sulfide)
- o DLNR ongoing issues
  - Designation of Kilauea S.W. Rift Zone as Geothermal Resource Subzone (GRS)
  - Determine whether property owners in existing GRS can withdraw their properties from the subzone since geothermal activity already occurring

- Determine the applicability of the 3,500 feet buffer zone for all proposed geothermal development
  - Express a position on the legality of ongoing geothermal activity and permitting in Campbell lands pending Pele suit
- o Attorney General's Office
    - Counsel on how to handle liability for damages from geothermal-related activities (damage to property, agriculture crops, health and nuisance)
    - Applicability of energy corridor (Chapter 227, HRS) statute to geothermal transmission lines, and whether State can exercise eminent domain
    - Possible challenge to right of due process by eliminating contested case provisions and direct appeal to the Supreme Court
    - Chapter 343 concern over whether all geothermal activities held off until master project EIS is filed
  - o Hawaii County issues
    - Statement of position on geothermal related to County Policy and General Plan
    - Understanding and communication of benefits of project to State and County (\$158 million PDV 1986 dollars, Plasch report)
    - Address perceived and real land use conflicts, i.e., suitability of geothermal in agriculture zone with residences
  - o Maui County needs to adopt rules for geothermal development on Maui

July 24, 1989

MEMORANDUM

TO: Mr. William W. Paty

FROM: Manabu Tagomori

SUBJECT: DLNR STATUS REPORT ON GEOTHERMAL ACTIVITIES

11:00 AM P2:42

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORICAL BACKGROUND

- o HGP-A well completed, July 1976.
- o Administrative Rules, Chapter 13-183, for the Leasing and Drilling of Geothermal Resources were adopted on May 1978.
- o Administrative Rules, Chapter 13-184 for the Designation and Regulation of Geothermal Resource Subzones were adopted on August 1984.
- o Six (6) State Geothermal Resource Mining Leases (GRML) have been issued to the following:
  - a. GRML S-4602 (HGP-A Well), issued 1979.  
Lessee: Research Corporation of the University of Hawaii (RCUH). Sublessee: Natural Energy Laboratory of Hawaii (NELH). Total acreage: 4 acres.  
Landownership: State Land Use Classification (LUC): Agriculture (AG)
  - b. GRML R-1, issued 1981  
Lessee: Bishop Estate. Sublessee: Puna Geothermal Venture (PGV/ORMAT). Total acreage: 3,487 acres.  
Landownership: Private  
LUC: AG (3,044 acres)  
Conservation (443 acres)  
\* Only 751 acres (AG) contained within the GRS.
  - c. GRML R-2, issued 1981.  
Lessee: Kapoho Land Partnership. Sublessee: Puna Geothermal Venture. Total acreage: 816 acres.  
Landownership: Private LUC: AG
  - d. GRML R-3, issued 1981.  
Lessee: Barnwell Geothermal Corporation. Total acreage: 777 acres.  
Landownership: Private LUC: AG

MINING LEASES (continued):

- e. GRML R-4, issued 1982.  
Lessee: Puna Geothermal Venture. Total acreage: 279 acres.  
Landownership: Private LUC: AG
- f. GRML R-5, issued 1987.  
Lessee: Campbell Estate. Sublessee: True/Mid-Pacific Geothermal Venture. Total acreage: 9,014 acres.  
Landownership: Private  
LUC: AG (618 acres) Conservation (8,396 acres)
- o Total acreage leased by the State: Approx. 14,377 acres.

FOUR (4) DESIGNATED GEOTHERMAL RESOURCE SUBZONES (GRS)

- o Kilauea Lower East Rift GRS:  
Kapoho Section GRS: 5,756 acres. Designated 10/16/84. (Excludes GRML R-2 and R-3. Leases R-2 and R-3 were designated ("grandfathered" by the Legislature) as subzones only for the duration of the leases.)  
  
Landownership: Private (5,752 acres) State (3 acres)  
Land Use Classification (LUC): both Conservation (CONS) and AG.
- o Kamaili Section GRS: 5,531 acres. Designated 10/16/84.  
  
Landownership: Private LUC: AG
- o Kilauea Middle East Rift GRS: 9,014 acres. Designated 12/20/85.  
  
Landownership: Private (8,850 acres) State (164 acres)  
LUC: AG (618 acres) CONS (8,396 acres)
- o Haleakala Southwest Rift GRS: 4,108 acres. Designated 10/16/84.  
  
Landownership: Private (3,573 acres) State (535 acres)  
LUC: Both CONS and AG.

## PENDING SUBZONE DESIGNATION

- o Proposed Kilauea Southwest Rift GRS: 8,090 acres.  
Designation - Pending. (Requests for contested case hearing on the subzone proposal are currently under review by the Attorney General's office, and a determination will be made as to whether the requests may be denied or if a hearing is in order.)  
  
Landownership: Private (3,162 acres)  
State (4,928 acres)  
LUC: AG.
- o Total acreage within subzones (including R-2 and R-3):  
24,409 acres + (1,593 acres) = approx. 26,000 acres.

## EIGHT (8) GEOTHERMAL WELLS DRILLED (including one side-track directional well).

- o Successful wells (4):  
HGP-A (1976) by NELH  
Kapoho State 1 (1981) by PGV  
Kapoho State 2 (1982) by PGV  
Kapoho State 1-A (1985) by PGV
- o Unsuccessful wells (4):  
Ashida 1 (1980) by Barnwell  
Lanipuna 1 (1981) by Barnwell  
Lanipuna 1 / Side-track (1983) by Barnwell  
Lanipuna 6 (1984) by Barnwell
- o (Note: Two (2) wells drilled at Puu Waa Waa (1978) by Puu Waa Waa Steam Company. Both wells were unsuccessful and were converted to water wells.)

## CURRENT GEOTHERMAL ACTIVITIES

- o HGP-A Power Plant Facility presently producing about 2.3 megawatts of electricity.

Discussions are currently underway between Puna Geothermal Venture (PGV) and the Natural Energy Laboratory of Hawaii (NELH) concerning the future status of the HGP-A well and power plant facility. Termination options include the complete shut down of the power plant and the continued use of the HGP-A well. This plan proposes that steam/brine would be transported from HGP-A and supplied to PGV/ORMAT with the provision that PGV would continue to provide brine for the existing Puna Geothermal Research Facility.



CURRENT ACTIVITIES (continued):

HGP-A (cont.)

DLNR is has reviewed the proposed termination options as it pertains to our area of concern, including but not limited to, the lease (GRML S-4602) provision for the waiver of royalty payments to the State, and the condition and integrity of the HGP-A casing and well head structure.

Based on staff's analysis of the options, DLNR recommends the following transition plan for the HGP-A well and power plant facility:

1) Shut down of the HGP-A well and power plant as soon as practicable. The timetable for termination of all operations should take into consideration current operating commitments to HELCO, provided that all applicable regulations and lease requirements related to public safety and the protection of the environment continue to be met until such time as the suspension of all operations are feasible.

2) Upon the shut down of the HGP-A well, the lessee/operator shall be required to conduct well tests, including but not limited to, a casing caliper log, spinner surveys, and cement bond log to evaluate the integrity of the existing casing. In addition, the lessee/operator shall take appropriate action to remove the existing brine percolation ponds and provide for the reclamation/revegetation of all disturbed lands in manner approved by the Chairperson.

3) The results of the tests identified in item (2) above, shall be submitted to the Department for review within 30 days after the completion of the tests. If it is determined that the well casing and cement bond is satisfactory (i.e. no corrosion or cracks are found), or if any defects are discovered and are properly corrected, then the HGP-A well may be approved for continued use. (It may be advisable to contract an independent consultant such as a reservoir engineer whose specialty includes the analysis and evaluation of down-hole data to assist the Department in its review.)

o HGP-A (continued)

4) Concerning the DBED proposal to provide geothermal resource to Puna Geothermal Venture (PGV), who would then supply brine back to the Noi'i O Puna Research Facility, it is recommended that the Department not permit the continued use of percolation ponds at the research facility, but instead require re-injection of these fluids by PGV or NELH (which would require NELH to drill their own injection well subject to State/County approvals).

5) Lastly, should negotiations between PGV and NELH result in an agreement to supply steam/brine from HGP-A to PGV (provided that the well is tested and approved), it is recommended that the lease (GRML S-4602) provision for waiver of royalties be terminated (on the assumption that the provision is not transferrable to GRML R-2) and that any State revenues received from the sale of the resource to PGV, be used for special capital improvement projects located in the Puna District, island of Hawaii. (One such project that could be considered is the construction of county water lines into areas that are dependent upon catchment water systems.)

o PUNA GEOTHERMAL VENTURE/ORMAT (formerly Thermal Power Co.)

Operator for leases R-2 and R-4 in the Kapoho GRS, and R-1 in the Kamaili GRS.

Has drilled (3) successful wells: Kapoho State 1, 2, and 1-A. Currently, KS-1 and KS-2 are temporarily plugged. KS-1A is presently shut-in but not plugged.

On 3/10/89, the Board of Land and Natural Resources approved PGV's Amended Plan of Operations for lease R-2.

PGV/ORMAT submitted an application for a geothermal well modification permit to set a temporary cement plug in the existing well Kapoho State 1A. The application was reviewed and a modification permit was issued on 6/16/89 by the Department.

PGV has applied for a Geothermal Well Drilling Permit to drill a new well designated as Kapoho State # 3. The permit application is currently under review by the Division of Water and Land Development and the Division of State Parks.

o TRUE/MID-PACIFIC (T/MP) GEOTHERMAL VENTURE

Operator for lease R-5 (issued to Campbell Estate) in the Kilauea Middle East Rift GRS.

On 3/23/89, the Board approved True/Mid-Pacific's Plan of Operations for lease R-5.

The Department has received and approved the following: 1) True/Mid-Pacific's application for a geothermal well drilling permit for well T/MP A1-1, 2) their request for modifications to the conditions of the Board of Land and Natural Resources' Decision and Order dated April 11, 1986, and 3) Environmental Monitoring Plans and Programs.

In compliance with the Board's D/O, True/Mid-Pacific submitted an Archaeological Research Design which was reviewed by the Department and approved on 6/16/89. Upon confirmation of the DLNR's final ministerial approval, the Hawaii County Department of Public Works issued a Grubbing Permit to True Geothermal Energy Co.

As part of the Department's regulatory and monitoring functions, staff was sent (on 6/30/89) to conduct a site inspection of the access road and drill site which was cleared and grubbed by True/Mid-Pacific (Applicant). The inspection concluded that a violation had occurred, and that the Applicant had exceeded their approval to clear 3 acres for the drill site within the Conservation District.

A follow-up inspection of the clearing activity was conducted on 7/11/89, and with the assistance of the DAGS Survey Division, a measurement/survey of the grubbed area was completed. Measurements indicate that a total of approximately 8.5 acres was cleared.

On 7/11/89, the Department issued a Notice and Order to cease and desist any further activity within the Conservation District. The Cease and Desist Order was sent to Campbell Estate and True Geothermal Energy Co. (Hank True III and Allan Kawada).

DLNR staff is currently reviewing the matter of the violation. The Board of Land and Natural Resources is expected to take action on the matter at its next meeting on 8/11/89, at which time a penalty will be imposed on the developer.

o BARNWELL GEOTHERMAL CORPORATION

Operator for lease R-3 in the Kapoho Section GRS.

Unsuccessfully drilled (2) wells (plus one directional well) in the Kapoho Section GRS and one well (Ashida 1) in the Kamaili Section GRS.

All operations are currently suspended.

The Department has transmitted a letter to Barnwell Geothermal Corp. requesting an update and status report on their existing wells (Lanipuna No. 1 and 6) and future plans for the area covered under lease GRML R-3. (Should the developer indicate their decision to terminate all development activities, steps will be initiated by the Department to insure the proper abandonment of the existing wells drilled by Barnwell, including the revocation of the mining lease, if warranted.)

o UNIVERSITY OF HAWAII/RCUH/DBED PROJECT

Proposes to conduct a Scientific Observation Hole (SOH) Program on both the islands of Hawaii and Maui, to drill as many as (6) exploratory test holes approx. 4,000 to 6,000 feet in depth within designated GRS areas. Two in the Kapoho Section GRS, one in the Kamaili Section GRS, one in the Kilauea Middle East Rift GRS, and possibly two in the Haleakala Southwest Rift GRS.

UH/HNEI has submitted Geothermal Well Drilling Permit applications for (6) Scientific Observation Holes (SOH): (4) located on the island of Hawaii and (2) located on the island of Maui. Three geothermal well drilling permit applications for the island of Hawaii (SOH 1, 2, and 4) have been reviewed and approved by the Department. The geothermal well drilling permit application for SOH 3 (proposed within the Campbell CDUA permitted area) and a request for authorization to conduct such activity in the area, are currently under review by the Department as to their compliance with the Board's Decision and Order dated April 11, 1986 and other related DLNR conditions.

In addition, the project will require the approval of the Hawaii County Planning Commission and the issuance of County Geothermal Resource Permits for SOH 1, 2, and 4. Mediation proceedings have been completed and the Planning Commission is to take action on the GRP application at its next meeting on 8/8/89.

## PENDING GEOTHERMAL ACTIVITIES

- o Pursuant to statutory amendments, DLNR is preparing to amend both Administrative Rules, Chapter 13-184, on the Designation and Regulation of Geothermal Resource Subzones, and Chapter 13-183, on the Leasing and Drilling of Geothermal Resources. (Estimated completion within 6 months.)
- o A pending request for contested case hearing on the proposed designation of the Kilauea Southwest Rift GRS, is currently under review by the Attorney General's Office.
- o A Public hearing was held on 4/20/89, for a landowner initiated request for geothermal subzone designation of approx. 40 acres adjacent to the existing Kapoho Section GRS. The open period (15 days) for submittal of written testimony ended on 5/5/89. The Board is expected to take action on the matter at its next meeting on 8/11/89. (Based on review of the testimony received and evaluation of applicant's request, staff is recommending denial of the requested subzone designation.)
- o Pursuant to many landowner initiated requests for withdrawal of private properties from the existing Kapoho Section GRS, the Department has initiated preliminary review of these (written/verbal) requests and will schedule a public hearing to receive testimony on these requests for subzone modification when all information has been compiled and evaluated.
- o The Department has received and begun processing of a Conservation District Use Application and Environmental Assessment for the Pohoiki Geothermal Transmission Line. The proposed project is to construct two 69 KV transmission lines between the Pohoiki (PGV) geothermal site and the Puna Substation within a 50-foot wide easement of the Nanawale Forest Reserve (TMKs: 1-4-03:08 and 1-4-01:04) in the Puna District, island of Hawaii. The Department has concluded that a public information meeting will be required and has determined that a Negative Declaration is appropriate for the project. (It should be noted that the Negative Declaration determination only applies to the small portion of the project that is located in the Conservation District and does not apply to the balance of the project located outside of the Nanawale Forest Reserve. The environmental determination on the rest of the transmission line project will occur independent of this present application with the Department.)

PENDING ACTIVITIES (continued):

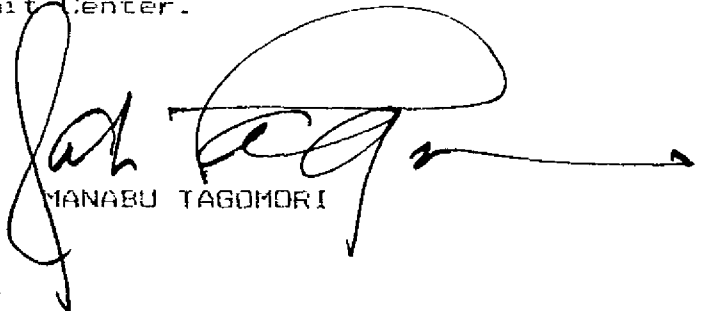
- o DOCARE reports that within and adjacent to geothermal resource subzone areas, approximately 200,000 marijuana plants were eradicated by the Department. Recent helicopter reconnaissance reveals new plantings of considerable amounts in those same areas. (See attached memorandum.)

GEOHERMAL AND CABLE SYSTEM DEVELOPMENT PERMITTING ACT (ACT 301)

- o A Geothermal/Cable Interagency Group has been established, consisting of the following agencies:

Department of Land and Natural Resources  
Department of Transportation  
Office of State Planning  
Department of Health  
Department of Business and Economic Development  
County of Hawaii  
County of Maui  
City & County of Honolulu  
U.S. Corps of Engineers  
U.S. Navy  
U.S. Coast Guard  
U.S. Environmental Protection Agency  
U.S. Geological Survey  
U.S. Fish and Wildlife Service  
National Marine Fisheries Service  
National Park Service

- o The Geothermal/Cable Permit Center to provide permit information and assistance to potential applicants has been established and is now in operation.
- o Administrative Rules for Chapter 196-D, HRS, (ACT 301), have been drafted and statewide public hearings on the proposed rules were conducted on June 21, 1989. The Board of Land and Natural Resources will take action to adopt the proposed rules at its meeting on 7/28/89 and immediately forward the rules to the Attorney General's office for approval as to form prior to transmittal to the Governor for his final approval.
- o The Board of Land and Natural Resources has approved the hiring of a Librarian and a Public Relations Specialist to assist in the implementation of Act 301 and the operations of the Geothermal/Cable Permit Center.

  
MANABU TAGOMORI



RECEIVED

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF CONSERVATION AND RESOURCES ENFORCEMENT  
P. O. BOX 836  
HONOOLULU, HAWAII 96721-0836  
July 21, 1989

33 JUL 24 A 9: 21

MEMORANDUM:

TO: Manabu Tagomori, DONALD  
FROM: Lawrence L. Terlep, Hawaii Branch Chief  
SUBJECT: Geothermal Development Input DOCARE  
Pakalolo Growing

DIV. OF WATER &  
LAND DEVELOPMENT

With regard to memo dated 7/20/89 from Deputy Landgraf, please find response to Pakalolo problem in the Puna district on the island of Hawaii.

Within and adjacent to lands of geothermal resource area subzones, approximately 200,000 marijuana plants were eradicated by DOCARE.

Recent helicopter reconnaissance reveal new plantings of considerable amounts in those same areas.

*Lawrence L. Terlep*  
Lawrence L. Terlep

LLT/wjy  
Attach.

Department of Land and Natural Resources

OPERATIONAL PROGRAM PLAN FOR ACT 301, SLH 1988

Program ID: LNR 403

Program Title: Mineral Resources

Statement of Program Objective: To conserve and enhance, where appropriate, the State's supply of mineral resources, including geothermal resources. To facilitate the various permitting processes and requirements related to developing geothermal resources and the related electrical transmission and cable systems required.

Description of Activities Performed: Administer the activities relating to the management, conservation, protection, development, and utilization of mineral and geothermal resources.

Administer an interagency group made up of State, County, and possibly Federal agencies to develop and coordinate geothermal resource programs of the respective agencies and private entities.

Administer and interpret laws and regulations concerning exploration, development, leasing and mining of geothermal resources.

Administer geothermal resource subzones and administer a consolidated permit application and review process for geothermal and cable development activities.

Statement of Key Policies Pursued: The development of Hawaii's geothermal resources represent a substantial and long-term source of indigenous and renewable alternate energy that could be developed to meet the State's energy needs and reduce the State's dependence on imported fossil fuel.

The State has deemed it appropriate that the private sector should develop these geothermal resources, and to that end, has sought to encourage private sector exploration and development of geothermal resources. These goals can be accomplished through the creation of a consolidated permit application and review process for the development of geothermal resources and electrical transmission system in the furtherance of the State's plans and policies.

Identification of Important Program Relationships: Geothermal resource development is closely related to scientific research, water resource management, and environmental protection. In order to accomplish these program goals, close coordination and cooperation must be maintained with the Department of Health, Department of Business and Economic Development, the Hawaii Institute of Geophysics, the University of Hawaii, the U.S. Geological Survey and other Divisions within DLNR.



The development of the transmission cable will also require coordination and interaction with the State Public Utilities Commission, the County's Planning Departments, the Federal Environmental Protection Agency, and the U.S. Army Corps of Engineers whose resource management objectives parallel this program.

Description of Major External Trends Affecting the Program: National interests for energy self-sufficiency has highlighted the exploration and development of geothermal energy resources in Hawaii.

The objectives of economic development, environmental quality, and social factors are the major concerns of the program. As such, the program must be cognizant of these trends and adjusted accordingly to carry out the program objectives of management, conservation, protection, and utilization of this resource.

Discussion of Cost, Effectiveness and Program Size Data: The program has an existing staff of two geologists and one drafting aid. An additional staff of a geologist, a planner, and a secretary is requested to carry out new activities required by Act 301, SLH 1988, entitled "Geothermal and Cable System Development Permitting Act of 1988".

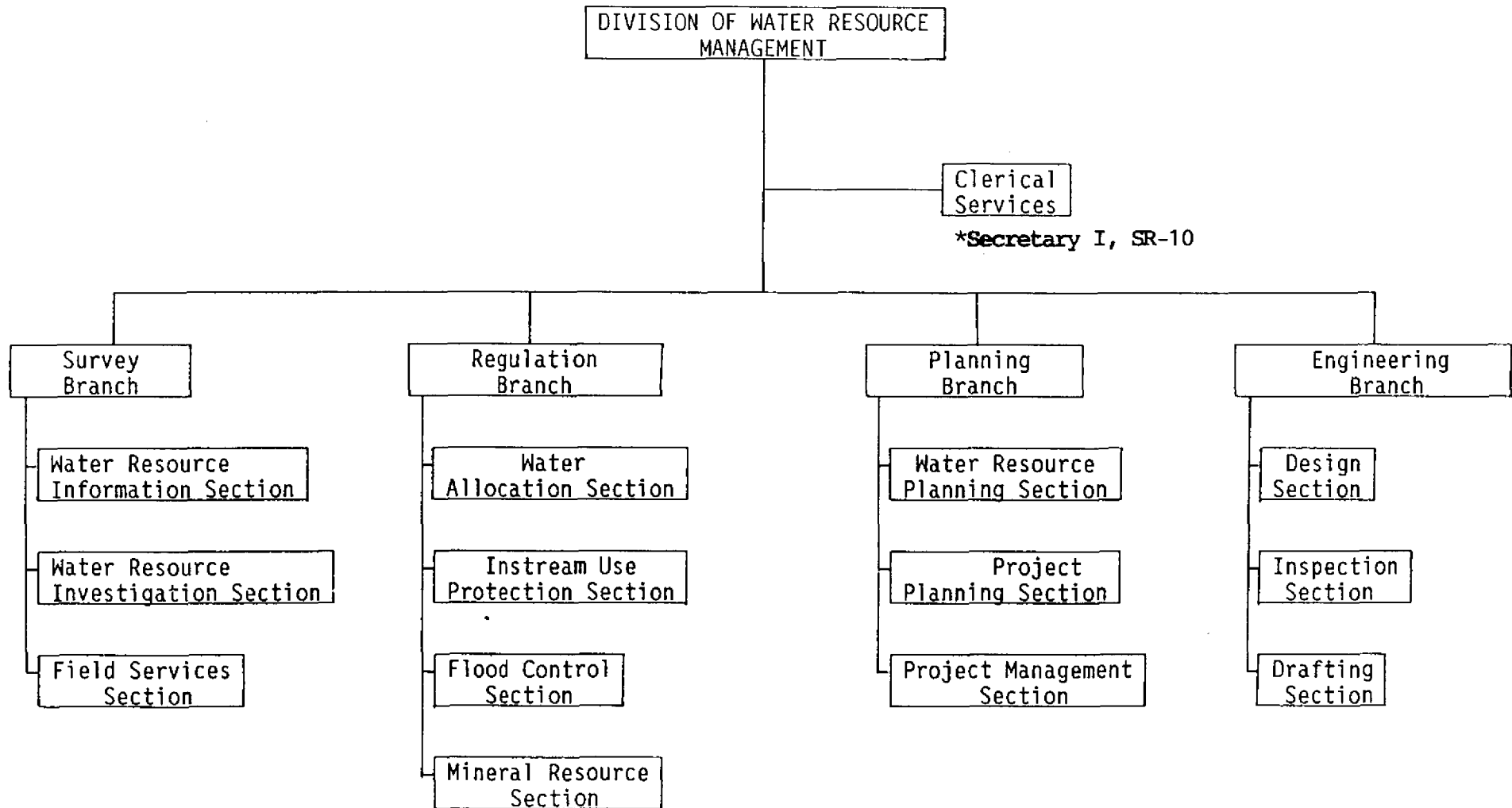
It is the goal of the State to maintain a permanent staff to handle the administration of planning, regulation, and consolidated geothermal permit application and review processes for mineral and geothermal resources development activities.

In addition, the program provides for the creation and operation of an information services center within DLNR and the maintenance of a geothermal library of pertinent rules and procedures which will provide guidance to potential project applicants.

Further Consideration: The current geothermal program is a minimum program to meet the current needs of today's goals. The continued growth of the State increases the demand for electrical energy and creates a need to increase the manpower required by the expanded program activities of Act 301, SLH 1988.

Additional Staff Required:

- 1 Geologist I, SR-26 (Currently, no SR-26 classification exists for Geologist I category.)
- 1 Planner V, SR-24
- 1 Secretary I, SR-10



Clerical Services

\*Secretary I, SR-10

Survey Branch

Water Resource Information Section

Water Resource Investigation Section

Field Services Section

Regulation Branch

Water Allocation Section

Instream Use Protection Section

Flood Control Section

Mineral Resource Section

Planning Branch

Water Resource Planning Section

Project Planning Section

Project Management Section

Engineering Branch

Design Section

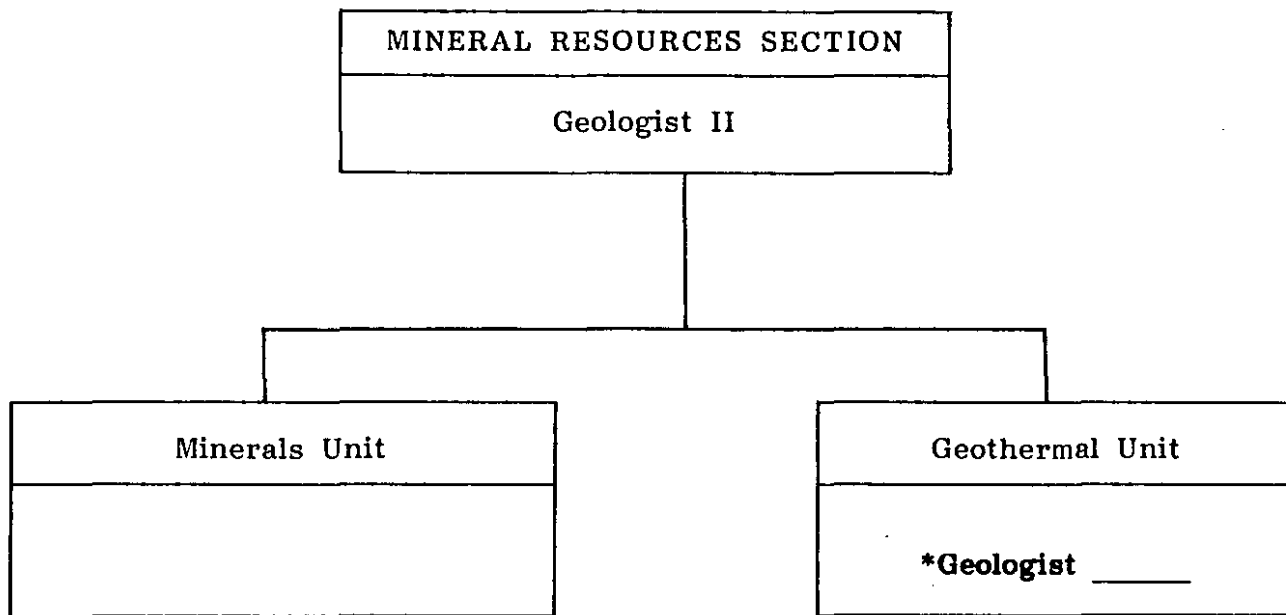
Inspection Section

Drafting Section

\*Geologist (SR-26)

\*~~Mineral Resource Section~~ (SR-24)

\*Requested New Position



Geologist I

Geologist I

Engineering Draftsman VI

**\*Planner V**

\*Requested New Position.

December 13, 1988

MEMORANDUM

TO: APPROPRIATE FEDERAL AND STATE TAX AGENCIES

FROM: Manabu Tagomori, Deputy Director  
Department of Land and Natural Resources

SUBJECT: Costs Related to Geothermal Site Visitations

This is to verify that Mr. Susumu Ono, Consultant to the Department of Land and Natural Resources on geothermal development, did travel to Sparks, Nevada and the Imperial Valley in southern California during the period from August 10 through August 18, 1988 as part of his assigned duties. Air and ground transportation costs were borne by the Consultant.

Mr. Ono was also required to stay in Reno, Nevada on July 30, 1988. He assumed the cost of meals and lodging on this trip.

*/s/ Manabu Tagomori*

MANABU TAGOMORI

MT:ssk

## CONFLICTS BETWEEN STATE DEPARTMENTS

Any affected State department head may declare that an impasse exists between that department and other department or departments of the State during any phase of the permitting process related to the geothermal/cable project.

The applicant may also seek an impasse declaration by filing in writing with the Administrative Director of the State that such a declaration should be issued if the processing of a permit application has not made significant progress for 45 calendar days. The Administrative Director shall make the determination whether an impasse declaration should be made.

Upon an impasse being declared, the involved department heads shall each submit a report in writing to the Administrative Director within 10 calendar days from the date of the impasse declaration. The reports shall list the chronological events leading to the impasse, the perceived causes of the impasse, and a suggested solution.

The Administrative Director or his designee shall meet with the involved directors within 20 calendar days from the impasse declaration date. Should the impasse still exist following this meeting, the Administrative Director shall report to the Governor the latest position of the director with a recommendation.

The involved departments shall initiate implementing the Governor's decision within three calendar days from the date of the final decision.

INTERAGENCY GROUP  
ON GEOTHERMAL AND CABLE SYSTEMS DEVELOPMENT

February 14, 1989  
Department of Land and Natural Resources  
Board Room  
1151 Punchbowl Street  
Honolulu, Hawaii 96813  
10:00 a.m.

Welcome to the second meeting of the Interagency Group on geothermal and cable system development. Act 301, Hawaii Revised Statutes chapter 196D, authorized the creation of this group to expedite the processing of permits required to go ahead with geothermal development.

As at the first meeting, I am please to see some of the key federal agencies represented here today. Again, I will emphasize that participation of federal agencies in this interagency group is voluntary, and in no way binds them to a particular course of action. Under Act 301, State and County agencies are obliged to participate, but the coordination this Act provides should make the permitting process flow more smoothly for every agency participating.

Since the last meeting progress has been made in the work plan that was presented at that time. We thank you for identifying the various permits and sending us copies of the forms that may be required from each agency, and for considering what legal implications Act 301 may have on the various permitting processes.

On our side, we have drafted some administrative rules for Act 301 that you will receive later this week. We look forward to your comments on these rules, especially as they affect your agency, and would appreciate your comments before we forward the draft on in the review process. These rules spell out what the interagency group is expected to do, specifically, to appoint a working group to process permits cooperatively, to resolve conflicts, and to monitor and enforce terms and conditions of the various project permits.

We have hired staff and secured office space to carry out the 301 function, and have started collecting materials for the information and repository aspects of Act 301.

Today we wanted to update you on these aspects, and also present you with the latest information on progress in geothermal development. We have two companies represented today, Ormat Energy Systems by Mr. Maurice Richard, and True Mid-Pacific Energy by Mr. Rod Moss. They will explain their firms' respective activities and goals. Also we have Dr. Harry Olson of the Hawaii Natural Energy Institute who will brief us on research aspects of the projects.