PACIFIC GAS AND ELECTRIC COMPANY

PG&E

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ATTORNEYS

November 9, 1979

Robert M. Lazo, Esq., Chairman
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: In the Matter of Pacific Gas and Electric Company (Humboldt Bay Power Plant, Unit No. 3) Docket No. 50-133, License No. DPR-7

Dear Mr. Lazo:

In accordance with the Board's Order of June 19, 1979, Pacific Gas and Electric Company ("PGandE") hereby submits a Report by its consultants, Woodward-Clyde Consultants outlining the status of the geologic and seismic investigations involving the Humboldt Bay Power Plant, Unit No. 3 together with an outline of the work accomplished during September-October 1979.

The tasks identified in this Report are more fully described in a document entitled Scope of Work for Geological and Seismological Studies in the Humboldt Bay Region, dated September 1, 1979, which was attached to PGandE's pending Motion to Hold in Abeyance filed on September 26, 1979.

Very truly yours,

MALCOLM H. FURBUSH
PHILIP A. CRANE
RICHARD F. LOCKE

By Richard F. Locke
RICHARD F. LOCKE

RFL:sls

cc: Bruce Norton, Esq.

Enclosure

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
PACIFIC GAS AND ELECTRIC COMPANY	)	Docket No. 50-133
	)	License No. DPR-7
(Humboldt Bay Power Plant, Unit No. 3)	)	
	)	

CERTIFICATE OF SERVICE

The foregoing document of Pacific Gas and Electric Company has been served today on the following by deposit in the United States mail, properly stamped and addressed:

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Washington, D.C. 20555

*Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
Attn: Docketing and Service Section

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Dated: November 9, 1979

Susan L. Sallaberry
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October 26, 1979

Mr. Frank Brady
Pacific Gas and Electric Company
77 Beale Street, Room 2611
San Francisco, California 94106

Dear Frank:

Subject: Progress During September and October, 1979 - Geologic and Seismologic Studies, Humboldt Bay Review

This report summarizes the geologic and seismologic investigations for the Humboldt Bay Power Plant during September and October, 1979. During the period, regional mapping and age dating, late Quaternary studies and acquistion and analysis of strong motion data continued. Also during this period, on site studies consisting of deep borings and seismic reflection surveys were underway or initiated. The purpose of the studies was to obtain additional information on the geologic structure at the site and its relationship to regional tectonics. Specific tasks included the following:

1) Regional Geologic Mapping and Age Dating
2) Late Quaternary Geologic Studies
3) Fault Capability Evaluation
4) Identification of Faults in the Site Locality
5) Installation of Free Field, Embedded Strong-Motion Accelerometers
6) Geophysical and Geodetic Analysis
7) Site Specific Earthquake Characteristics

These tasks are described in the Scope of Work for Geological and Seismological Studies in the Humboldt Bay Region, dated September 1, 1979. The progress made during the period on each of these tasks is summarized below.

Regional Geologic Mapping and Age Dating

Field, laboratory and office studies continued during the period. Field studies included geologic mapping and the collection of samples for analysis of their paleomagnetic properties. The age dating studies performed in the laboratory included the continuation of radioisotopic analysis of volcanic ash deposits, chemical analysis of these ash deposits for correlation purposes, and the measurement of the paleomagnetic polarity of sediment samples from the Humboldt region. Preliminary analyses continued using the results of the laboratory tests and data from available petroleum well logs to further clarify the subsurface conditions in the region.

Late Quaternary Geologic Studies

An aerial reconnaissance along the coast from Cape Mendocino southward to Shelter Cove was conducted to inspect Holocene raised beach deposits that have recently been mapped and radiocarbon age dated by the USGS. These data will be used to assess the rate of tectonic uplift during Holocene time along this part of the coast and will allow the comparison of rates of uplift south of the Mendocino triple junction with rates farther to the north at Trinidad Head and at the plant site.

Mapping and soil stratigraphic studies were begun along Yaeger Creek in the vicinity of Hydesville for the assessment of the nature and relative ages of terraces displaced by secondary structures. These studies will provide more data to assess the relative degree of activity on these structures and the capability of the Little Salmon fault.

Fault Capability Evaluation

Work on this task has included excavation and logging of a trench along the Goose Lake lineament near Hydesville. The trench exposed a zone of faults coincident with the lineament that displaces gravels deposited by Yaeger Creek.

Trenches have been excavated across the scarp along the Anderson Ranch lineament that trends oblique to the coast near Trinidad Head. Logging of these trenches was begun towards the end of the reporting period.

Identification of Faults in the Site Locality

Drilling operations were initiated in the site vicinity during the reporting period with two drill rigs in operation. The larger rig has completed boring WCC-2 (previously designated boring #11 in the Scope of Work) south of the plant site to

its planned depth of 2500 ft. The smaller rig has nearly completed boring WCC-14 (previously designated boring #2) in the Fields Landing area to its revised target depth of 750 ft. Suites of geophysical logs including self-potential, resistivity, gamma ray, caliper and sonic are being obtained in the borings.

Installation of Free Field, Embedded Strong-Motion Accelerometers

Candidate sites have been selected for the installation for the accelerometers which will be placed at the surface and at a depth of 80 ft. in the free field areas near the plant. The schedule for installation has not been finalized but it is expected that this work will be completed during the next reporting period.

Geophysical and Geodetic Data Analysis

Detail plans for obtaining seismic reflection data in the vicinity of the plant and at the Fields Landing area have been finalized. Drilling of the first shot holes in the vicinity of the plant began at the end of the period. It is anticipated that data collection will be completed by the middle of the next reporting period.

Approximately 250 miles of off-shore seismic survey data obtained using the Aquapulse System has been ordered from Western Geophysical Company. These data should be received during the early part of the next reporting period, whereupon analysis will commence.

Analysis of available geodetic leveling data was begun during the period. Bench marks having repeated surveys along a line from Orich to Garberville has been compiled.

Site Specific Earthquake Characteristics

Activity on this task consisted of collecting and analysing strong motion seismic data from the operation of an eight station network of digital acceleration recorders. The reduction of data from the previous recordings continued with preliminary analysis being performed on the records. More extensive analyses are near completion on several of the digitally corrected records.

SCHEDULE

Certain tasks described in the Scope of Work were scheduled to begin during the period but were not activated. The age dating of the Hookton formation will be postponed until other regional geologic data can be evaluated. Preliminary planning

was done during this period on the task of assessing the formation and propagation of faults. It is expected that more intensive activity will be started during the next bi-monthly period. Significant effort in evaluating earthquake ground motions will not be undertaken until the later part of the program when more site specific data is available.

Some of the activities are behind schedule primarily because of permitting and access problems. Most of these difficulties have been overcome and substantial progress is expected during the next reporting period.

If you have any questions or require any further information, please let me know.

With regards,

A.S. Patwardhan/bl

Ashok S. Patwardhan

ASP:bh

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