REGULATION BRANCH
Division of Water Resource Management

FROM: John
DATE: 2/20/92
FILE IN: 

TO: INITIAL:

G. MATSUMOTO
F. Ching
T. Kam
S. Samuels
D. Nakano
S. Yong
C.P. Chang
J. Swift
T. Nakama
B. Micua

PLEASE:

See Me
Call
Review & Comment
Take Action
Investigate & Report
Draft Reply
Acknowledge Receipt
Type Final cc:
Xerox copies
File
Mail

REMARKS:

Mandla: This letter was quite a meeting. We had a follow-up meeting to discuss the draft. He pointed to an issue that had to be addressed before the end. The bottom line is that if the bottom line is that if the bottom line is that if

FOR YOUR:

Approval
Signature

Information

File #78

M. TAGOMORI
S. Kokubun
price of oil (that's how they cut our with HELOC in one def, at least for a portion of proceeds, under one year). I told him I'd look into it. He said there are models available in the area of area of royalty calculations.
Trip Report

On Wednesday, February 19, 1992, I travelled to Hilo on the 5:40 a.m. flight to attend a meeting called by Harry Kim of Hawaii Civil Defense Agency to review version 6.1 of the Emergency Response Plan for PGV.

I also stopped to meet Mr. Tagomori at the DLNR Hilo office, and met with him, Mr. Paty, Mr. Keppeler and Eric Tanaka. Mr. Paty asked me to work on steps to expedite the supplement to the RCUH contract so that Mr. Hamblin (and others?) can be brought on as soon as possible to expedite the administration's policy decision to have a third party review of True/Mid-Pacific's program prior to lifting the ban on geothermal operations.

The meeting at Mr. Kim's office was attended by Mayor Inouye, Planning Director Norman Hayashi, Managing Director Barry Mizuno, Corporation Counsel Mark (?), Police Chief Vierra, Fire Chief (?), Mark Ingolia of DOH, (?) of DOH, Mr. Matsuura of DOH (?), Dean Nakano and Michelle Wong-Wilson of DBED, Mr. Jack Keppeler of DLNR, Bruce Butts, Lenny (?) of Harry's staff, and Mr. Kim.

Harry passed out two handouts that he wanted help on. He made the point that he believed that if there are items he is still unclear on, then it would be very difficult for him to explain these matters to the public. The public in the Puna District has little trust of government. Harry asked for suggestions as to how to conduct the public education aspect required under the Emergency Response Plan. Chief Vierra said that this is a different kind of situation - not like a tsunami or eruption - it is something that a lot of disinformation has gone out, and a lot of emotion is involved. He suggested bringing the community leaders into the planning process. Harry and officials with technical expertise would go out to meet with community leaders in the Puna area.

There was extensive interchange between Harry and Mark Ingolia of the Department of Health on a variety of issues. Mark made the point that these community meetings are good for "venting" but not for real communication. There was discussion regarding how and what to tell the public about what to expect during various operating and upset conditions - Harry asked specifically whether people would smell anything during so called normal operations - what levels would be expected then. The answer was that PGV is expected never to exceed permitted conditions. Harry wanted to know what the "affected" area would be that the public education program should be addressed to - is it the maximum 20 mile area as indicated in one of the scenario maps? That is a huge area he said.

Harry came back to the issue of other agency's approvals of the Emergency Response Plan. He called on each agency to explain their concerns with the plan. Mark Ingolia explained DOH concerns and how they were implemented by PGV making changes in the plan.
Janet Swift explained the minor changes PGV made to satisfy DLNR's concerns, Harry read part of Hawaii County Fire Chief's concerns saying they had "no confidence" due to the inconsistencies regarding what is safe and what is unsafe. Chief Vierra wanted to know of all incidences that may affect residents.

The Chief went on to say that lack of expertise is putting us in a corner - he said we need people who really have answers to peoples' questions.

Mark Ingolia said we all have to do our homework - he said this isn't nuclear physics, it is something you can find out about and understand. Harry Kim made the point that the people in the area have done just that and know more than many of us.

Harry asked about lead and arsenic contamination in water catchment systems that are used in the area and whether there is truth to the claim that there is danger due to PGV's activities. Also he said food farms are concerned about this getting on their mangos, avocados, guavas, papayas, etc.

Mark said that the short term nature of venting incidents makes this much less a problem than the constant exposure to leaching of lead from residents' roofs. This is a problem in the area especially for children whose nervous systems are still developing, but it is insignificantly attributable to geothermal activities. It is something residents should be concerned about, however.

Harry asked about Table 8.1 and Table 8.2 in the Emergency Response Plan. He said it appears that under 95% abatement under "routine" conditions that would put us on a "watch" or "alert" status. Harry asked if DLNR could follow up on this matter. There followed discussion that every one of those scenarios would be "upset", that none is routine, since PGV has to follow its permit requirements of less than 25 ppb emissions. Harry asked which routine operations create 10 - 25 ppb, which people are bothered by and which guaranteed will cause massive complaints. The answer under the permit is they can't exceed 10 ppb over a 24 hour average, and they can't exceed 10 ppm over a 1 hour average.

Harry said he would like to know if there are routine operations where there would be H2S in excess of 10 ppb. He said it helps to let people know ahead of time.

Harry said he will review, re-check and look at requirement #14 (regarding the educational program) to figure out the definition of "affected" residents. In response to the Mayor's questions as to a date when Harry's review might be finished, Harry said he would stick to his original statement of 30 days after the submission of the plan, and version 6.1 was received on February 6, he started reviewing it February 7. He said it meets the broad requirements but needs the public education aspect.
The Mayor asked whether the standard operating procedures and the public education program would come before approval or after. Harry said the problem is that the education program is a required part of the ERP. Harry said he could sign off on the ERP with the condition that we carry out a community education program, but he needed clarification if that was legal. The Corporation Counsel was puzzled as to what was the problem. Legally that would be satisfactory.

There followed considerable discussion as to whether the developer shouldn't be required to do the education job. (Harry had expressed earlier that this would be a disaster, not that PGV couldn't do some pro forma job to meet the requirement.)

The discussion centered on PGV's duties to the public as expressed in the ERP as compared with Harry's proposed educational program.

Harry reiterated his concerns, to clarify the 12 scenarios and whether they are normal, routine or upset, and identifying all hazards that might occur under all conditions.

He said he wanted to be able to resolve all of Goddard's comments. There was some discussion of these. The biggest problem is that the public doesn't trust government. Harry made the comment that if DOH went back to see what they had earlier signed off on, they would be upset with themselves.

In summary, Harry said he wants resolution of two matters - these would be contingencies on any approval - a complete reassessment of analysis of hazards, and the education program. There followed discussion about how to do this. Harry asked if DBED wanted to tackle it. Michelle Wong-Wilson said that wouldn't be appropriate. Harry asked if Mr. Hayashi would interpret how to clear item K differently. He said yes, he does interpret it differently.

Mark Ingolia said you would re-do the analysis once drilling restarts. There was some discussion about whether this is difficult (no), time consuming (no), and who should do it. Harry felt it had to be an independent lab, not associated with PGV. Mark pointed out that PGV has hired the best expert, but even he has made errors regarding radon figures.

Harry said these plans will go far to re-establish confidence in us. Harry made the point that this is also to protect the Mayor, since she is on the line.

Mark pointed out that it was Goddard who recommended PGV's current lab analyst, Herz.

The Mayor backed up the idea to have someone neutral, have the testing done again to pacify criticism from the public.
There was more discussion on making PGV submit a plan for public education prior to start up.

Harry said his work would be done in two weeks, but he expressed that the hurry up approach may be a mistake.

Another point was brought up that the public should be made aware that there is a whole range of permits involved here, not just the ERP.

The Mayor said that her deadline is February 27, and that she would be playing a stronger role in this matter. She said we need public education from all sources.

Harry asked once again, who should be the lead for item K, PGV or government?

It was suggested that PGV come up with some plan to inform residents regarding contents of the plan. Procedures would be up to Harry.

Harry closed the meeting without any resolution on this matter except that he will make some recommendation.

The meeting ended at about 1:45 p.m. I returned on the 5:15 flight to Honolulu.
HAWAII COUNTY CIVIL DEFENSE AGENCY
920 Ululani Street
Hilo, Hawaii 96720
Telephone: 935-0031  FAX: 935-8480

FACSIMILE COVER SHEET

TO: DLNR

ATTN: Janet Swigg

FAX NO: 587-0219

FROM: H. Kim

DATE: 02-18-92

SUBJECT: PGV 02-07-92 Gaffney Ex脾胃

Fax consists of 2 pages, including this page. If there are any problems in receiving this fax, please contact Audrey or Dot at 935-0031.
February 7, 1992

Mr. Harry Kim
Administrator
Civil Defense Agency
County of Hawaii
920 Uulani Street
Hilo, Hawaii 96720


Dear Mr. Kim:

This is in response to your letter of 4 February 1992 and our conversation in Hawaii on January 22, regarding the radiographic inspection of welds in the installation of the Puna Geothermal Venture.

As I mentioned in our conversation, this subject is not only beyond our jurisdiction, but also beyond our line of expertise. However, it is our understanding that the steam and water pipelines being built at the PGV plant site follow the conventional standards for weld and pipe body inspection as per Specification 831-1 of the American National Standards Institute (ANSI). This specification calls for random radiographic inspection on a percentage of the welds done at the field.

Please contact PGV directly if you need more information regarding the procedures and the codes being followed.

Best regards,

Subir K. Sanyal
Vice-President

SKS:kc

cc: Mr. Dan Nakano, DBED
TO: Michael Matsukawa, Corporation Counsel
Dan Ayala, Fire Department
Barry Mizuno, Mayor's Office
Mike Luce, Planning Commission
Norman Hayashi, Planning Department
Victor Vierra, Police Department
Murray Towill, DBED
Dr. Bruce Anderson, DOH
William Paty, DLNR

FROM: Harry Kim, CD Administrator

DATE: February 11, 1992

SUBJECT: Puna Geothermal Venture Plan (Version 6.1)

You (or a representative) are asked to attend a meeting to be held:

DATE: February 19 (Wed.)
TIME: 9:30 a.m.
PLACE: Civil Defense office

The purpose of the meeting is to review and discuss the revised PGV Plan (6.1). Version 6.1 was developed after the concerns and comments of the various agencies and individuals were submitted to Puna Geothermal Venture and the Department of Health.

Unfortunately, a copy of the Plan is not available for distribution to each agency at this time.

Please call if you have any questions on this meeting.

dhy
HAWAII COUNTY CIVIL DEFENSE AGENCY
920 Ululani Street
Hilo, Hawaii 96720
Telephone: 935-0031   FAX: 935-6480

FACSIMILE COVER SHEET

TO: 
(see distribution)

ATTN: 

FAX NO.: 

FROM: Harry Kim

DATE: February 11, 1992

SUBJECT: PGV Meeting--Feb. 19

Fax consists of 2 pages, including this page. If there are any problems in receiving this fax, please contact Audrey or Dot at 935-0031.

TO: Corporation Counsel   FAX 969-7049
Fire Dept.                961-6920
Mayor's Office            961-6553
Planning Commission       c/o 961-9615
Planning Dept.            961-9615
Police Dept.              961-6329
DBED                      586-2377
DOH                       586-4444
DLNR                      587-0390
REQUIREMENTS OF EMERGENCY RESPONSE PLAN

20. With regard to air emissions, the permittee shall submit to the County Civil Defense and the Planning Department a map and accompanying text that describes predetermined "worst case" impacted areas.

26. Prior to commencing any activity approved under this Geothermal Resource Permit on the project site, the permittee shall submit to, and secure the approval of, the Hawaii County Civil Defense Director a final plan of action to deal with emergency situations which may threaten the health, safety, and welfare of the employees and other persons in the vicinity of the proposed project site. The plan shall include but not be limited to, the following elements:

a. A description of the project facilities and operations, with site plans identifying areas of potential hazards, such as high pressure piping and the presence, storage and transportation of flammable or hazardous materials, such as lubrication or fuel oil, isopentane, hydrogen sulfide, and sodium hydroxide;

b. A description of emergency services available off-site to respond to any emergency;

c. A description of the current onsite chain of command and responsibilities of project personnel in the event of an emergency; and

d. A description of potential project emergency situations, such loss of well control, chemical spills, hydrogen sulfide exposure, pipeline rupture, fires, contaminated solids, etc. identifying:

   (i) technical data on the nature of the hazard (for example, the concentrations of hydrogen sulfide in the various areas and the hazard associated with these concentrations, the corrosive characteristics of the abatement chemicals), or any data regarding the possible aerial extent of each potential emergency situation;

   (ii) the warning systems (such as hydrogen sulfide detectors) used to alert personnel of the hazard;

   (iii) the location and use of equipment used to control the hazard (such as fire protection equipment or isolation valves) or repair hazardous equipment (such as welding equipment or casing sleeves), and safety equipment for personnel (such as respiratory packs), including identification of the personnel trained in the use of that equipment; and
(iv) provision for the monitoring, detection, and inspection of wells and plant facilities for the prevention of emergency situations.

e. Provisions to address natural hazards (such as lava flows, earthquakes, and storms) that identify warning systems, control options, steps for securing and shutting down the facility, personnel evacuation, and notification to appropriate agencies;

f. The location and capabilities of available medical services and facilities and plans for treating and transporting injured persons;

g. Evacuation plans, including meeting points, personnel rosters, and escape routes;

h. Training requirements for personnel, including procedures for emergency shutdown, handling of emergency equipment, spill prevention, first aid and rescue, fire fighting procedures, and evacuation training;

i. Provisions for periodic emergency preparedness drills for personnel;

j. Detailed procedures to be used to facilitate coordination with appropriate federal, state, and county officials during and after any emergency situation; and

k. Procedures to be used to identify and inform all residents within applicable distances of the project of the possible emergency situations, warnings, and responses in advance of commencement of project operations and the methods by which all individuals affected by a given emergency will be notified and evacuated, as necessary.

Copies of the emergency plan shall be made available to the public by the applicant.
Table 8-2. Summary of Modelled H$_2$S Emissions

<table>
<thead>
<tr>
<th>TYPE <em>1</em> EVENTS [EXCEED ONLY THE &quot;WATCH&quot; ACTION LEVEL]</th>
<th>MAXIMUM OFF-SITE (&gt;0.3 km) DISTANCE FROM SOURCE (km) TO IDENTIFIED ACTION LEVEL</th>
<th>POINT OF MAXIMUM PREDICTED OFF-SITE IMPACT (&gt;0.3 km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELASE SCENARIO</td>
<td>&quot;WATCH&quot; LEVEL (25 ppb)</td>
<td>&quot;WARNING&quot; LEVEL (1,000 ppb)</td>
</tr>
<tr>
<td></td>
<td>CONCENTRATION (ppb)</td>
<td>DISTANCE FROM SOURCE (km)</td>
</tr>
<tr>
<td>1. Abated vertical flow through diverter/muffler</td>
<td>0.9 km</td>
<td>N/A</td>
</tr>
<tr>
<td>9. Abated vertical flow from the mud sump</td>
<td>2.8 km</td>
<td>N/A</td>
</tr>
<tr>
<td>8. Abated vertical flow from the mud tanks</td>
<td>4.5 km</td>
<td>N/A</td>
</tr>
<tr>
<td>11. Unabated noncondensible gas flow</td>
<td>5.5 km</td>
<td>N/A</td>
</tr>
<tr>
<td>4. Unabated vertical flow through 13-3/8&quot; casing</td>
<td>25. + km</td>
<td>N/A</td>
</tr>
<tr>
<td>5. Unabated vertical flow through 9-5/8&quot; casing</td>
<td>25. + km</td>
<td>N/A</td>
</tr>
<tr>
<td>12. Unabated vertical flow through power plant steam release facility</td>
<td>25. + km</td>
<td>N/A</td>
</tr>
<tr>
<td>6. Unabated vertical flow through drill rig subbase</td>
<td>25. + km</td>
<td>N/A</td>
</tr>
<tr>
<td>2. Unabated vertical flow through diverter/muffler</td>
<td>25. + km</td>
<td>N/A</td>
</tr>
<tr>
<td>7. Unabated vertical flow through area of fractured rock</td>
<td>25. + km</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE <em>2</em> EVENTS [EXCEED THE &quot;WATCH&quot; AND &quot;WARNING&quot; ACTION LEVELS]</th>
<th>MAXIMUM OFF-SITE (&gt;0.3 km) DISTANCE FROM SOURCE (km) TO IDENTIFIED ACTION LEVEL</th>
<th>POINT OF MAXIMUM PREDICTED OFF-SITE IMPACT (&gt;0.3 km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Unabated horizontal flow through a 4&quot; choke line</td>
<td>25. + km</td>
<td>3.7 km</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6,395$^1$</td>
</tr>
<tr>
<td>3. Unabated horizontal flow through diverter</td>
<td>25. + km</td>
<td>6.7 km</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12,786$^1$</td>
</tr>
</tbody>
</table>

$^1$Note that these scenarios can and will be quickly controlled through closing valves to shut in the well, resulting in a significantly reduced emission rate over any one hour period. The decision to actually order an evacuation is typically made in the field by the appropriate responsible agency(ies) based not on waiting for field measurements to document that the established one-hour average "Warning" level has been exceeded, but on the professional judgement of the agency(ies), based on all the data available at that time, as to whether or not the incident has the potential to exceed the established one-hour average "Warning" level.
TRANSMITTAL from PUNA GEOTHERMAL VENTURE

101 Kupu Street Suite 1014-B, Kailo, Hawaii 96720
Telephone: (808) 961-2164 Telefax: (808) 961-3531

Ref/Msg No.: 20148 Date: January 28, 1992 Page 1 of 5

To: Janet Swift From: Chris Iha
Company: DLNR CC:

We are sending via (*) mail (*) facsimile (*) other
(*) attached (*) under separate cover
Priority level: (*) urgent (*) today (*) this week (*) low

(*) for your information/files (*) approval (*) as requested
(*) review and comments (*) as discussed (*) signature/return
(*) action by (*)

RE: Puna Geothermal Venture Facility Emergency Response Plan
Version 6 Revisions

As we discussed, attached please find the letter sent by Mr. Paty on
January 7, 1992 regarding the ERP revisions and a draft of the new
Table 3-1 which indicates which emergent condition DLNR would be
notified.

Could you please give me a call as soon as possible so that we may
discuss the requested revisions to the Emergency Response Plan.

We would like to get this document finalized as soon as possible and
thank you for your help in this matter.
Mr. Harry Kim, Administrator
Civil Defense Agency
Hawaii County
920 Ululani Street
Hilo, Hawaii 96720

Dear Mr. Kim:

Review of Puna Geothermal Venture Project
Facility Emergency Response Plan, Version 6

In response to your request that the Department of Land and Natural Resources review Puna Geothermal Venture's Emergency Response Plan (ERP), we have identified several minor corrections and revisions which we recommend be incorporated in the final approved version of the ERP:

1) Page 3-2; Table 3-1 "Emergency Notification Contact List" - The after hours telephone contact numbers for the Department of Land and Natural Resources should be revised. The designated Honolulu contact person for any after hour emergency shall be Mr. Manabu Tagomori, Manager-Chief Engineer, who can be reached at 1-988-6541. In addition, Mr. Eric Tanaka from our Division of Water Resource Management in Hilo, has been designated as our primary local contact person and can be reached after hours at 961-6586.

In the event that either party is unavailable, PGV should contact the following DLNR representatives in Honolulu:

Janet Swift 587-0246 (B) / 545-5414 (H) 237-8628 (Weekends) or

Ed Sakoda 587-0225 (B) / 737-7778 (H)
Mr. Harry Kim  
Page 2

2) Page 8-30; Section 9.2.3 "Noise Hazard" under Initial Action - We recommend that the "warning level" for noise hazard be clarified and clearly set forth in the ERP. Unless otherwise corrected, it is our understanding that 85 dBA will be the level at which evacuation to protect public health may be required.

3) Page APP-1; Appendix A "Description of Site Facilities and Operations" - All references to the total number of well pads for the PGV project should be corrected. It is our understanding that the total number of well pads (6) originally proposed for development will be reduced to a total of (4) well pads.

4) APP-9; Section A.14 "Hydrologic Monitoring" - In the event of a change in any geothermal well condition indicating a leak or failure in the production or injection well casing, the Department of Land and Natural Resources shall be immediately notified and should be included in the required notification process described in the ERP.

5) Page APP-1; Appendix E "Post Emergency Response Procedures" - Following the occurrence of a spill or any emergency situation, a copy of the required PGV incident report shall also be transmitted to the Department of Land and Natural Resources (DLNR) and such requirement should be so noted in the ERP.

In all cases, DLNR should be added to the list of agencies which must be notified regardless of the type of incident or emergency. All correspondence related to procedures involving the ERP or actions resulting from any emergency should be sent to DLNR.

With the incorporation of the above corrections and recommended revisions, the Department of Land and Natural Resources has no objections to the PGV Emergency Response Plan as it pertains to our area of concern.

Should you have any questions concerning the above please contact me, or in my absence, Mr. Manabu Tagomori, Manager-Chief Engineer, at 587-0214.

Very truly yours,

[Signature]

WILLIAM W. PATY
### January 28, 12:44 Puna Geothermal Venture 961-3531

#### Table 3-1: Emergency Notification Contact List

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>LOCATION</th>
<th>DAYTIME TELEPHONE</th>
<th>AFTER HOURS TELEPHONE</th>
<th>Volcanic Activity</th>
<th>Magma Intrusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. COUNTY OF HAWAI'I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIVIL DEFENSE (LOCAL EMERGENCY PLANNING COMMITTEE)</td>
<td>HILO</td>
<td>935-0031</td>
<td>935-3311</td>
<td>Notify&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Notify&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td>POLICE</td>
<td>HILO</td>
<td>935-3311</td>
<td>935-3311</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIRE DEPARTMENT (AMBULANCE, RESCUE)</td>
<td>HILO</td>
<td>961-2022</td>
<td>961-6022</td>
<td>Notify&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Notify&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td>PLANNING DEPARTMENT</td>
<td>HILO</td>
<td>961-8238</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. STATE OF HAWAI'I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPT. OF HEALTH, HAZARD EVALUATION AND EMERGENCY RESPONSE BRANCH (STATE EMERGENCY RESPONSE COMMISSION)</td>
<td>HONOLULU</td>
<td>1-745-2161</td>
<td>1-745-2161</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPT. OF HEALTH, NOISE AND RADIATION BRANCH</td>
<td>HONOLULU</td>
<td>1-586-4700</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPT. OF HEALTH, CLEAN AIR BRANCH</td>
<td>HONOLULU</td>
<td>1-586-4200</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-HOUR NOTIFICATION LINE</td>
<td>HONOLULU</td>
<td>1-586-4350</td>
<td>1-586-4250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DISTRICT HEALTH OFFICE</td>
<td>HILO</td>
<td>923-4210</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPT. OF LAND AND NATURAL RESOURCES</td>
<td>HONOLULU</td>
<td>1-587-0401</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. UNITED STATES GOVERNMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NATIONAL RESPONSE CENTER</td>
<td>WASHINGTON, D.C.</td>
<td>1-800-424-8802</td>
<td>1-800-424-8802</td>
<td>Implement Chain of Command</td>
<td>Implement Chain of Command</td>
</tr>
<tr>
<td>4. PUNA GEOTHERMAL VENTURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-HOUR INFORMATION LINE</td>
<td>HILO/PUNA</td>
<td>965-8843</td>
<td>965-8843</td>
<td>Implement Evacuation Plan, as appropriate</td>
<td>Implement Evacuation Plan, as appropriate</td>
</tr>
<tr>
<td>STAGING AREA</td>
<td>PUNA</td>
<td>961-2786</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WELL PAD</td>
<td>PUNA</td>
<td>965-0195</td>
<td>965-0195</td>
<td>Implement Evacuation Plan, as appropriate</td>
<td>Implement Evacuation Plan, as appropriate</td>
</tr>
<tr>
<td>POWER PLANT</td>
<td>PUNA</td>
<td>965-9715</td>
<td>965-9715</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPERATIONS OFFICE</td>
<td>PUNA</td>
<td>961-2786</td>
<td>961-2786</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEVELOPMENT OFFICE</td>
<td>HILO</td>
<td>961-2184</td>
<td>961-2184</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WELL FIELD MANAGER</td>
<td>PUNA</td>
<td>961-2786</td>
<td>961-2786</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GENERAL MANAGER</td>
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<td>ENVIRONMENTAL COORDINATOR</td>
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<tr>
<td>VICE PRESIDENT</td>
<td>HILO</td>
<td>961-2184</td>
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</tr>
</tbody>
</table>

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1. Notify immediately if natural hazard causes a facility emergency situation which could threaten public health and safety.
2. Notify if the power plant trips and steam is diverted to the emergency steam release facility.
3. Notify if any of PGV operations result in an uncontrolled steam release and fire, or has the potential to produce, an exceedance of the appropriate ambient hydrogen sulfide concentrations established by the Department of Health Clean Air Branch or Hazard Emergency Evaluation Branch.
4. Notify if any accident or upset of PGV's operations leads to an exceedance of the appropriate ambient noise level.
5. Notify if any materials are released in excess of reportable quantities.
6. Notify if any personnel require emergency medical attention.
7. Notify if fire is cleared.
8. Notify if any well or wellpad facilities are, or may be, damaged.
<table>
<thead>
<tr>
<th>NATURAL HAZARDS</th>
<th>UPSETS AND ACCIDENTS</th>
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<tbody>
<tr>
<td>Earthquake</td>
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<td>Notify</td>
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<tr>
<td>Implement</td>
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<tr>
<td>Chain of Command</td>
<td>Chain of Command</td>
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<tr>
<td>Evacuation Plan, as appropriate</td>
<td>Evacuation Plan, as appropriate</td>
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</table>
HAWAII COUNTY CIVIL DEFENSE AGENCY
920 Ululani Street
Hilo, Hawaii 96720
Telephone: 935-0031  FAX: 935-6460

FACSIMILE COVER SHEET

TO: DLNR

ATTN: James Swign

FAX NO.: 587-0219

FROM: H. Kim

DATE: 02-18-92

SUBJECT: PGV 02-07-92 Getzam Ex. Survey

Fax consists of 2 pages, including this page. If there are any problems in receiving this fax, please contact Audrey or Dot at 935-0031.
February 7, 1992

Mr. Harry Kim
Administrator
Civil Defense Agency
County of Hawaii
920 Ululani Street
Hilo, Hawaii 96720


Dear Mr. Kim:

This is in response to your letter of 4 February 1992 and our
conversation in Hawaii on January 22, regarding the radiographic
inspection of welds in the installation of the Puna Geothermal Venture.

As I mentioned in our conversation, this subject is not only
beyond our jurisdiction, but also beyond our line of expertise. However,
it is our understanding that the steam and water pipelines being built
at the PGV plant site follow the conventional standards for weld and
pipe body inspection as per Specification B31-1 of the American National
Standards Institute (ANSI). This specification calls for random
radiographic inspection on a percentage of the welds done at the field.

Please contact PGV directly if you need more information
regarding the procedures and the codes being followed.

Best regards,

Subir K. Sanyal
Vice-President

SKS: kc

cc: Mr. Dan Nakano, DBED
February 7, 1992

Mr. Harry Kim
Administrator
Civil Defense Agency
County of Hawaii
920 Ululani Street
Hilo, Hawaii 96720

Fax: (808) 935-6460


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