



### RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST

2000-0129

1

RESPONSE TYPE  FINAL  PARTIAL

REQUESTER **Mr. Paul Gunter**

DATE **MAR 09 2000**

#### PART I. -- INFORMATION RELEASED

- No additional agency records subject to the request have been located.
- Requested records are available through another public distribution program. See Comments section.
- APPENDICES **A** Agency records subject to the request that are identified in the listed appendices are already available for public inspection and copying at the NRC Public Document Room.
- APPENDICES **B** Agency records subject to the request that are identified in the listed appendices are being made available for public inspection and copying at the NRC Public Document Room.
- Enclosed is information on how you may obtain access to and the charges for copying records located at the NRC Public Document Room, 2120 L Street, NW, Washington, DC.
- APPENDICES **A&B** Agency records subject to the request are enclosed.
- Records subject to the request that contain information originated by or of interest to another Federal agency have been referred to that agency (see comments section) for a disclosure determination and direct response to you.
- We are continuing to process your request.
- See Comments.

#### PART I.A -- FEES

- AMOUNT \*  You will be billed by NRC for the amount listed.  None. Minimum fee threshold not met.
- \$  You will receive a refund for the amount listed.  Fees waived.
- \* See comments for details

#### PART I.B -- INFORMATION NOT LOCATED OR WITHHELD FROM DISCLOSURE

- No agency records subject to the request have been located.
- Certain information in the requested records is being withheld from disclosure pursuant to the exemptions described in and for the reasons stated in Part II.
- This determination may be appealed within 30 days by writing to the FOIA/PA Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Clearly state on the envelope and in the letter that it is a "FOIA/PA Appeal."

#### PART I.C COMMENTS (Use attached Comments continuation page if required)

SIGNATURE - FREEDOM OF INFORMATION ACT AND PRIVACY ACT OFFICER  
**Carol Ann Reed** *Carol Ann Reed*

**APPENDIX A  
RECORDS ALREADY AVAILABLE IN THE PDR**

<u>NO.</u>	<u>DATE</u>	<u>ACCESSION NUMBER</u>	<u>DESCRIPTION/(PAGE COUNT</u>
1.	11/30/79	7912130063	Letter to W. Meyer from W. Regan, re: Five Endangered Species, (2 pgs.).
2.	12/19/79	7912310037	Letter to W. Meyer from W. Regan, re: Diablo Canyon effect on Five Endangered Species, (1 pg.).
3.	1/2/80	8001090336	Letter to W. Regan from G. Howard, re: Request for Formal Consultation Under Sec. 7 of the Endangered Species Act of 1973, (10 pgs.).
4.	1/23/80	8002110005	Letter to W. Meyer from W. Regan, re: Endangered Species at Diablo Canyon, (5 pgs.).
5.	1/28/80	8002140465	Letter to W. Meyer from W. Regan, re: Vols 1 and 2 of Pacific Gas & Electric rpt, Environmental Investigation at Diablo Canyon 1975-1977," (1 pg.).
6.	2/6/80	8003060590	Letter to W. Regan from D. Marshall, re: Sec. 7 of the Endangered Species Act for the Operation of Diablo Canyon, (1 pg.).
7.	6/19/80	8006250228	Letter to W. Regan from R. Martinson, re: Sec. 7 of the Endangered Species Act, (20 pgs.).

8. 6/16/81 8106230437 Letter to R. Engelken, from P. Crane, re: Endangered Species, (2 pgs.).
9. 5/16/94 9405240142 Letter to NRC from G. Rueger, re: Endangered Species, Green Turtle, Rescued and Returned to Sea, (2 pgs.).
10. 2/7/97 9702180128 Letter to NRC from R. Powers, re: PG&E finding green turtle at plant, (2 pgs.).
11. 7/3/97 9707160148 Letter to NRC from S. Bloom, re: Report of green turtle at Diablo Canyon, (2 pgs.).
12. 6/23/99 9907010280 Letter to J. Cordaro from D. Oatley, re: National Marine Fisheries Service marine mammal and marine turtle report, (3 pgs.).
13. 9/20/99 9909280361 Letter to J. Cordaro from S. Bloom, re: National Marine Fisheries Service marine mammal and marine turtle report, (3 pgs.).

APPENDIX B

RECORDS BEING RELEASED IN THEIR ENTIRETY  
(If copyrighted identify with\*)

NUMBER	DATE	DESCRIPTION/PAGES
1.	6/12/97	Event No. 32471 - Diablo Canyon, (1 pg.).



U. S. Dept. of the Interior

We hope at this meeting to determine what further action is required to comply with the Endangered Species Act. If you should have any questions of the HRC on these matters, please contact Dr. S. S. Kirsliis of our office at (301) 492-8426 or FTS 492-8426.

Sincerely,

*Original signed by George Lee*

*for* William H. Regan, Jr., Acting Assistant  
Director for Environmental Projects  
and Technology  
Division of Site Safety and  
Environmental Technology

cc: Fish and Wildlife Service  
ATTN: Mr. Gail Kobetich  
2300 Cottage Way  
Sacramento, CA 95825

National Marine Fishery Service  
ATTN: Mr. Jim Lecky  
300 South Ferry Street  
Rm 2016 Terminal Island  
Los Angeles, CA 90731

California Department of  
Fish and Game  
ATTN: Mr. Daniel W. Gotshall  
P. O. Box 98  
Avila Beach, CA 93424

1546 345

OFFICE	DSF:SP-1	DSE:EP-1	DSE:ADEP&T		
SURNAME	SS/SK:smh	RLBallard	WHRRegan, Jr.		
DATE	11/21/79	11/29/79	11/30/79		

POOR ORIGINAL

DEC 19 1979

Docket Nos. 50-275  
and 50-323

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Local PDR  
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EP-1 Reading  
EP-1 File  
WRegan  
RBallard  
SKirsliis  
MSlater  
RSamworth  
TCain  
MStaenberg

U. S. Department of the Interior  
Fish and Wildlife Service  
ATTN: Mr. William H. Meyer  
Acting Regional Director  
Lloyd 500 Building, Suite 1692  
500 N.E. Multnomah Street  
Portland, Oregon 97222

Dear Mr. Meyer:

By phone earlier this week, we notified your office that the proposed consulta-  
tion meeting regarding the effect of the Diablo Canyon nuclear plant on the  
five endangered species mentioned in our letter of November 30, 1979, has  
been rescheduled for Tuesday, January 8, 1980, at 10 a.m. in the offices of  
Mr. Gail Kobetich of the Fish and Wildlife Service at 2800 Cottage Way,  
Sacramento, CA 95825.

We have also invited representatives of the National Marine Fisheries Service  
and of the California Department of Fish and Game to the meeting. At this  
consultation, we hope to acquaint each other with existing information on  
possible plant impacts on the five endangered species and to plan any further  
steps that might be required to gather further information or to mitigate  
plant impacts.

Sincerely,

Original signed by W. H. Regan, Jr.

Wm. H. Regan, Acting Assistant  
Director for Environmental Projects  
and Technology  
Division of Site Safety and  
Environmental Analysis

cc: Fish and Wildlife Service  
ATTN: Mr. Gail Kobetich  
2800 Cottage Way  
Sacramento, CA 95825

1660 291

California Department of  
Fish and Game  
ATTN: Mr. Daniel W. Gotshall

*Acc. No.*

791231037

National Marine Fisheries Service

OFFICE	ATTN: Mr. Jim Lecky	DSE:EP-1	P. O. Box 93	DSE:EP	DSE:ADEP&T
SURNAME	300 South Ferry Street	SKirsliis:ml	Avila Beach, CA 93426	RBallard	WRegan
DATE	Rm 2016 Terminal Island Los Angeles, CA 90731	12/18/79		12/18/79	12/19/79



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
300 South Ferry Street  
Terminal Island, CA 90731

January 2, 1980

F/SWR31:JHL

William H. Regan, Jr.  
Acting Assistant Director  
for Environmental Projects and Technology  
Division of Site Safety and  
Environmental Technology  
United States Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Regan:

In response to your November 30, 1979 request for formal consultation under Section 7 of the Endangered Species Act of 1973, as amended, we have reviewed the information you submitted to this office, and find that the operation of the nuclear generating station at Diablo Canyon, California is not likely to jeopardize the continued existence of any of the threatened or endangered species under the purview of the National Marine Fisheries Service.

The gray whale (Eschrichtius robustus) is the only endangered species for which we are responsible that we would expect to find in the project area. Southward migrating gray whales may be found off the central California coast from about mid-November through mid-January. Gray whales on their northward migration pass central California from early March through late May. The majority of these whales migrate within a few kilometers of the shore (Rice and Wolman, 1971, Life History and Ecology of the Gray Whale (Eschrichtius robustus) Spec. Pub. 3 Amer. Soc. Mamm. 141 pp.), and some of them may encounter the 2° or 4°F above ambient isotherm of the thermal plume emanating from the plants cooling system and the pollutants being carried out to sea by that plume. Although the whales may be able to detect the change in temperature we do not expect the plume to interfere with their migration. Since gray whales either do not feed or feed very little while migrating we would expect negligible impacts from contact with pollutants in the concentrations described in the Final Environmental Impact Statement and its addendum.

Other endangered cetaceans that occur offshore from the project area are:

Humpback whale	<u>Megaptera novaeangliae</u>
Sperm whale	<u>Physeter catodon</u>

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Acc. No. 8001090334

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January 2, 1980

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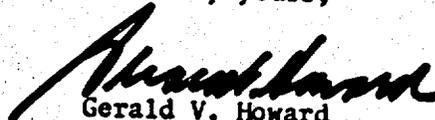
Right whale	<u>Balaena glacialis</u>
Blue whale	<u>Balaenoptera musculus</u>
Fin whale	<u>Balaenoptera physalus</u>
Sei whale	<u>Balaenoptera borealis</u>

These whales are generally more pelagic than the gray whale and are not expected to be impacted by the project.

Three species of endangered sea turtles (hawksbill sea turtle, Eretmochelys imbricata; green sea turtles; Chelonia mydas; Pacific Ridley Sea Turtle, Lepidochelys olivacea) and one species of threatened sea turtle (logger-head sea turtle, Caretta caretta) may occasionally pass through the project area. These are animals at the northern limits of their ranges, and although the possibility exists that a sea turtle may encounter the thermal plume and follow it into Diablo Cove the probability of that happening appears very low. We expect the project will have negligible impacts on the eastern Pacific sea turtle populations.

In the event that additional information indicating the project is adversely impacting any of the above mentioned species becomes available, we recommend further consultation be initiated.

Sincerely yours,

  
Gerald V. Howard  
Regional Director

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Enclosure 1

List of Attendees  
Meeting with Fish and Wildlife Service, Sacramento, CA  
January 8, 1980, Regarding Endangered Species at  
Diablo Canyon Nuclear Plant

Carl Benz	U.S. FWS	2800 Cottage Way Sacramento, CA	916-484-4106
Bill Maxwell	CA Fish & Game	1416 Ninth St. Sacramento, CA	916 445-8386
Alan Craig	CA Fish & Game	"	916 322-1411
Stan Kirsliis	U.S. NRC, Environmental Project Manager		(301)FTS 492-8426
Tom Cain	U.S. NRC, Biologist		(301)FTS 492-8568
Marc Staenberg,	U.S. NRC, Office of the Legal Director		
Bud Laurent	CA Fish & Game	Diablo Canyon	805 595-7363
Ronald L. Ballard	U.S. NRC, Chief Environmental Projects Branch 1		
Ralph G. Swanson	U.S. FWS	Sacramento, CA	916 484 4106
Gail C. Kobetich	U.S. FWS	Sacramento, CA	FTS 468-4106

Mr. William H. Meyer

- 3 -

cc: Fish and Wildlife Service  
ATTN: Mr. Gail Kobetich  
2800 Cottage Way  
Sacramento, California 95825

National Marine Fisheries Service  
ATTN: Mr. Jim Lecky  
300 South Ferry Street  
Rm. 2016 Terminal Island  
Los Angeles, California 90731

California Department of Fish and Game  
ATTN: Mr. Daniel W. Gotshall  
P. O. Box 98  
Avila Beach, California 93424

Mr. William H. Meyer

- 2 -

Mr. Kobetich and Mr. Swanson of the Fish and Wildlife Service reviewed the requirements of the Endangered Species Act and pointed out that consultation with the concerned agencies was required whether the effects of plant operation were adverse or beneficial. Mr. Kobetich requested copies of all Pacific Gas and Electric Company reports on baseline studies of biota in Diablo Cove and on model studies of thermal plumes and ocean currents. These reports will be sent to your office.

From the discussions at the January 8, 1980 meeting, it appeared that the effects if any, of plant operation on the five endangered species would be minor and indirect, through impacts on the food web involving these species. The species most likely to be affected was the sea otter, which feed on sea urchins and abalone, which in turn feed on kelp. Growth of kelp in Diablo Cove will be affected by foam generated by the plant discharge flow and by a warm water discharge into Diablo Cove. Mr. Maxwell of the California Department of Fish and Game commented that the range of the otter up and down the Pacific Coast is so large that the otter would not be seriously affected even if the Diablo Cove habitat were completely eliminated.

In connection with one of the five species mentioned in your October 23, 1979 letter, we received a letter from Mr. Gerald V. Howard of the National Marine Fisheries Service to the effect that their service could see no threat to the continued existence of the gray whale from the operation of the Diablo Canyon plant. We have enclosed a copy of this letter.

With respect to the three bird species, the Diablo Canyon area is a small part of their range and does not appear to be a critical habitat. The effect of plant operation on the food webs of these birds is as likely to be beneficial as adverse.

The opinions given above were stated by representatives of the NRC and of the California Department of Fish and Game. You may wish to consider these opinions in the process of reaching your own official determination of plant operation effects on endangered species.

If you have any questions regarding this matter, please contact Dr. S. S. Kirslis, Environmental Project Manager, Nuclear Regulatory Commission, Washington, D. C. 20555, who may be reached by telephone one (301) 492-8426.

Sincerely,

Original signed by  
Ronald L. Ballard

*[Signature]*  
Wm. H. Regan, Jr. Acting Assistant  
Director for Environmental Projects  
Division of Site Safety and  
Environmental Analysis

**Enclosures:**

1. List of Attendees
2. Ltr 1/2/80 fm National Marine Fisheries



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

Docket Nos. 50-275  
and 50-323

JAN 23 1980

Mr. William H. Meyer  
Acting Regional Director  
Fish and Wildlife Service  
United States Department of  
the Interior  
Lloyd 500 Building, Suite 1692  
500 N.E. Multnomah Street  
Portland, Oregon 97232

Dear Mr. Meyer:

In response to your letter of October 23, 1979, to Mr. Don Sells of NRC, requesting consultation about five endangered species in connection with the operation of the Diablo Canyon Nuclear Power Plant (DCNPP), we arranged a meeting on January 8, 1980 with Gail Kobetich and other personnel of the Fish and Wildlife Service at your Sacramento office. Mr. Lawrence Laurent and other representatives of the California Department of Fish and Game were also present (See enclosure).

Based on the results of that meeting, we are formally requesting a determination by your office pursuant to Section 7 of the Endangered Species Act, Public Law 93-205, as amended by Public Law 95-632, as to the effects of the operation of the Diablo Canyon Nuclear Generating Station on the five endangered species listed below:

California brown pelican, Pelecanus occidentalis californicus  
American peregrine falcon, Falco peregrinus anatum  
California least tern, Sterna albifrons browni  
Southern sea otter, Enhydra lutris nereis  
Gray whale, Eschrichtius robustus

In particular, we solicit your opinion on whether plant operation would result in any effect on critical habitat or would jeopardize the continued existence of any of these five species.

In preparation for the meeting of January 8, 1980, our technical staff reviewed the predicted environmental impacts of the operation of the Diablo Canyon plant on the endangered marine and avian species. The physical effects were briefly discussed at the meeting by Dr. S. S. Kirsliis of the NRC and the impacts of the physical effects on biota were discussed by Dr. Thomas L. Cain, a biologist on the NRC staff. Mr. Laurent discussed the monitoring programs being carried out by the California Department of Fish and Game, as they had bearing on the endangered species question.

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The NRC representatives expressed an interest in learning the religious and spiritual significance to the Chumash of visits to the plant area.

Both Lee Dixon and Archie Fire Lane Deer particularly stressed that the SLO-2 site was only a small part of the old Chumash area and that areas where ceremonies were held might be considered, by Indians, more spiritual than areas like SLO-2 which contained more artifacts and burial grounds. When questioned how such special areas could be found, Archie Fire Lane Deer suggested that present-day Indian religious leaders could identify them intuitively by walking over the areas.

It was generally agreed among the attendees that a specific agreement was needed between the Chumash and Pacific Gas and Electric Company spelling out in detail the areas to be visited, the number of visitors, the frequency and duration of visits, the security arrangements acceptable to both parties, etc. If such an agreement is reached before the issuance of the operating license for the Diablo Canyon plant, the agreement could be considered for possible inclusion as a condition of the license.

A particular difficulty in completing such an agreement is locating bona fide representatives who could sign for the Chumash. Lee Dixon committed to take up this problem with the leaders of the Chumash community and to locate authorized signers. The problem of access was left, then, that the Chumash leaders would formulate a detailed proposal for access to the Diablo Canyon plant area and present the proposal to Pacific Gas and Electric Company.

Thursday afternoon, January 10, 1980

Santa Barbara, California

R. L. Ballard and S. S. Kirsliis met with Travis Hudson, the curator of the Santa Barbara Museum of Natural History. The museum contains several large rooms devoted to exhibits of Chumash artifacts and Chumash history.

We discussed with Travis Hudson the political, economic and religious ways of life of present-day Indians, including the Chumash. His viewpoints on the current activities of the Chumash and, in particular, the function of the Santa Barbara Indian Center, were helpful in providing us a broader picture of the interaction of Indian groups and government agencies in the State.

*S. S. Kirsliis*

S. S. Kirsliis, Project Manager  
Environmental Projects Branch 1  
Division of Site Safety and  
Environmental Analysis

The question of the effect of NRC's security regulations on the frequency and ease of access also comes up. However, the SLO-2 site, which appears to be the most valuable archeological site, is not in a protected area for which the security regulations are particularly strict. The access road to SLO-2 passes close to, but not through, protected areas.

PG&E plans to issue shortly a management plan to protect the archeological resources on the Diablo Canyon site.

R. L. Ballard and S. S. Kirslis outlined NRC's plans to request from the Keeper of the Register a determination of the eligibility of archeological site SLO-2 for the National Register of Historic Places.

Wednesday afternoon, January 9, 1980

San Francisco, California

R. L. Ballard, S. S. Kirslis and Marc Staenberg met with Sandra Sobelman of the San Francisco office of Interagency Archeological Services to discuss our plans regarding the SLO-2 site and the issue of present-day Chumash access to the site.

Ms. Sobelman generally approved of our plans regarding SLO-2 and also suggested the possibility of enlarging the Rattlesnake Canyon district to the south to include the Diablo Canyon site. She said she would cooperate by reviewing our eligibility request for technical accuracy and by sending her opinion to the Keeper of the Register.

We discussed the access issue in general terms only since Ms. Sobelman did not possess detailed knowledge of the Chumash and their religious rites and customs as they related to the need for visiting particular sites.

Thursday morning, January 10, 1980

Santa Barbara, California

R. L. Ballard, S. S. Kirslis and Marc Staenberg met at the Santa Barbara Indian center with Lee Dixon, the director of the center, and with two Indian representatives: Archie Fire Lane Deer and Francis Franco. R. Ballard opened the meeting with a general statement of the desirability of settling the issues of the archeological sites at Diablo Canyon and the access of the Chumash to these sites before the issuance of the operating license for the Diablo Canyon plant.

S. S. Kirslis discussed the plan to request a determination of the eligibility of the SLO-2 site for the National Register of Historic Places. He also discussed the plant security considerations involved with access to the nuclear plant. Some kind of security escort would be required for visitors to the Diablo Canyon site.

Marc Staenberg discussed the objectives and provisions of the Native American Religious Freedom Act as it pertained to access of the Chumash to the Diablo Canyon area. Some ambiguities of the Act in connection with privately owned property were pointed out.

Wednesday morning, January 9, 1980

San Francisco, California

A meeting was held at the offices of the Pacific Gas and Electric Company at 77 Beale Street, San Francisco, California on the archeological and Indian access issues with the following attendees:

PG&E: Roger Peters  
John McLaughlin  
Keith Houston  
Dick Alves  
Rick Etzler

NRC: Ronald L. Ballard  
Marc Staenberg  
S. S. Kirsliis

Mr. Peters and Mr. McLaughlin reviewed the history of contacts between PG&E and Indian representatives on matters relating to the curation of Indian artifacts unearthed during plant construction, and to arrangements for access of Chumash Indians to areas of the Diablo Canyon site for religious and ceremonial purposes.

There is currently a dispute between the Chumash and the archeological groups which now have possession of the artifacts as to which items should be returned to the Chumash. PG&E emphasizes that it is not involved in this dispute.

On the matter of access to areas of the Diablo Canyon site by living Indians, nine or ten Indians, including Lee Dixon of the Santa Barbara Indian Center, toured the Diablo Canyon site in early May of 1978. Keith Houston of PG&E sent a letter to Lee Dixon on May 24, 1978, asking for the type of visiting arrangements which would be acceptable to the Chumash. No response was received by PG&E. In May of 1979 there was a meeting between Roger Peters of PG&E, Marc Staenberg of NRC and William Seidell, the State Historic Preservation Officer of California, to discuss the access issue further, but no definitive action ensued.

At the current meeting, the PG&E representatives expressed a willingness to meet with representatives of the Chumash on the access issue and to negotiate a "reasonable" agreement.

According to Roger Peters' interpretation of the Native American Religious Freedom Act, it applies only to Federal property. Marc Staenberg's interpretation is somewhat different to the effect that the spirit of the law is to protect access to all areas connected with religious sites and practices, although there is some question about the force with which the law can be applied to private property.

Hed 10



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

FEB 8 1980

Docket Nos. 50-275  
and 50-323

MEMORANDUM FOR: Files

FROM: S. S. Kirslis, Environmental Project Manager  
Environmental Projects Branch 1

SUBJECT: TRIP REPORT RELATED TO DIABLO CANYON

Tuesday morning January 8, 1980

Sacramento, California

A meeting was held in the offices of the Fish and Wildlife Service of the Department of the Interior in consultation with them regarding five endangered species that might be affected by the operation of the Diablo Canyon Nuclear Generating Station. The list of attendees and the gist of the discussions are contained in the enclosed letter of January 23, 1980, from the NRC to the Fish and Wildlife Service.

Tuesday afternoon, January 8, 1980

Sacramento, California

A meeting was held with Ms. Victoria Roberts of the California Native American Heritage Commission at her office to discuss two matters: (1) our intention to request a determination of the eligibility of the SLO-2 archeological site within the Diablo Canyon plant boundary for the National Register of Historic Places (NRHP) and (2) criteria according to which the NRC can assess its responsibilities under the Native American Religious Freedom Act regarding the access of the Chumash Indians to plant areas for religious purposes.

Ms. Roberts agreed that the eligibility of the SLO-2 site for the NRHP should be determined, and suggested we consider the possibility of proposing a larger archeological district which might be combined with the Rattlesnake Canyon district which is already in the NRHP.

On the access issue, Ms. Roberts advised consultation with leaders of the California Indian communities. She mentioned in particular Lee Dixon and John Flynn of the Santa Barbara Indian Center, Mr. Archie Fire Lame Deer - a spiritual leader of the Sioux, and Victor Lopez - a representative of the Chumash Indians. She discussed the need for such direct consultation in making reliable assessments regarding the religious significance of particular areas and archeological sites to various tribes.

Representing the NRC at this meeting were R. L. Ballard, S. S. Kirslis and Marc Staenberg.

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JAN 23 1980

Docket Nos. 50-275  
and 50-323

Mr. William H. Meyer  
Acting Regional Director  
Fish and Wildlife Service  
United States Department of  
the Interior  
Lloyd 500 Building, Suite 1692  
500 N.E. Multnomah Street  
Portland, Oregon 97232

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EP-1 File  
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RBallard  
SKirsliis  
RSamworth  
TCain  
MStaenberg

MSlater  
Applicant/Service  
list

Dear Mr. Meyer:

In response to your letter of October 23, 1979, to Mr. Don Sells of IIRC, requesting consultation about five endangered species in connection with the operation of the Diablo Canyon Nuclear Power Plant (DCNPP), we arranged a meeting on January 8, 1980 with Gail Kobetich and other personnel of the Fish and Wildlife Service at your Sacramento office. Mr. Lawrence Laurent and other representatives of the California Department of Fish and Game were also present (See enclosure).

Based on the results of that meeting, we are formally requesting a determination by your office pursuant to Section 7 of the Endangered Species Act, Public Law 93-205, as amended by Public Law 95-632, as to the effects of the operation of the Diablo Canyon Nuclear Generating Station on the five endangered species listed below:

- California brown pelican, Pelecanus occidentalis californicus
- American peregrine falcon, Falco peregrinus anatum
- California least tern, Sterna albifrons browni
- Southern sea otter, Enhydra lutris nereis
- Gray whale, Eschrichtius robustus

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In particular, we solicit your opinion on whether plant operation would result in any effect on critical habitat or would jeopardize the continued existence of any of these five species.

In preparation for the meeting of January 8, 1980, our technical staff reviewed the predicted environmental impacts of the operation of the Diablo Canyon plant on the endangered marine and avian species. The physical effects were briefly discussed at the meeting by Dr. S. S. Kirsliis of the NRC and the impacts of the physical effects on biota were discussed by Dr. Thomas L. Cain, a biologist on the NRC staff. Mr. Laurent discussed the monitoring programs being carried out by the California Department of Fish and Game, as they had bearing on the endangered species question.

OFFICE	Acc. No. 802110025			
SURNAME			8002110	005
DATE				A/H

Mr. William H. Meyer

- 2 -

Mr. Kobetich and Mr. Swanson of the Fish and Wildlife Service reviewed the requirements of the Endangered Species Act and pointed out that consultation with the concerned agencies was required whether the effects of plant operation were adverse or beneficial. Mr. Kobetich requested copies of all Pacific Gas and Electric Company reports on baseline studies of biota in Diablo Cove and on model studies of thermal plumes and ocean currents. These reports will be sent to your office.

From the discussions at the January 8, 1980 meeting, it appeared that the effects if any, of plant operation on the five endangered species would be minor and indirect, through impacts on the food web involving these species. The species most likely to be affected was the sea otter, which feed on sea urchins and abalone, which in turn feed on kelp. Growth of kelp in Diablo Cove will be affected by foam generated by the plant discharge flow and by a warm water discharge into Diablo Cove. Mr. Maxwell of the California Department of Fish and Game commented that the range of the otter up and down the Pacific Coast is so large that the otter would not be seriously affected even if the Diablo Cove habitat were completely eliminated.

In connection with one of the five species mentioned in your October 23, 1979 letter, we received a letter from Mr. Gerald V. Howard of the National Marine Fisheries Service to the effect that their service could see no threat to the continued existence of the gray whale from the operation of the Diablo Canyon plant. We have enclosed a copy of this letter.

With respect to the three bird species, the Diablo Canyon area is a small part of their range and does not appear to be a critical habitat. The effect of plant operation on the food webs of these birds is as likely to be beneficial as adverse.

The opinions given above were stated by representatives of the NRC and of the California Department of Fish and Game. You may wish to consider these opinions in the process of reaching your own official determination of plant operation effects on endangered species.

If you have any questions regarding this matter, please contact Dr. S. S. Kirshis, Environmental Project Manager, Nuclear Regulatory Commission, Washington, D. C. 20555, who may be reached by telephone one (301) 492-8426.

Sincerely,  
Original signed by  
Ronald L. Ballard

Wm. H. Regan, Jr. Acting Assistant  
Director for Environmental Projects  
Division of Site Safety and  
Environmental Analysis

Enclosures:

- List of Attendees
- Ltr 1/2/80 fm National Marine Fisheries

1939 017

OFFICE	DSE/EP-1	DSE/EP-1	DSE/ADPEP		
SURNAME	SSK:ms:ms	RLBallard	WHRRegan		
DATE	1/23/80	1/23/80	1/23/80		

Mr. William H. Meyer

- 3 -

cc: Fish and Wildlife Service  
ATTN: Mr. Gail Kobetich  
2800 Cottage Way  
Sacramento, California 95825

National Marine Fisheries Service  
ATTN: Mr. Jim Lecky  
300 South Ferry Street  
Rm. 2016 Terminal Island  
Los Angeles, California 90731

California Department of Fish and Game  
ATTN: Mr. Daniel W. Gotshall  
P. O. Box 98  
Avila Beach, California 93424

1939 018

Enclosure 1

List of Attendees  
Meeting with Fish and Wildlife Service, Sacramento, CA  
January 8, 1980, Regarding Endangered Species at  
Diablo Canyon Nuclear Plant

Carl Benz	U.S. FWS	2800 Cottage Way Sacramento, CA	916 484-4106
Bill Maxwell	CA Fish & Game	1416 Ninth St. Sacramento, CA	916 445-8386
Alan Craig	CA Fish & Game	"	916 322-1411
Stan Kirslls	U.S. NRC, Environmental Project Manager		(301)FTS 492-8426
Tom Cain	U.S. NRC, Biologist		(301)FTS 492-8568
Marc Staenberg,	U.S. NRC, Office of the Legal Director		
Bud Laurent	CA Fish & Game	Diablo Canyon	805 595-7363
Ronald L. Ballard	U.S. NRC, Chief Environmental Projects Branch 1		
Ralph G. Swanson	U.S. FWS	Sacramento, CA	916 484 4106
Gail C. Kobetich	U.S. FWS	Sacramento, CA	FTS 468-4106

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Enclosure 2

NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
300 South Ferry Street  
Terminal Island, CA 90731

January 2, 1980

F/SWR31:JHL

William H. Regan, Jr.  
Acting Assistant Director  
for Environmental Projects and Technology  
Division of Site Safety and  
Environmental Technology  
United States Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Regan:

In response to your November 30, 1979 request for formal consultation under Section 7 of the Endangered Species Act of 1973, as amended, we have reviewed the information you submitted to this office, and find that the operation of the nuclear generating station at Diablo Canyon, California is not likely to jeopardize the continued existence of any of the threatened or endangered species under the purview of the National Marine Fisheries Service.

The gray whale (Eschrichtius robustus) is the only endangered species for which we are responsible that we would expect to find in the project area. Southward migrating gray whales may be found off the central California coast from about mid-November through mid-January. Gray whales on their northward migration pass central California from early March through late May. The majority of these whales migrate within a few kilometers of the shore (Rice and Wolman, 1971, Life History and Ecology of the Gray Whale (Eschrichtius robustus) Spec. Pub. 3 Amer. Soc. Mamm. 141 pp.), and some of them may encounter the 2° or 4°F above ambient isotherm of the thermal plume emanating from the plants cooling system and the pollutants being carried out to sea by that plume. Although the whales may be able to detect the change in temperature we do not expect the plume to interfere with their migration. Since gray whales either do not feed or feed very little while migrating we would expect negligible impacts from contact with pollutants in the concentrations described in the Final Environmental Impact Statement and its addendum.

Other endangered cetaceans that occur offshore from the project area are:

Humpback whale	<u>Megaptera novaeangliae</u>
Sperm whale	<u>Physeter catodon</u>

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JAN 28 1980

Docket Nos. 50-275  
and 50-323

Mr. William H. Meyer  
Acting Regional Director  
Fish and Wildlife Service  
United States Department of  
the Interior  
Lloyd 500 Building, Suite 1692  
500 N.E. Multnomah Street  
Portland, Oregon 97232

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WRegan  
RBallard  
SKirslis  
RSamworth  
TCain  
MStenberg  
MSlater  
~~Applicant/Service List~~  
Glear

Dear Mr. Meyer:

Enclosed are copies of Volume 1 and Volume 2 of Pacific Gas and Electric Company's report "Environmental Investigations at Diablo Canyon 1975-1977" requested by Mr. Gail Kobetich of your Sacramento office, as mentioned in our letter to you of January 23, 1980.

We hope these reports will be of use to you in making your determination of the impact of the operation of the Diablo Canyon Nuclear Generating Station on the endangered species referred to in your letter of October 23, 1979.

Sincerely,

*Original signed by  
Ronald L. Ballard*

Wm. H. Regan, Jr., Acting Assistant  
Director for Environmental Projects  
Division of Site Safety and  
Environmental Analysis

Enclosure:  
As stated

*Acc. No. 8002140465*

OFFICE	DSE-EP-1	DSE-EP-1	DSE-EP			
SURNAME	SKIRSLIS	RBallard	WRegan			
DATE	1/25/80	1/24/80	1/23/80	A	8008140	465 A/5



→ Ballard

United States Department of the Interior

FISH AND WILDLIFE SERVICE  
LLOYD 500 BUILDING, SUITE 1692  
500 N.E. MULTNOMAH STREET  
PORTLAND, OREGON 97232

February 6, 1980

In reply refer to:  
AFA-SE, #1-1-80-F-31

Mr. Wm. H. Regan, Jr.  
Acting Assistant Director  
for Environmental Projects  
Division of Site Safety and  
Environmental Analysis  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Regan:

This acknowledges your request, dated January 23, 1980, for consultation relative to Section 7 of the Endangered Species Act for the operation of the Diablo Canyon Nuclear Power Plant. In your request, you solicited our opinion on the effect upon five species, including the gray whale, Eschrichtius robustus. The gray whale is under the jurisdiction of National Marine Fisheries Service. We note you have an opinion for this species from them, and will address the other four.

Your request was received here on January 28, 1980, and is being designated as case number 1-1-80-F-31. Please refer to this case number on any further correspondence.

We are assigning field work for this consultation to our Area Manager at the following address:

William D. Sweeney  
2800 Cottage Way, Room E-2740  
Sacramento, CA 95825  
Phone: FTS 468-4664

His staff will likely want to review the project with your staff and may need additional information. We will notify you of our conclusion within 90 days as required by the recent amendments to the Endangered Species Act.

Sincerely yours,

*David B. Marshall* COO2  
David B. Marshall ES  
Acting Assistant Regional Director 110  
Federal Assistance

Acc. No. 8003060590

8003060590

A/4



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

LLOYD 500 BUILDING, SUITE 1692  
900 N.E. MULTNOMAH STREET  
PORTLAND, OREGON 97232

June 19, 1980

In reply refer to:  
AFA-SE, #1-1-80-F-31

Mr. William H. Regan, Jr.  
Acting Assistant Director  
Environmental Projects  
Division of Site Safety and Environmental  
Analysis  
Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Regan:

This is in response to your letter dated January 23, 1980, requesting consultation pursuant to Section 7 of the Endangered Species Act of 1973, as amended, as to the effects of operation of the Diablo Canyon Nuclear Power Plant (DCNPP) on five endangered species. The original list included the gray whale, Eschrichtius robustus. The gray whale is under the jurisdiction of the National Marine Fisheries Service and will not be considered in this consultation. The remaining species, southern sea otter (SSO), Enhydra lutris nereis; California least tern (CLT), Sterna albifrons browni; California brown pelican (CBP), Pelecanus occidentalis californicus; and the American peregrine falcon (APF), Falco peregrinus anatum, are considered in this examination for potential impacts subsequent to project operation.

In addition to your request for consultation, we have received Volumes I and II of PG&E's Environmental Investigations at Diablo Canyon, 1975-1977; and the Final Environmental Statement for the operation of the Diablo Canyon Nuclear Power Plant Units 1 and 2 (1973) and addendum (1976). On January 8, 1980, representatives from the U.S. Fish and Wildlife Service, California Department of Game (CDG), and the Nuclear Regulatory Commission (NRC) met to review the project and potential impacts to endangered and threatened species.

### SPECIES ACCOUNTS

#### Southern Sea Otter

The sea otter is the largest member of the family Mustelidae and is one of the smallest species of marine mammals. It inhabits a narrow ecological zone in the marine environment, the nearshore community of rocky shoreline with kelp beds.

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Page Two

This species historically ranged throughout much of the northern Pacific coastal region. However, after 170 years of commercial harvest for their pelts, the population was virtually extirpated from its entire range. In fact, in 1910 it was believed by some that the California population of sea otters was extinct. The SSO was "rediscovered" in 1938 when approximately 50 animals were observed rafting off Bixby Creek, Monterey County (Bolin, 1938; Fisher, 1939).

The California population has been under protective State legislation since 1913. In 1972, protective responsibility for sea otters was assigned to the Federal government by the U.S. Congress under the Marine Mammal Protection Act. Further protection was given the otter in 1977 when the Secretary of the Interior, in accordance with the Endangered Species Act of 1973, determined that the SSO population in California was threatened.

The current range of the SSO extends about 200 miles, from Pismo Beach, San Luis Obispo County in the south to Soquel Point, Santa Cruz County in the north. This range is less than 10 percent of historic range. The 1979 census by the CDFG estimated the population at 1,443 animals. This count is below that made in 1976 by CDFG which estimated the population at 1,789 animals.

The densities of SSO within their range give the population distribution a dumbbell-like configuration. At the peripheries of the range are large aggregations of animals composed mostly of adult and sub-adult males. The front groups concentrate along about 4 miles of coast at both ends of the range. Numbers in these front groups vary seasonally, increasing in the winter and early spring to near 150 individuals. During the summer and fall, numbers decrease presumably as mature males disperse into the center of the range (Jameson, pers. comm.). The population of otters inhabiting the center of the range apparently is stable and is composed of approximately 70 percent females including females with pups (Ames, pers. comm.). Density variation throughout the center of the range correlates to substrate type with greater densities of otters found in areas with a rocky bottom than in areas with a sandy bottom (CDFG, 1976).

Sea otters are polygamous and the male does not participate in the rearing of the young. Breeding and pupping occur throughout the year (Kenyon, 1969); however, Sandegren et al. (1973) reported the maximum birth rate occurs from December to February in California. The average birth rate is unknown. Young are dependent upon the female for nourishment, care, and training for about 8 months (Vandever, 1979).

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Otters are active both day and night and forage in both rock and soft-sediment communities, on or near the bottom as well as in the kelp forest and canopy. Foraging occurs in both the intertidal and subtidal zones. Preferred food items are sea urchins (Strongylocentrotus sp.), abalone (Haliotis sp.), and rock crabs (Cancer sp.); however, sea otters do consume a wide variety of food items including Pismo clams, squid, turban snails, kelp crabs, mussels, octopuses, etc. (Ebert, 1968; Wild and Ames, 1974). In Monterey Bay, squid (Loligo opalescens) spawn seasonally during the fall and spring. The large aggregation of spawning squid provides an alternative food source which the local sea otters readily use. Costa (1978) estimated energy consumption for a free ranging otter to be 270 kcal/kg/day. To satisfy this requirement, otters will eat approximately 20-25 percent of their body weight (which averages 19.5 kg for females and 29 kg for males) every day (Costa, 1976; Fausett, 1976).

There is little subcutaneous fat for energy storage and no layer of blubber for thermoinsulation as in pinnipeds and cetaceans. Insulation from cold sea water is provided entirely by air trapped in the fur (Morrison et al., 1974). The small body size of the otter and the relatively inefficient insulation provided by its fur necessitates a high standard metabolic rate (SMR) for survival in the marine environment.

The interrelationship between food consumption and SMR is critical. Kenyon (1969) reported that otters, when not fed, may lose up to 10 percent of their body weight per day and that a 25 percent weight loss is normally fatal.

The effect of non-human predation on sea otter numbers is unknown. Shark teeth from the white shark (Carcharodon carcharias) and wounds suggestive of shark attack have been found in beached carcasses in California (Mbrejohn et al., 1975).

At present, the greatest threat to the survivorship and recovery of the SSO population is oil contamination within the sea otters' range. Otters are among the marine mammals most likely to be affected by oil spills (Davis and Anderson, 1976; Geraci and Smith, 1977). It is not known whether sea otters are capable of detecting and avoiding oil contaminated areas. Preliminary studies by Williams (1978) on Alaskan sea otters in captivity demonstrated that otters do not avoid oil contaminated areas and even repeatedly enter such areas after initial exposure. Over 100 otters died as a result of contamination from a tanker grounding and subsequent oil spill at Paramushir Island (Barabash-Nikiforov et al., 1968), thus suggesting that otters are not capable of avoiding oil nor possibly even detecting it. Kooyman

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and Costa (1979) conclude that crude oil contamination over small areas of the sea otter's fur would probably cause significant thermal stress and could lead to hypothermia and/or pneumonia resulting in death.

The U.S. Fish and Wildlife Service is currently drafting the Southern Sea Otter Recovery Plan. The Service and CDFW recognize the establishment of a viable population of SSO in at least one disjunct translocation site would in all probability be adequate to delist the otter from its present status as threatened.

#### California Brown Pelican

CBP's formerly nested in the Monterey region in large colonies on many of the islands off southern California and the northern Baja coast. In 1968 Schreiber and DeLong (1969) surveyed brown pelicans in the Channel Islands and found nest abandonment prevalent in those areas where breeding birds were found. Risebrough et al. (1971) found an incredibly high degree of nest failures due to a 50 percent reduction in mean eggshell thickness. This significant reduction in productivity as a result of environmental pollution by DDT and its metabolites led the Secretary of the Interior to declare the CBP an endangered species. The species is also listed by the State of California as endangered.

The degree of eggshell thinning has been shown in many studies to be highly correlated with concentrations of DDE, a metabolite of DDT in egg lipids (Gress 1970; Jehl 1973; Risebrough et al., 1971; Schreiber and Risebrough, 1972). The high levels of contamination began to subside when the manufacturer of DDT ceased dumping liquid wastes into the Los Angeles sewage system. Subsequently, the percentage of young fledged from breeding colonies increased. Although we are unaware of pollutant levels still reaching the marine environment, we suspect contamination still exists.

The northern anchovy is the main constituent of the pelican diet. Anderson (pers. comm.) believes that reproductive success directly correlates with anchovy abundance. Any factors that would depress population levels of anchovies or food availability could have a severe impact on the recoverability of the pelican.

The Monterey region is an area of great importance to the CBP, particularly during the northward post-breeding dispersal (Baldrige, 1973). Although not common until June, numbers of birds increase steadily through July and August, with peak numbers in December and January.

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Historically and presently, important large summer and fall roosts have been located on Big Sur coastal rocks, on offshore rocks at Pt. Lobos and Pt. Pinos, at the sand spit at the mouth of the Salinas River, Elkhorn Slough, Moss Landing, and at the mouth of the Pajaro River.

The pelican situation off southern California continues to remain bleak. Apparently as one problem lessens, others intensify. As DDT and PCB pollution subsides (Anderson et al., 1977), offshore oil development and increasing tanker traffic, increased anchovy harvests, sonic booms by the space shuttle, and other impacts constitute new threats to pelicans.

#### California Least Tern

Least terns are the smallest member of the tern family. Historical breeding range extends along the Pacific Coast from Moss Landing, Monterey County, to San Jose del Cabo, southern Baja California (Dawson, 1924; Grinnell and Miller, 1944). Although the present breeding range extends north to South San Francisco Bay, the continuing loss of both shoreside nesting habitat to human disturbance and development, and feeding habitat to dredging, diking, filling, and pollution have been responsible for a decline in numbers up to the present time (Craig, 1971). The CLT is not only protected by the Endangered Species Act but the State of California has also listed the CLT as endangered.

The tern is migratory, usually arriving at its breeding grounds during the last week in April and departing in August (Davis, 1968; Massey, 1974; Swickard, 1971).

Least terns are colonial but do not nest in dense concentrations as do many other terns. They normally select a nesting site on an open expanse of sand, dirt, or dried mud with loose substrate adjacent to a lagoon, estuary, or a wetland where food is available (Davis, 1968; Craig, 1971; Massey, 1971 and 1974; Swickard, 1971). Formerly sandy ocean beaches were used, but increased human activity has rendered many of these sites uninhabitable. Recently most nesting has occurred on mud and sand flats back from the ocean or on manmade land fills (Craig, 1971; Langhurst, 1969).

The CLT obtains most of its food from shallow estuaries and lagoons and only occasionally forages offshore in the ocean. These terns are known to eat only fish, especially small-bodied species such as the northern anchovy (Engraulis mordax), deepbody anchovy (Anchoa mitchilli), jack-smelt (Atherinopsis californiensis), topsmelt (Atherinops affinis),

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California grunion (Leuresthes tenuis), shiner surfperch (Cymatogaster aggregata), California killifish (Fundulus parvipinnis), and mosquito-fish (Gambusia affinis) (Massey, 1974).

The importance of productive foraging sites near the breeding grounds is evident since parental feeding of young continues until migration. Only after the young birds migrate from the breeding grounds do they become competent fishers (Massey, 1974; Swickard, 1971; Tompkins, 1959).

The destruction and loss of nesting habitat are considered to be the major factors in the decline of the species. At the same time, feeding areas have been filled and polluted. Similarly, the disturbance of breeding areas and nesting birds can pose significant threats to the reproductive efforts of this bird. Predators such as Norway rats, dogs, and gulls have been implicated in a number of egg losses. Losses of tern chicks have been attributed to the American kestrel (Falco sparverius) (Craig, 1971), house cats, and dogs. All factors that have contributed to the decline of the tern continue to operate and the bird's status continues to be precarious.

#### American Peregrine Falcon

The American peregrine falcon historically nested throughout North America, south of the boreal forest, wherever suitable nesting habitat and prey species occurred together. In the first half of this century, the peregrine population in the western United States declined due to direct and indirect impacts, particularly due to habitat loss and shooting (Bond, 1946). Herman et al. (1970) estimated the breeding population in California to be about 100 pairs prior to 1947. A rapid decline in peregrine populations occurred throughout most of Europe and North America during the years following World War II due to widespread use of chlorinated hydrocarbon pesticides (Hickey and Anderson, 1969). By 1970, the California population was estimated to be less than 10 reproductive pairs (Herman et al., 1970). By this time, the peregrine was extirpated as a breeding species in Canada south of the boreal forest and in the United States east of the Rockies. In 1978 the 23 pairs of peregrines in California fledged an average of 1.38 young, with the North Coast Range population fledging an average of 1.82 young (Harlow, 1978). In 1979, 31 California pairs fledged an average of 1.37 young per pair (Harlow et al., 1979). Although these data are encouraging, reproductive failures due to thin eggshell conditions continue to threaten the California peregrine populations. Present data show that eggshell thinning occurs in nearly all peregrine nest sites, and some sites suffer severe thinning causing reproductive failure (Kliff, et al., 1979).

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Page Seven

#### PROJECT IMPACTS

DCRP is located on a marine terrace in San Luis Obispo County on a remote site that is undeveloped and relatively uninhabited. The coast to this area is rugged with tidal pools and offshore rocks. The cliffs are steeply from the high water line to the offshore rocks. The nearest town is Avila Beach about 7 miles to the west. Construction began in June 1968 and was subsequently completed. At issue are the potential impacts operation of the facility may have on listed endangered species. Of principal concern are the effects from the cooling water system where seawater is taken in to cool the reactor and then discharged back into Diablo Cove. This heated discharge will dissipate into the cool marine waters. Models have been developed estimating the possible increase in the temperature regime of the local waters. The cooling water flow will be about 3,864 cubic feet per second. The temperature rise through the condenser will be about 19°. The maximum historical temperature observed in the cove has been 63.5°. Therefore, the maximum discharge temperature is expected to be 82.5°. Thermal dissipation is dependent upon tide stages, currents, and sea conditions. An increase in ambient water temperature will affect the local marine community but this change should not be significant. The ranges of thermal dissipation are illustrated in Figures 2, 3, and 4.

Additional to the heated effluent is the concentrated foam generated by this system, plus recirculation of superheated water and chemicals contained in the effluent (including tributyltin oxide, chlorine, titanium, heavy metals, and radioactive nucleides, foam will be generated by the discharge of the cooling water. It is believed that the foam composition will be similar to natural seafoam, although it is unknown what might be added to the foam via plant operation. The thickness of the foam, the extent of the mat, its influence on the marine environment (such as eliminating photosynthesis by algae from shading), and how it might affect sea otters (particularly their fur) is unknown. Seafoam is not expected to affect the CBP, CLF, or APT.

Superheated seawater will be recirculated monthly as a heat treatment for defouling the conduits. Water flow through the plant will be reduced to one-fourth of normal and the temperature elevated to about 50 F above ambient. After holding for 1 hour for treatment, this water will then be discharged into the cove. Although this hot water will be cooled by ocean waters, the short term and long term effects are unknown.

June 19, 1980

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California grunion (Leuresthes tenuis), shiner surfperch (Cymatogaster aggregata), California killifish (Fundulus parvipinnis), and mosquito-fish (Gambusia affinis) (Massey, 1974).

The importance of productive foraging sites near the breeding grounds is evident since parental feeding of young continues until migration. Only after the young birds migrate from the breeding grounds do they become competent fishers (Massey, 1974; Swickard, 1971; Tompkins, 1959).

The destruction and loss of nesting habitat are considered to be the major factors in the decline of the species. At the same time, feeding areas have been filled and polluted. Similarly, the disturbance of breeding areas and nesting birds can pose significant threats to the reproductive efforts of this bird. Predators such as Norway rats, dogs, and gulls have been implicated in a number of egg losses. Losses of tern chicks have been attributed to the American kestrel (Falco sparverius) (Craig, 1971), house cats, and dogs. All factors that have contributed to the decline of the tern continue to operate and the bird's status continues to be precarious.

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June 19, 1980  
Page Seven

### PROJECT IMPACTS

DNPP is located on a marine terrace in San Luis Obispo County on a remote site that is undeveloped and relatively uninhabited. The coast in this area is rugged with tidal pools and offshore rocks. The cliffs rise steeply from the high water line to the marine terraces. The nearest town is Avila Beach about 7 miles east southeast (Figure 1). Construction began in June 1968 and was subsequently completed. At issue are the potential impacts operation of the facility may have on listed endangered species. Of principal concern are the effects from the cooling water system where seawater is taken in to cool the reactor and then discharged back into Diablo Cove. This heated discharge will dissipate into the cool marine waters. Models have been developed estimating the possible increase in the temperature regime of the local waters. The cooling water flow will be about 3,864 cubic feet per second. The temperature rise through the condenser will be about 19°F. The maximum historical temperature observed in the cove has been 63.5°F. Therefore, the maximum discharge temperature is expected to be 82.5°F. Thermal dissipation is dependent upon tide stages, currents, and sea conditions. An increase in ambient water temperature will affect the local marine community but this change should not be significant. The ranges of thermal dissipation are illustrated in Figures 2, 3, and 4.

Additional to the heated effluent is the concentrated foam generated by this system, plus recirculation of superheated water and chemicals contained in the effluent including antifoaming agents, chlorine, titanium, heavy metals, and radioactive nuclides. Foam will be generated by the discharge of the cooling water. It is believed that the foam composition will be similar to natural seafoam, although it is unknown what might be added to the foam via plant operation. The thickness of the foam, the extent of the mat, its influence on the marine environment (such as eliminating photosynthesis by algae from shading), and how it might affect sea otters (particularly their fur) is unknown. Seafoam is not expected to affect the CBP, CLT, or APP.

Superheated seawater will be recirculated monthly as a heat treatment for defouling the conduits. Water flow through the plant will be reduced to one-fourth of normal and the temperature elevated to about 50 F above ambient. After holding for 1 hour for treatment, this water will then be discharged into the cove. Although this hot water will be cooled by ocean waters, the short term and long term effects are unknown.

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Page Eight

Several chemicals will be discharged with the cooling effluent. Chlorine will be used intermittently as a biocide in the auxiliary cooling system and occasionally in the condenser cooling system. Pursuant to the National Pollution Discharge Elimination System permit issued by the California Regional Water Quality Control Board, Central Coast Region, the total residual chlorine in the plant discharge will not exceed 0.1 ppm. Sedentary invertebrates will not be able to avoid any localized discharge plumes of an undesirable nature. Studies using concentrations of residual chlorine to test for chronic mortality (30 daily 20-minute exposures) of 0.5 mg/l (=ppm), free residual chlorine) resulted in mortality to tidepool shrimp (Heptacarpus pictus) and stress responses from abalone (Haliotis cracherodii, H. rufescens), turban snails (Tecula brunnea), and the purple sea urchin (Strongylocentrotus purpuratus). Since test concentrations of residual chlorine exceeded that permitted for discharge, it is expected that the discharge effluent containing chlorine should have no deleterious effects on the invertebrates studied (PG&E, 1978). Toxicity of chlorine to other species was not examined.

Commercially prepared chemical antifoaming agents are proposed to eliminate the generation of foam at DQNP. Two products were tested - NOFCO 9290-A and NOFCO 2019-R - for toxicity to selected marine organisms (not endangered species). Antifoaming agents have not yet been tested in the DQNP cooling system to determine effectiveness. NOFCO 9290-A seems to be the less detrimental agent to the species tested (black abalons, purple sea urchins, and copepods). Concentrations of this agent necessary to cause mortality will not be reached in normal discharge. Again, there has been no correlation made to impacts on endangered species.

Titanium (Ti) tubing is used in the condenser cooling system. The corrosion product of Ti,  $TiO_2$ , is an inert oxide which forms an adherent protective passivation coating on the surface. The corrosion rates of Ti in sea water have been reported as "nil" ranging from  $3 \times 10^{-2}$  to  $3 \times 10^{-5}$  mil penetration per year. Ti is also resistant to heated seawater and chlorinated seawater. Ti toxicity has been found in very few studies and is not considered to be a problem (PG&E, 1978).

Trace amounts of copper, nickel, chromium, and other elements are expected to be discharged in the effluent. The accumulation of heavy metals in the marine environment is known to be a serious pollution problem with both acute and chronic toxicity effects. The severity of pollution and the resultant impact(s) from the operation of DQNP are unknown. In October 1975, the original 90-10 copper-nickel condenser tubing was replaced with Ti tubing in the cooling water condensers at DQNP. The copper-nickel tube sheets were coated with epoxy to eliminate contact of the copper-nickel with seawater. Dissolution of the epoxy into marine water was undetectable under test conditions.

June 19, 1980  
Page Nine

The release of radioactive effluents from normal operations is anticipated. No detectable effect is expected on the aquatic biota or waterfowl.

Environmental Studies (Volumes I and II) and studies for the Final Environmental Statement (1973) indicate that although the environment and biota of Diablo Cove and immediate vicinity will be altered by DCNPP the effects will not likely be significant. However, insufficient information exists at present to accurately determine the long term effects of plant operation. The extent of the thermal plume, the buildup and composition of seafoam, the effect of accumulated heavy metals in the marine environment, and other scenarios all need to be examined when considering the direct and secondary impacts on listed species. There are no foreseeable adverse impacts that would immediately affect the southern sea otter, California brown pelican, California least tern, or American peregrine falcon. However, impacts that may result from the operation of DCNPP, particularly long term impacts, cannot be adequately measured and the NRC cannot protect against adverse impacts to endangered or threatened species until the plant is operating and thereafter the environment is monitored over a period of years. Only then, upon review and evaluation of subsequent reports by the Service, will the effects, if any, of plant operation on the listed species be somewhat identifiable.

#### BIOLOGICAL OPINION

Based on the above discussion, it is the opinion of this Service that operation of DCNPP is not likely to jeopardize the continued existence of the above listed species. However, in order to insure against irreversible impacts to these species, their habitat and recoverability, we recommend that in furtherance of the purposes of the Act (Section 2(c) and 7(a)(1)), NRC encourage PG&E to pursue the following activities, some of which PG&E currently has planned:

1. Analyze the effluent and content of generated foam and conduct studies on a sample of sea otter fur to determine if there may be any soiling effect or chemical composition that would remove natural oils from sea otter fur.
2. Monitor dispersion of generated foam and study extent of impact on marine biota, particularly marine flora.
3. Monitor discharge of titanium, heavy metals, chlorine, antifoaming agent, oils, and radioactive nuclides.

June 19, 1980

Page Ten

4. Monitor marine environment to determine if discharge (Item 3) is accumulating in local biota or depressing adult survival, reproduction, or survival of larval stages of local biota which subsequently affects a listed species.
5. Examine the thermal plume (both normal operating plume and the superheated, antifouling plume) for extent of direct and indirect impacts on listed species.
6. Continue sea otter studies such as those conducted by Suzanne Benach who has been studying sea otters in this area since 1973. Someone would be needed who can identify aberrant sea otter behavior that may occur because of plant operation.
7. If contaminants are found to be accumulating in the marine biota, study local current patterns to determine extent and severity of contamination relative to listed species.
8. If generated foam breaks down and does not extend beyond the local area, consider the practicality of not using an antifoaming agent.

Studies 2 through 7 should be maintained for at least 5 years in order to assure a quantifiable data base.

This concludes formal consultation. Should any of the above programs identify potential impacts to the listed species, your agency should reinitiate consultation.

Should you have any questions regarding this opinion, please contact our Area Manager, Sacramento, California (FIS 468-4664 or (916) 484-4664). Thank you for this opportunity to comment on your activity.

Sincerely yours,



R. Kahler Matinson  
Regional Director

Attachments

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Rept. No MC-77/06. U.S. Dept of Commerce, National Technical  
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Fig. 2. High tide isotherms of thermal plume in Noble Cove.

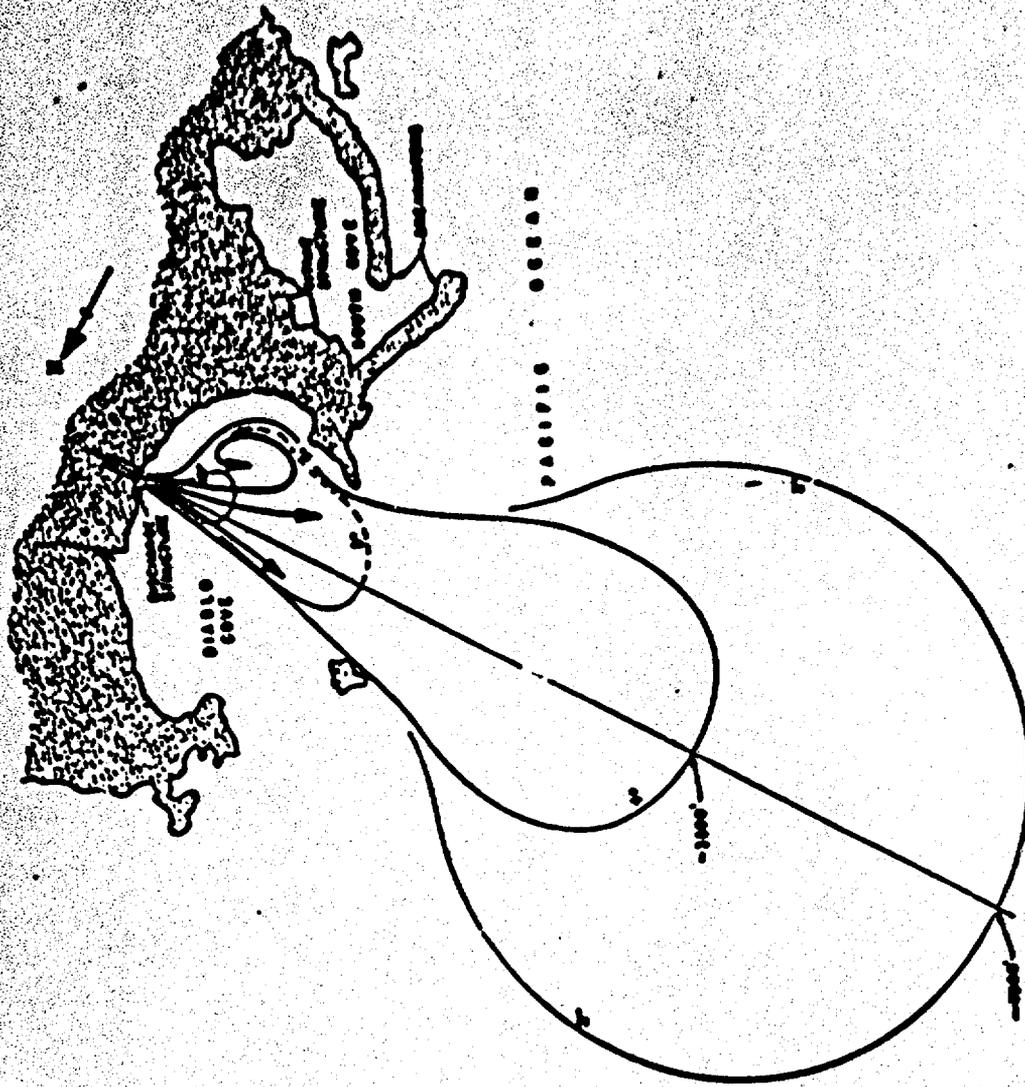
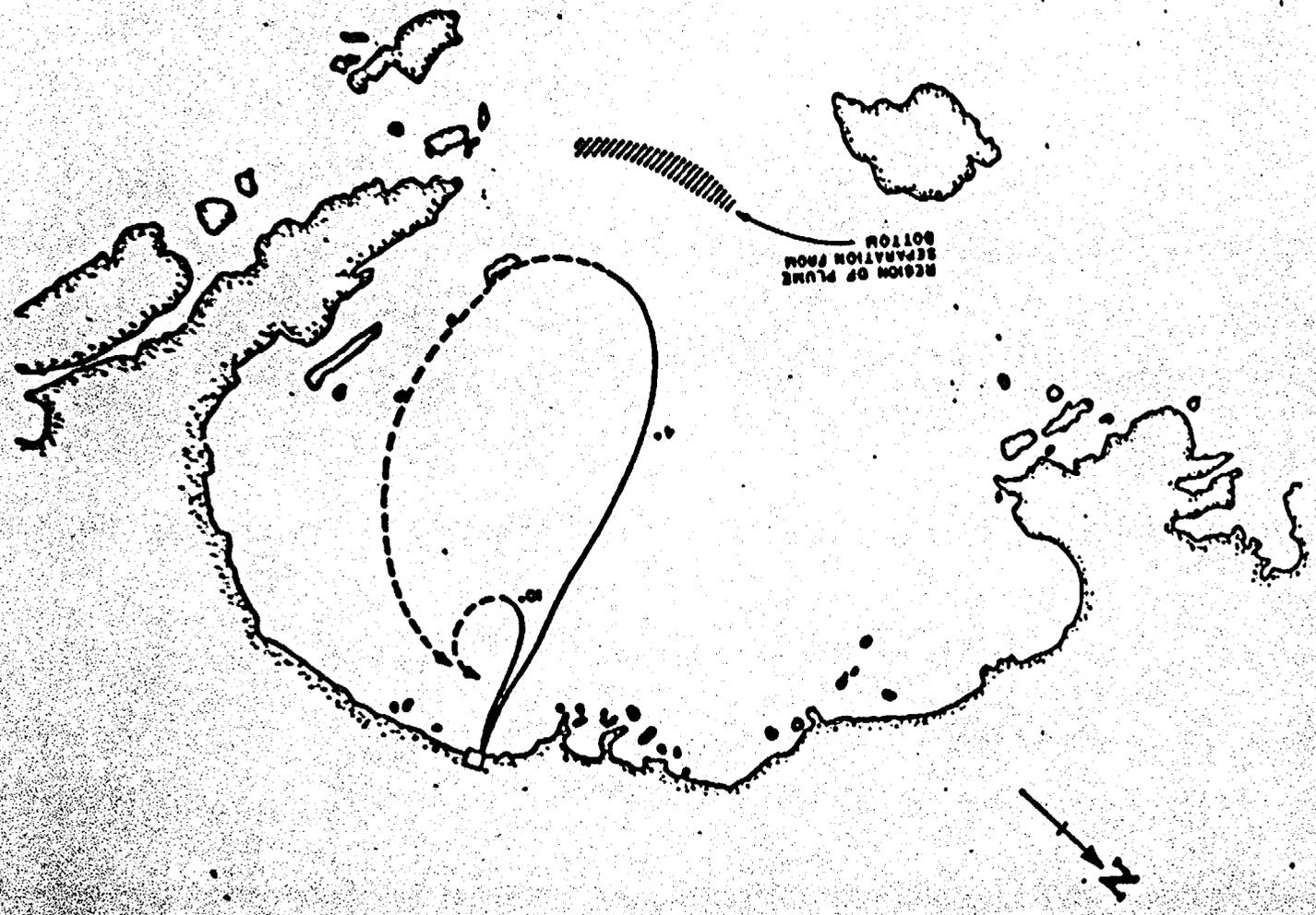


Fig. 3 High tide isotherms of thermal plume outside Blable Cove.

FIG. 4  
Low tide isotherms of thermal plume in Diablo Cove.



COPY

PACIFIC GAS AND ELECTRIC COMPANY

PG&E +

P. O. BOX 7442 • 77 BEALE STREET, 31ST FLOOR, SAN FRANCISCO, CALIFORNIA 94138  
TELEPHONE (415) 781-4211  
TELECOPIER (415) 543-7813

June 16, 1981



Mr. R. H. Engelken, Director  
Office of Inspection and Enforcement  
Region V  
U. S. Nuclear Regulatory Commission  
190 N. California Boulevard  
Suite 202, Walnut Creek Plaza  
Walnut Creek, CA 94596

Re: Docket No. 50-275  
Docket No. 50-323  
Diablo Canyon Units 1 and 2

Dear Mr. Engelken:

The presence of an endangered species, the American peregrine falcon (*Falco peregrinus anatum*), has been observed in the vicinity of the Diablo Canyon Power Plant (DCPP). Two peregrine falcons, a male and a female, were first sighted on offshore rocks near DCPP in December 1980. More recent observations by the Santa Cruz Predatory Bird Research Group (SCPRBG) and PG&E biologists indicate the pair has established residence along the coast near DCPP. The observations have also revealed that the female falcon is immature, and therefore, the pair is not expected to nest in 1981.

To observe the birds on a continuing basis, we have funded a contract with the SCPRBG. In addition, PG&E biologists are also making periodic observations of the falcons' activities.

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June 16, 1981

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Mr. R. H. Engalben

An advance copy of this letter has been forwarded to Mr. Bart  
Buckley.

Very truly yours,

Philip A. Crane, Jr.

CC: Mr. Robert L. Tedesco  
Assistant Director for Licensing  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Mr. R. Kahler Martinson  
Regional Director  
U. S. Fish and Wildlife Service  
Lloyd 500 Building, Suite 1692  
500 N. E. Multnomah Street  
Portland, OR 97232

Mr. Robert Mallette  
Rare and Endangered Species Coordinator  
California Department of Fish and Game  
1416 Ninth Street  
Sacramento, CA 95814

Service List

Pacific Gas and Electric Company

77 Beale Street, Room 1451  
P.O. Box 770000  
San Francisco, CA 94177  
415/973-4684  
Fax 415/973-2313

Gregory A. Rueger  
Senior Vice President and  
General Manager  
Nuclear Power Generation

May 16, 1994

PG&E Letter DCL-94-105

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Docket No. 50-275, OL-DPR-80  
Docket No. 50-323, OL-DPR-82  
Diablo Canyon Units 1 and 2  
Endangered Species, Green Sea Turtle, Rescued and Returned to Sea

Gentlemen:

In accordance with the requirements of Appendix B, Section 5.4.2 of the operating license, the enclosed 30-day report is being submitted concerning a green sea turtle that was rescued and returned to sea.

On April 27, 1994, at approximately 1030 PDT, an average size green sea turtle (*Chelonia Mydas*) was discovered in the Diablo Canyon Intake Cove. This animal is protected under the Endangered Species Act of 1973. Since this is the first occurrence of a sea turtle in the Intake Cove, the presence of the turtle qualifies as an unusual occurrence of a species protected under the Endangered Species Act as described in Appendix B of the operating license. The National Marine Fisheries Service, Stranding Coordinator and the local Department of Fish and Game were notified of the rescue. On April 28, 1994, at 1640 PDT, a phone report of the turtle rescue was made to the NRC in accordance with Section 4.1 of Appendix B of the operating license.

The turtle was found floating on the surface between the curtain wall and the bar racks in forebay 2-3. Biologists were notified and unsuccessfully attempted to direct the turtle under the curtain wall. The turtle was then directed into a net and placed in the back of a pickup truck. The animal was taken to the boat dock and released in the Intake Cove. It swam rapidly for about 100 feet before becoming slightly entangled in kelp. Biologists recaptured the turtle and took it to a location about 1/2 mile south of the Intake Cove. Upon release, the turtle swam strongly for about 100 yards, took several breaths, and dived beneath the surface.

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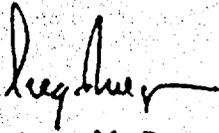
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May 16, 1994

Biologists observed the turtle to be in a nonstressed condition.

Sincerely,



Gregory M. Rueger

cc: Leonard J. Callan  
Mary H. Miller  
Kenneth E. Perkins  
Sheri R. Peterson  
Diablo Distribution  
National Marine Fisheries Service, Stranding Coordinator  
California Department of Fish and Game

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Doc. No. 9702180128

PG&E

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Enclosure

Steven D Bloom  
L J Cohen  
Stanley C Kramson  
Kar. Ann E Perkins  
Michael D Tschur  
Diablo Distribution  
RPO

Robert P Powers

Sincerely,

This event did not affect the health and safety of the public

PG&E is submitting the enclosed report of a green sea turtle found at the Diablo Canyon Nuclear Power Plant circulating water intake structure on January 10, 1997 at approximately 1000 PST. This report is being submitted in accordance with the Diablo Canyon Power Plant (DCPP) Environmental Protection Plan. The turtle was rescued, verified to be in good condition and released in the open sea.

Dear Commissioners and Staff:

Division of Federal Energy Projected Sources

Diablo Canyon Units 1 and 2  
Docket No. 50-275, OL-DPR-80  
Docket No. 50-323, OL-DPR-82

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

PG&E Letter DCL-97-011

February 7, 1997

Diablo Canyon Power Plant  
PG&E  
PO Box 56  
Avila Beach, CA 93424  
805-545-6000  
Robert P Powers  
Vice President-Diablo Canyon  
Operations and Plant Manager

Pacific Gas and Electric Company



TECHNICAL

## UNUSUAL OCCURRENCE OF FEDERALLY PROTECTED SPECIES

The Diablo Canyon Nuclear Power Plant (DCPP) Environmental Protection Plan (EPP) requires the reporting of "any unusual or important event that could result in a significant environmental impact causally related to station operation" and specifically lists as an example of this "an unusual occurrence of any species protected by the Endangered Species Act of 1973". The EPP requires a phone call within 24 hours with a written follow-up within 30 days.

The identification of a green sea turtle at the DCPP circulating water intake structure on January 10, 1997, at approximately 1000 PST, was reported to the National Marine Fisheries Service at 1335 PST (within the required 24-hour reporting period). A marine turtle stranding report was sent to the Wildlife Biologist at the National Marine Fisheries Service in Long Beach, California. In addition, at approximately 1800 PST, a telephone notification was made to the Nuclear Regulatory Commission (NRC) in accordance with the DCPP EPP.

PG&E biologists survey the bar racks daily for accumulated debris. On January 10, 1997, at approximately 1000 PST, biologists observed a turtle quietly resting behind the seawall of the Unit 1, number 2 bar rack. PG&E SCUBA divers, dove under the curtain wall and gently surrounded the turtle with a large help net. Mechanical maintenance personnel lifted the turtle to the intake deck by using a mobile crane. Biologists took appropriate measurements and photographs. The turtle was identified as a female green sea turtle (*Chelonia mydas*). The turtle weighed about 50 pounds and had a shell length of 85 centimeters. Minor abrasions and chafing were noted on the front right flipper. Although raw looking, the biologists noted no bleeding. The turtle was transported by boat 1/4 mile outside the DCPP intake cove and released. Following release, the turtle swam quickly away from the boat in a southerly direction.

This is the second occurrence of a green sea turtle in the DCPP intake area. Previously, on April 27, 1994, a slightly smaller female green sea turtle was retrieved from the intake area and released. The previous turtle reported was also a female, but is not believed to be the same individual. The April 27, 1994, occurrence was reported as a 4-hour non-emergency report under 10 CFR 50.72(b)(2)(iv) as a potential noteworthy event. After the January 10, 1997, second occurrence of a green sea turtle in the DCPP intake area, PG&E determined that these occurrences are more appropriately reported under the reporting criteria of the EPP.

Pacific Gas and Electric Company

Diablo Canyon Power Plant  
P.O. Box 56  
Avila Beach, CA 93424  
805/545-6000

Robert P. Powers  
Vice President—Diablo Canyon  
Operations and Plant Manager

July 3, 1997

PG&E Letter DCL-97-120



U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Docket No. 50-275, OL-DPR-80  
Docket No. 50-323, OL-DPR-82  
Diablo Canyon Units 1 and 2  
Unusual Occurrence of Federally Protected Species

Dear Commissioners and Staff:

PG&E is submitting the enclosed report of a green sea turtle found at the Diablo Canyon Power Plant (DCPP) circulating water intake structure on June 12, 1997, at approximately 1015 PDT. This report is being submitted in accordance with the DCPP Environmental Protection Plan. The turtle was rescued, verified to be in good condition, and released in the open sea.

This event did not affect the health and safety of the public.

Sincerely,

  
Robert P. Powers

cc: Steven D. Bloom  
Ellis W. Merschoff  
Kenneth E. Perkins  
Michael D. Tschiltz  
Diablo Distribution  
INPO

Enclosure

dps/2248/A0437170

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*A/11*

## UNUSUAL OCCURRENCE OF FEDERALLY PROTECTED SPECIES

The Diablo Canyon Power Plant (DCPP) Environmental Protection Plan (EPP) requires the reporting of "any unusual or important event that could result in a significant environmental impact causally related to station operation" and specifically lists as an example of this "an unusual occurrence of any species protected by the Endangered Species Act of 1973." The EPP requires a telephone notification within 24-hours with a written follow-up within 30 days.

PG&E biologists survey the bar racks daily for accumulated debris. On June 12, 1997, at approximately 1015 PDT, biologists observed a turtle quietly resting behind the seawall of the Unit 2, number 3 bar rack. The turtle was identified as a male green sea turtle (*Chelonia mydas*). The discovery was reported to the National Marine Fisheries Service at 1435 PDT (within the required 24-hour reporting period). A marine turtle stranding report was sent to the Wildlife Biologist at the National Marine Fisheries Service in Long Beach, California. In addition, at approximately 1807 PDT, a telephone notification was made to the Nuclear Regulatory Commission in accordance with the DCPP EPP.

PG&E SCUBA divers dove under the curtain wall and gently surrounded the turtle with a large kelp net. Mechanical maintenance personnel lifted the turtle to the intake deck with a mobile crane. Biologists took appropriate measurements and photographs. The turtle was estimated to weigh about 100 pounds and had a shell length of 84 centimeters. The turtle looked healthy and had no abrasions. The biologists transported the turtle by boat 1 mile offshore of the DCPP intake cove and released it south of the intake. In the water, the turtle swam strongly away from the boat in a westerly direction.

This is the third occurrence of a green sea turtle found alive at DCPP's intake area. Previously, on January 10, 1997, and April 27, 1994, smaller female green sea turtles were retrieved from the intake area and released. Green sea turtles feed primarily on attached seaweeds and also on gelatinous salps and jellyfish. They are relatively rare in our area. The Federal classification for the Green Sea Turtle on the Pacific Coast of the U.S. is "Threatened." This classification requires protection under the Endangered Species Act of 1973.

**David H. Outley**  
Vice President - Diablo Canyon  
Operations and Plant Manager

Diablo Canyon Power Plant  
PO Box 56  
Avila Beach, CA 93424  
805 545 6000

June 23, 1999

PG&E Letter DCL-99-543

Joseph G. Cordaro  
Wildlife Biologist  
National Marine Fisheries Service  
501 West Ocean Blvd., Suite 4200  
Long Beach, California 90802-4213

Dear Mr. Cordaro:

Enclosed is the National Marine Fisheries Service (NMFS) marine mammal and marine turtle stranding report for a turtle discovered at the Diablo Canyon Power Plant (DCPP) intake structure.

The DCPP intake watch discovered a turtle in front of the 1-3 bar racks just prior to midnight on May 29, 1999. Arrangements were made to remove the turtle and make 24-hour notifications the following day.

In the morning, the turtle was found to be alive and in good condition. The turtle was identified as a male green sea turtle (*Chelonia mydas*). PG&E SCUBA divers dove under the curtain wall and gently surrounded the turtle with a large kelp net. Mechanical maintenance personnel lifted the turtle to the intake deck with a mobile crane. Biologists took appropriate measurements and photographs. The turtle was estimated to weigh 50-75 pounds and had a shell length of 69 centimeters. The turtle appeared to be in good health with no visible injuries. Some very minor scrapes on the rear of its shell were observed. The biologists transported the turtle by boat  $\frac{1}{2}$  to  $\frac{3}{4}$  of a mile southwest of DCPP. In the water, the turtle swam strongly away from the boat.

The turtle release was reported to the California Department of Fish and Game and to NMFS the afternoon of May 30, 1999, within the required 24-hour reporting period.

In addition, a 4-hour non-emergency report was made to the Nuclear Regulatory Commission (NRC) the afternoon of May 30, 1999 in accordance with Nureg 1022, Revision 1, Event Reporting Guidelines 10CFR50.72 and 10CFR50.73.

*Acc. No.*  
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*Add' Blom, S.D. NRR/PO/V-2  
Masch. BBW. RGW/VRN*

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PG&E Letter DCL-99-543  
Mr. Cordaro  
June 23, 1999  
Page 2

Live green sea turtles were found at DCP's intake area on three previous occasions on June 12, 1997, January 10, 1997, and April 27, 1994. Green sea turtles are relatively rare in our area.

If you would like additional information please contact Jim Kelly of my staff at (805) 545-3194

Sincerely,

  
David H. Oatley for DHC

99543/JLKelly/kmo

cc: - Steven D. Bloom, NRC  
- Ellis W. Merschoff, NRC  
- David L. Proulx, NRC  
• NRC Document Control Center

Enclosure

MARINE MAMMAL AND MARINE TURTLE STRANDING REPORT

SID# \_\_\_\_\_ (NMFS USE)

FIELD NO.: \_\_\_\_\_ NMFS REGISTRATION NO. \_\_\_\_\_

COMMON NAME: green sea turtle GENUS: Chelonia SPECIES: mydas

EXAMINER Name: Mike Behrens/John Steinbeck Agency: Tenara, Inc.

Phone: 805-545-3676

Address: P.O. Box 400, Avila Beach, CA, 93424

LOCATION  
State: CA County: San Luis Obispo  
City: 7 mi. N. of Avila Beach  
Locality Details: found w/in forbay of intake structure of Diablo Canyon Power Plant.  
\*Latitude: 35° 13' 54" N  
\*Longitude: 120° 52' W

TYPE OF OCCURRENCE  
Mass Stranding: (Yes) / (No) # Animals 1  
Human Interaction: (Yes) / (No) / (?)  
Check one: 1. Boat collision  
2. Shot  
4. Fishery interaction  
X 5. Other: intake  
How determined: \_\_\_\_\_  
Other Causes (if known): \_\_\_\_\_

DATE OF INITIAL OBSERVATION:  
Yr 99 Mo 5 Day 30  
CONDITION: Check one: X 1. Alive  
2. Fresh dead  
3. Moderate decomp.  
4. Advanced decomp.  
5. Mummified  
? Unknown

DATE OF EXAMINATION:  
Yr 99 Mo 5 Day 30  
CONDITION: Check one: X 1. Alive  
2. Fresh dead  
3. Moderate decomp.  
4. Advanced decomp.  
5. Mummified  
? Unknown

LIVE ANIMAL - Condition and Disposition:  
Check one X 1. Released at site  
or more: 2. Sick  
3. Injured  
4. Died  
5. Euthanized  
6. Rehabilitated and released  
? Unknown  
Transported to: offshore  
(Died) / (Released) Date: 5-30-99

TAGS APPLIED?: (Yes) / (No)  
TAGS PRESENT?: (Yes) / (No)  
Dorsal Left Right  
Tag No.(s): \_\_\_\_\_  
Color(s): \_\_\_\_\_  
Type: \_\_\_\_\_  
Placement Front/Rear Front/Rear

CARCASS - Disposition, check one:  
Check one: 1. Left at site  
2. Buried  
3. Towed  
4. Sci. collection (see below)  
5. Edu. collection (see below)  
6. Other \_\_\_\_\_  
? Unknown  
NECROPSIED? (Yes) / (No)

MORPHOLOGICAL DATA:  
Sex - Check one: X 1. Male  
2. Female  
? Unknown  
Straight Length: 69 (cm) / (in) / (est)  
\*Weight: 70 (kg) / (lb) / (est?)  
PHOTOS TAKEN? (Yes) / (No)

REMARKS: Animal captured from intake forbay by Behrens/Steinbeck. No abrasions or cuts evident. Animal transported by skiff approx 3/4 mi from intake at bearing of 290°. Animal swam strongly and appeared unharmed/unstressed.

DISPOSITION OF TISSUE/SKELETAL MATERIAL: \_\_\_\_\_



**Pacific Gas and  
Electric Company**

**David H. Ostley**  
Vice President - Diablo Canyon  
Operations and Plant Manager

**Diablo Canyon Power Plant**  
PO Box 56  
Avila Beach, CA 93424

805 545 6000

September 20, 1999

PG&E Letter DCL-99-562

**Joseph G. Cordaro**  
Wildlife Biologist  
National Marine Fisheries Service  
501 West Ocean Blvd., Suite 4200  
Long Beach, California 90802-4213

Dear Mr. Cordaro:

Enclosed is the National Marine Fisheries Service (NMFS) marine mammal and marine turtle stranding report for a turtle discovered at the Diablo Canyon Power Plant (DCPP) intake structure.

The DCPP biologist discovered a turtle in front of the 1-3 bar racks at 10:32am on August 24, 1999. The turtle was alive and appeared to be in good condition. The turtle was identified as a male green sea turtle (*Chelonia mydas*).

As authorized in a letter dated June 3, 1994 from NMFS, PG&E removed the turtle from the intake structure for release offshore of DCPP. The turtle was gently surrounded by a large kelp net and lifted to the intake deck with a mobile crane. Biologists took appropriate measurements and photographs. The turtle was estimated to weigh 18 kilograms and had a shell length of 68 centimeters. The turtle appeared to be in good health with no visible injuries. A few small scrapes on the top of its shell and some minor abrasions on the front flippers were observed. The biologists transported the turtle by boat 1/2 to 3/4 of a mile southwest of DCPP. In the water, the turtle swam strongly away from the boat.

The turtle release was reported to NMFS on August 24, 1999 within the required 24-hour reporting period.

In addition, a four-hour non-emergency report was made to the Nuclear Regulatory Commission (NRC) within four hours of discovery on August 24, 1999 in accordance with Nureg 1022, Revision 1, Event Reporting Guidelines, 10CFR50.72 and 10CFR50.73.

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B PDR

*Jewell*

*A/13*



PG&E Letter DCL-99-562

Mr. Cordaro

September 20, 1999

Page 2

Live green sea turtles were found at DCP's intake area on four previous occasions on May 29, 1999, June 12, 1997, January 10, 1997, and April 27, 1994. Green sea turtles are relatively rare in our area.

If you would like additional information please contact Jim Kelly of my staff at (805) 545-3194

Sincerely,

David H. Oatley

99562/JLKelty/kmo

cc: Steven D. Bloom  
Ellis W. Merschoff  
David L. Proulx  
NRC Document Control Center

Enclosure

MARINE MAMMAL AND MARINE TURTLE STRANDING REPORT

SID# \_\_\_\_\_ (NMFS USE)

FIELD NO.: \_\_\_\_\_ NMFS REGISTRATION NO. \_\_\_\_\_

COMMON NAME: Green Sea Turtle GENUS: Chelonia SPECIES: mydas

EXAMINER Name: Bahrens, Michael Agency: Tenera, Inc. Phone: 805-545-3236

Address: \_\_\_\_\_

LOCATION  
 State: CA County: Santa Cruz  
 City: \_\_\_\_\_  
 Locality Details: Diablo Canyon Park - Plant, Unit #1 Forebay.  
 \*Latitude: 35° 12' 28" N  
 \*Longitude: 120° 51' 18" W

TYPE OF OCCURRENCE  
 Mass Stranding: (Yes)  (No)  # Animals 1  
 Human Interaction: (Yes)  (No)  (?)   
 Check one: 5  
 1. Boat collision  
 2. Shot  
 4. Fishery interaction  
 5. Other Power Plant Intake  
 How determined: \_\_\_\_\_  
 Other Causes (if known): \_\_\_\_\_

DATE OF INITIAL OBSERVATION:  
 Yr 1999 Mo 8 Day 24  
 CONDITION: Check one:  1. Alive  
 2. Fresh dead  
 3. Moderate decomp.  
 4. Advanced decomp.  
 5. Mummified  
 ? Unknown

DATE OF EXAMINATION:  
 Yr 1999 Mo 8 Day 24  
 CONDITION: Check one:  1. Alive  
 2. Fresh dead  
 3. Moderate decomp.  
 4. Advanced decomp.  
 5. Mummified  
 ? Unknown

LIVE ANIMAL - Condition and Disposition:  
 Check one  1. Released at site  
 or more:  2. Sick  
 3. Injured  
 4. Died  
 5. Euthanized  
 6. Rehabilitated and released  
 ? Unknown  
 Transported to: \_\_\_\_\_  
 (Died) / (Released) Date: 8-24-99

TAGS APPLIED?: (Yes) /  (No)  
 TAGS PRESENT?: (Yes) /  (No)

	Dorsal	Left	Right
Tag No. (s):	_____	_____	_____
Color(s):	_____	_____	_____
Type:	_____	_____	_____
Placement	_____	Front/Rear	Front/Rear

CARCASS - Disposition, check one:  
 Check one:  1. Left at site  
 2. Towed  
 3. Towed  
 4. Sci. collection (see below)  
 5. Edu. collection (see below)  
 6. Other \_\_\_\_\_  
 ? Unknown

MORPHOLOGICAL DATA:  
 Sex - Check one:  1. Male  
 2. Female  
 ? Unknown  
 Straight Length: 68 (cm) / (in) / (est)  
 \*Weight: 18 (kg) / (lb) / (est?)  
 PHOTOS TAKEN?  (Yes) / (No)

NECROPSIED? (Yes) / (No)

REMARKS: Animal found in forebay #1-3 @ approx. 1030 Hrs on 8-24-99. Released on shore @ 1300 hrs. A few small scrapes on carapace and some minor abrasions on front flipper observed. Animal swam strongly upon release, looked d.k.

DISPOSITION OF TISSUE/SKELETAL MATERIAL: \_\_\_\_\_

Jim W  
Kim

POWER REACTOR				EVENT NUMBER: 32471			
FACILITY: DIABLO CANYON		REGION: 4		NOTIFICATION DATE: 06/12/97			
UNIT: [1] [2] [ ]		STATE: CA		NOTIFICATION TIME: 21:06 [ET]			
RX TYPE: [1] W-4-LP, [2] W-4-LP				EVENT DATE: 06/12/97			
NRC NOTIFIED BY: STEVE HIETT				EVENT TIME: 10:15[PDT]			
HQ OPS OFFICER: LEIGH TROCINE				LAST UPDATE DATE: 06/12/97			
EMERGENCY CLASS: NOT APPLICABLE				NOTIFICATIONS			
10 CFR SECTION: NLTR				TOM STETKA RDO			
LICENSEE 24 HR REPORT							
UNIT	SCRAM CODE	RX CRIT	INIT PWR	INIT RX MODE	CURR PWR	CURR RX MODE	
1	N	Y	100	POWER OPERATION	100	POWER OPERATION	
2	N	Y	100	POWER OPERATION	100	POWER OPERATION	

EVENT TEXT

DISCOVERY OF A MALE GREEN SEA TURTLE (CHELONIA MYDAS) IN THE INTAKE STRUCTURE

IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION PLAN (SECTION 4.1) AND SECTION 4.5.1 OF PLANT PROCEDURE EV1.1D3, ENVIRONMENTAL PROTECTION PLAN REPORTING, THE LICENSEE REPORTED THAT A MALE GREEN SEA TURTLE WAS FOUND RESTING BEHIND THE SEA WALL OF THE 2-3 BAR RACK. THE LICENSEE CONSIDERS THIS TO BE AN 'UNUSUAL OCCURRENCE OF AN ENDANGERED SPECIES' WHICH REQUIRES A 24-HOUR REPORT TO THE NRC.

THIS IS THE THIRD OCCURRENCE OF GREEN SEA TURTLES FOUND ALIVE IN THE INTAKE. SMALLER FEMALE GREEN SEA TURTLES WERE RETRIEVED AND RELEASED FROM THE INTAKE ON JANUARY 10, 1997, AND APRIL 27, 1994. (SEE ENs 31574 AND 27182.) THESE TURTLES ARE RELATIVELY RARE NEAR THE SITE, AND THE FEDERAL CLASSIFICATION FOR THE GREEN SEA TURTLE ON THE PACIFIC COAST OF THE UNITED STATES IS 'THREATENED'.

THE LICENSEE NOTIFIED THE NRC RESIDENT INSPECTOR AND THE NATIONAL MARINE FISHERIES SERVICE. THE LICENSEE ALSO PLANS TO ISSUE A MARINE MAMMAL AND TURTLE STRANDING REPORT TO THE LONG BEACH OFFICE.