

A P P E N D I C E S

APPENDICES

A.1 PUBLIC COMMENTS AND TRUSTEES' RESPONSES TO PUBLIC COMMENTS

A.1.1 Public Comments

Author: <mcbrown@iquest.net > at ~internet
Date: 5/13/99 3:22 PM
Priority: Normal
TO: Chip Demarest at ~IOSPEP
Subject: USS Arizona

----- Message Contents -----

Aloha.

My name is David Brown.

I'm from Indianapolis, Indiana.

I recently was able to visit the USS Arizona memorial.

My wife and I wondered about the oil in the harbor and around the memorial. Was it really bubbling up from a ship that was sunk nearly 60 years ago?

I looked on the web and found the OEPC report on the Draft Restoration Plan and Environmental Assessment for the May 14, 1996, Chevron Pipeline Oil Spill into Waiau Stream and Pearl Harbor, Oahu, Hawaii.

I was wondering if the oil was a result of that spill and if so, I am happy to see that a restoration plan was in place.

If not, and the oil really is coming from the USS Arizona, why has there never been an effort to get that cleaned up as well?

Any information that you can provide us would be greatly appreciated.

Mahalo,

David (Mc) Brown
mcbrown@iquest.net
<http://www.iquest.net/~mcbrown>

Public Comment Mail-in Form

This form offers a convenient way for you to provide comments regarding the Draft Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill. Write your comments and either place this form in the comment box or mail to the below address by May 21, 1999. The comment period will close on June 1, 1999.

To: Regional Environmental Officer, Office of Environmental Policy and Compliance, Department of the Interior, 600 Harrison Street, Suite 515, San Francisco, CA 94107-1376

Subject: Draft Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill

I'm in support of the restoration Plan and EA

Signed: Donna Stovall Date: 5/17/99

Name and address (please print):

66-596 Kamehameha Hwy
Haleiwa, HI 96717

Public Comment Mail-in Form

MAY 21 1999

This form offers a convenient way for you to provide comments regarding the Draft Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill. Write your comments and either place this form in the comment box or mail to the below address by May 21, 1999. The comment period will close on June 1, 1999.

To: Regional Environmental Officer, Office of Environmental Policy and Compliance, Department of the Interior, 600 Harrison Street, Suite 515, San Francisco, CA 94107-1376

Subject: Draft Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill

Mahalo for your directives on behalf of Pearl Harbor. Please read the attached statement.

Aloha!

Signed: Joseph J. Chernisky Date: May 19, 1999

Name and address (please print):

JOSEPH J. CHERNISKY, UH-LEEWARD Community College,
PEARL HARBOR 21, 96-045 ALA IKA STR. PEARL CITY, HI 96782

UNIVERSITY OF HAWAII
LEEWARD COMMUNITY COLLEGE
PEARL HARBOR 21 SERVICE LEADERSHIP PROGRAM



TO: Regional Environmental Officer
Office of Environmental Policy and Compliance

FROM: Assistant Professor Joe Chernisky
Pearl Harbor 21 Program Coordinator

RE: Comments on 4.4.4. and 4.5.5. Non-Preferred Alternatives

Aloha! I would like to commend Chevron and the Trustees for the progress being made in the Draft Restoration Plan. However, I request that the Trustees consider adding the following proposed action: Pearl Harbor's 'People Do' Campaign. This project is consistent with Chevron's own corporate environmental ethic and international 'People Do' campaign (Policy 530, Chevron Board of Directors, 1992). The project's description and objectives are as follows:

- To create a broader representation of community participation (non-profits, schools, military personnel, veteran groups, Chevron employee volunteers) in meeting the evaluation criteria;
- To encourage community stewardship of diverse environmental and educational projects along the Pearl Harbor shoreline (fishpond restoration, clean-ups, mangrove control, Waiau stream projects, water and soil testing, bike path projects);
- To sustain a number of smaller scale environmental and human use benchmarks over a ten year period. These benchmarks are in addition to the proposed three large scale projects. Data and findings from these additional sites would give a broader perspective of the environmental progress of Pearl Harbor.

The Pearl Harbor 'People Do' campaign would utilize Chevron's expertise. Chevron has numerous international and national success stories in Environmental Programs, Land Conservation and Habitat Preservation, Wildlife Protection and Environment Education. Chevron would be expected to contribute monetary resources (\$50,000/year awards); human resources (experts, employee volunteers, education program); and technical resources (equipment, supplies, development of a comprehensive environment plan for Pearl). This private-public partnering of Chevron and our diverse communities balances over a sustained period the ecological and human use restoration needs identified in the Draft Restoration Plan. If Chevron's conservation track record is any indication, then I am confident that the Trustees will identify this project's overall environmental and human impacts as positively benefiting Pearl Harbor, its communities and Chevron-Hawai'i. Mahalo.



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Over 140 feet down, the ocean floor in the Gulf of Mexico looks like a desert. Offering marine life few places with ample shelter and food. But sanctuary comes from a surprising source: oil platforms. Over time, they become thriving habitats for entire populations of sea creatures. So when certain platforms are retired, people carefully clean, then place them. Maintaining an extraordinary oasis, and an ideal place for nature to call home.

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People Do.

• '06/01/99 TUE 15:12 FAX

001



Chevron

Hawaii Refinery

91-480 Malakole Street
Kapolei, HI 96707

Tom J. Simons
Resource Superintendent
(808) 682-2213

6/1/99

**VIA FACSIMILE (415) 744-4121
AND MAIL**

Regional Environmental Officer
Office of Environmental Policy and Compliance
U.S. Department of the Interior
600 Harrison Street, Suite 515
San Francisco, California 94107-1376

**Re: Draft Restoration Plan and Environmental Assessment for the May 14, 1996
Chevron Pipeline Oil Spill into Waiau Stream and Pearl Harbor, Oahu, Hawaii**

Dear Sir or Madam:

Chevron Products Company appreciates the opportunity to comment on the captioned Draft Restoration Plan and Environmental Assessment (Draft RP/EA). Chevron supports the compensatory restoration projects proposed by the Trustees in the Draft RP/EA. Chevron agrees that the preferred projects will enhance wetlands and wetland services, open vegetated shoreline areas and improve visitor services at the USS Arizona Memorial.

Thank you for your consideration of our views in the restoration planning process.

Very truly yours

A handwritten signature in black ink, appearing to read "Tom Simons".

Tom Simons
Resource Superintendent

Jun. 2, 1999 4:11PM

HECO ENVIRONMENTAL

Hawaiian Electric Company, Inc. • PO Box 2730 • Honolulu, HI 96840-0001

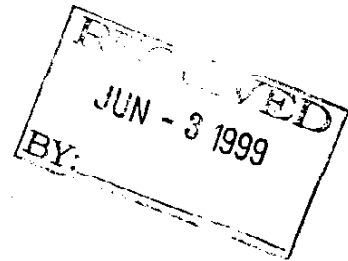
No. 3755 P. 2/3

Chevron Oil Spill
JA/G



June 1, 1999

Scott W.H. Seu, P.E.
Manager
Environmental Department



Ms. Patricia Port
Regional Environmental Officer
Office of Environmental Policy and Compliance
Department of the Interior
600 Harrison Street, Suite 515
San Francisco, CA 94107-1376

Dear Ms. Port:

Re: **Comments on Draft Restoration Plan and
Environmental Assessment of May 14, 1996
Chevron Pipeline Oil Spill into
Waiau Stream and Pearl Harbor, Oahu, Hawaii**

Our primary comment concerns the restoration plan for the Waiau Stream and wetland areas nearby our Waiau Power Plant. It is our understanding that the NRDA trustees have determined that the Chevron oil remaining in the Waiau Stream and wetland areas will be allowed to biodegrade in place for the next 20 years. If this restoration approach is followed, we would like to bring to your attention that the oil from the Chevron release may be disturbed, as HECO conducts various operations in the area such as for vegetation and flood control management. In this event, we expect that Chevron will take appropriate action to deal with the disturbed Chevron oil. Although we have had preliminary discussions with Chevron about treatment of the oil left in the Waiau area, we have not reached any resolution of this issue. We hope to do so in the near future.

Our secondary comment regarding the draft restoration plan/EA is with regard to clarifying in the report that the oil release was not due to HECO operations at the Waiau Power Plant. In particular, we note the following areas for clarification:

- Page 1, Section 1.2, first paragraph, second sentence. Please state that the product transfer that resulted in the Chevron oil spill was not a transfer to the Waiau Power Plant.

WINNER OF THE EDISON AWARD
FOR DISTINGUISHED INDUSTRY LEADERSHIP

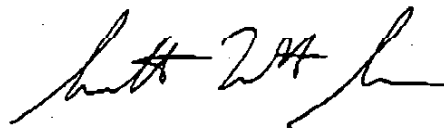


Ms. Patricia Port
June 1, 1999
Page Two

- Page 21, Section 3.1.3, last bullet in middle of page, last two words. Prior to "oil spill," insert "Chevron" such that it reads: "location of the Chevron oil spill." This is due to mention of the HECO power plant, which was not the source of the oil spill.
- Page 37, Section 3.2.3.2, last paragraph, third sentence. This sentence might mistakenly be read that the HECO power plant was the source of the release. We request it be changed to read: "Sorbent pad sampling near the release site adjacent to the Waiiau Power Plant...."
- Page 40, Section 3.2.4, first paragraph, first sentence, and second paragraph first sentence. Please refer to the spill as the "Chevron oil spill" to clarify that the source of the spill was not the HECO power plant.
- Page 16, Section 2.5.2, second paragraph, last sentence. Please clarify that the bicycle/jogging path does not pass through HECO's Waiiau Power Plant. Rather, the Navy Right-of-Way is federal land and bisects HECO's property.

We thank you for this opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to be "Scott WA" followed by a flourish.

A.1.2 Trustees' Responses to Public Comments

The Trustees' responses to the five written public comments appear below (in chronological order of receipt).

- To the email from David Brown, Indianapolis, Indiana, dated May 13, 1999 (1 page), the Trustees respond:

The oil that you recently observed from the USS *Arizona* Memorial was not a result of the May 14, 1996, Chevron pipeline oil spill but more likely oil leaking slowly out of the USS *Arizona*. When the USS *Arizona* was attacked on December 7, 1941, she had approximately 1.5 million gallons of oil onboard. In the attack, the ship exploded from bombs and burned for three and a half days. At least two of the onboard oil bunkers were penetrated in the explosion and the fuel was released into Pearl Harbor in 1941 and/or burned off by the fire. The ship has continued to leak very small amounts of oil since 1941. No one knows how much oil is still on board the ship.

In 1998, the NPS began an oil monitoring program. Measurements of the amount of oil released from the ship are taken on a quarterly basis. The current baseline is that approximately 20 to 50 gallons per year are released by the ship. The oil is released very slowly and volatilizes in contact with air usually in a matter of a few minutes depending on weather and tide conditions.

The NPS has developed a partnership with two University of Nebraska researchers to assess the stability of the metal on the USS *Arizona* and to determine rates of corrosion. Also, the NPS monitors the ship on a monthly basis for overall condition. The NPS is currently exploring today's technology to determine potential alternatives for managing the ship's remaining oil.

The Navy and the NPS have developed a Contingency Plan for Pearl Harbor to be activated in the case of a large oil spill from the USS *Arizona*. The Contingency Plan anticipates the protection of the resources of the Harbor while containing the oil in the area of the USS *Arizona* Memorial. Mock oil spills have been conducted to test the planning actions and have been considered successful.

- To the "Public Comment Mail-In Form" from Donna Stovall, Haleiwa, Hawaii, dated May 17, 1999 (1 page), the Trustees respond:

The Trustees acknowledge this commenter's support of the Draft RP/EA.

- To the "Public Comment Mail-In Form" and letter plus attachment from Joseph J. Chernisky, Assistant Professor, University of Hawaii, Leeward Community College, Pearl City, Hawaii, dated May 19, 1999 (3 pages), the Trustees respond:

This commenter suggested adding a "People Do" Campaign to Section 4.4.4 Non-Preferred Alternatives and to Section 4.5.5 Non-Preferred Alternatives. The Trustees have determined to proceed with the proposed preferred alternative projects so there would be no practical consequence to adding the suggested "People Do" Campaign as a non-preferred project.

Moreover, the information provided as to the "People Do" Campaign is not specific as to how resources that were injured would be restored. From the information submitted by this commenter, it appears that the preferred alternative projects are consistent with the objectives of the "People Do" Campaign. In fact, Chevron has endorsed the preferred alternative projects. Given the commitment of the participating State and federal agencies to these preferred alternative projects, they have the highest probability for successful implementation.

- To the letter from Tom Simons, Resource Superintendent, Chevron Hawaiian Refinery, Kapolei, Hawaii, dated June 1, 1999 (1 page), the Trustees respond:

The Trustees acknowledge this commenter's support, on behalf of Chevron Products Company, for the compensatory restoration projects proposed in the Draft RP/EA.

- To the letter from Scott W.H. Seu, P.E., Manager, Environmental Department, Hawaiian Electric Company, Inc., Honolulu, Hawaii, dated June 1, 1999 (2 pages), the Trustees respond:

This commenter provided (self-identified) "primary" and "secondary" comments on the Draft RP/EA. The "primary comment" was "to bring to your attention that the oil from the Chevron release [remaining in Waiau Stream and the freshwater marsh] may be disturbed, as HECO conducts various operations in the area such as for vegetation and flood control management." During the restoration planning phase, the trustees were aware of HECO's vegetation and flood control management operations in the freshwater marsh. In part because of these anticipated future disturbances of the freshwater marsh habitat for maintenance operations by HECO, the Trustees proposed natural recovery as primary restoration for the freshwater marsh area and factored this decision into determining interim lost ecological services and in scaling compensatory restoration actions elsewhere around Pearl Harbor. The proposed preferred alternative restoration projects are intended to fully compensate the public for interim lost services resulting from leaving the residual oil in place and relying on natural recovery.

The Trustees understand that HECO and Chevron continue to discuss possible methods to avoid the re-release of Chevron oil by HECO maintenance operations and encourage those efforts. However, the Trustees believe that it is important to begin restoration of the resources at the other locations rather than to await the outcome of these discussions.

This commenter provided five "secondary comments" (listed as bullet items) which the Trustees address individually below. In response to the first bullet, the Trustees added the following sentence at the end of paragraph two in Section 1.2, as suggested: "The oil product transfer that resulted in the oil spill was not a transfer to the Waiau Power Plant (Seu 1999)."

In response to the second bullet, the Trustees believe that the source of the oil spill is explicitly and sufficiently explained and described in Section 1.2 as being a Chevron Products Company pipeline and not the HECO power plant.

In response to the third bullet, the Trustees amended the third sentence in paragraph two in Section 3.2.3.2, as suggested, as follows: "Sorbent pad sampling near the release site adjacent to the Waiau Power Plant did not find visible amounts of oil on sediments in this location (USCG 1996, Naughton pers. comm., Chevron 1996)."

In response to the fourth bullet, the Trustees believe that the responsible party and source of this oil spill is explicitly and sufficiently identified in Section 1.2 as being a Chevron Products Company pipeline and not the HECO power plant. The last sentence in paragraph seven in Section 1.2 states: "Chevron is the responsible party for this Incident and has acknowledged its liability (Chevron 1996, Pai 1996)."

In response to the fifth and last bullet, the Trustees amended the end of paragraph two in Section 2.5.2, as suggested, as follows: "This bicycle/jogging path is heavily used by joggers, walkers, skaters, and bicyclists. This path bisects HECO property at the Waiau Power Plant along a Navy right-of-way and passes within several feet of the location of the pipeline breach next to Waiau Stream."

A.2 PUBLIC MEETING

A.2.1 Attendee's Sign-In Forms

PUBLIC MEETING DRAFT RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT FOR CHEVRON OIL SPILL MAY 17, 1999			
NAME	ADDRESS	ORGANIZATION	PHONE
Gary Gill	Kineer Hale	Dott State #11	586-4424
Tony Wiest	433 ALA MOANA BLVD HONOLULU HI 96819	USCG MARINE SAFETY OFFICE	522-8380
Joe Chermisky	UH-LCC	UH-LCC	455-0625
Fred W. Taylor	Dan's Moore 615 Piikoi St. H/H 96844	Dan's Moore	593-1197
Keith Kawaka	911 Ala Moana Blvd, Hm 96844	DOH HEER	586-4249
Inda Jameson	1170 Auahi	KHUN	591426-1
Dave Carlin	KEMB-9		973-9889

PUBLIC MEETING
 DRAFT RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT FOR CHEVRON OIL SPILL
 MAY 17, 1999

NAME	ADDRESS	ORGANIZATION	PHONE
Lisa Munger	P.O. Box 3196 Hahaione	Geosill Anderson	547-5600
ROBIN BOND	7289 Ninini, PL	CoE Parks	395-4242
KAREN EVANS	P.O. Box 17308 Honolulu, HI 96817	Ducks Unlimited	848-4173
Susan Li	P.O. Box 2750 Honolulu, HI 96840	Hawaiian Electric	543-4791
Jerry Asstott	591 K Koloa	1.	222 3385
Jeff Juliano	733 Bishop St #2400	ROP	544-8603
Charles O'Neil	?	"	"
Brad Dougherty	?	"	"
FAIRON PAVOLINI	91-480 MAKAOKE ST. KAPOLA, HI 96707	CHEVRON	682-2372
Donna Steval	66590 Kama Hwy Maunaloa, HI 96712	USEWS	637-6330
CHRIS JOHNSON	P.O. Box 3379 Honolulu 96842	TESORO	5473242
Bruce Schlieman	770 Kapiolani Blvd Suite 405 Honolulu 96813	HECo	543-4474
DAN WATSON	433 Al-Manna Blvd Honolulu HI 96813	USCG	522-8256
PAUL TEASLEY	54-1225 KIP AA PL WAIKANAHI HI 96797	CNR Hawaii	471-4785
AL CHASE	801 Bishop St Panahi Tower #1000 96813	ChesRail	527-2715

PUBLIC MEETING
 DRAFT RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT FOR CHEVRON OIL SPILL
 MAY 17, 1999

NAME	ADDRESS	ORGANIZATION	PHONE
Clyde Yokota		CNR Hawaii	471-1171 ext 229
Randy Miyashiro		CNR Hawaii	471-1171 ext 233
Tammy Angel	PO 25287 Denver CO 80225-0287 Arizona Memorial Pl	NPS	303 969 2073
Randy Webster	Honolulu, HI 96818	NPS	808-422-2371
Katherine Pease	Suite 4470 501 Wisconsin Blvd. 90802 Long Beach CA 90805	NOAA/ETC	562-980-4077
Tom Simons	71-480 MALAKOE ST KAPOLEI HI 9676707	CHEVRON	808-682-2213
Chuck McKinley	600 Harrison, Suite 515 San Francisco, CA 94107	DOI - Solicitor	(415) 427-1461
Francis Oishi	1151 Punchbowl St. #330 Honolulu 96813	State DLNR - Ag. Res.	(808) 587-0094
PAUL CONRY	11	State DLNR - Forestry & Wildlife	(808) 587-0166
Kevin B. Foster	US Fish & Wildlife Service 300 Ala Moana Blvd. Honolulu HI 96813	US FWS	808-541-5441
Dennis Sante	733 Biliher St. Hm. HI 96813	resorce	808-547-3279
Berry Dauby	111 Embrocadero S.F. CA 94111	McCutchen	415-393-2496
Roger Helm	911 NE 113 Ave Portland OR 97232	US FWS	503-231-6223
Adrian delNero	590 Yonaco Valley Road, suite 200 Walnut Creek CA 94517	ENTRIX	(925) 935-9920
Gordon Roblind	715 121st St NW Gig Harbor WA 98552	"	253-858-7114

A.2.2 Speaker's Sign-In Form and Summary of Comments

**DRAFT RESTORATION PLAN AND ENVIRONMENTAL
ASSESSMENT SPEAKER SIGN-IN FORM**

If you wish to speak tonight, please PRINT your name and, if applicable, the affiliation or agency you represent and turn this form in. Speakers will be called in the order that forms are received.

Karl Evans
Name of Speaker

Ducks Unlimited, Inc.
Affiliation/Agency

The speaker, Karen Evans of Ducks Unlimited, briefed the Trustees on the participation of her organization in the Pouhala Marsh restoration project. Ducks Unlimited, Inc., the State of Hawaii, the U.S. Fish and Wildlife Service, and the City and County of Honolulu have been working toward restoring the marsh for several years. The speaker encouraged the Trustees to proceed with the restoration of the eight acres of degraded marsh and welcomed their participation in the maintenance of the marsh.

A.3 ACRONYMS

bbls	barrels (42 gallons/barrel)
°C	Centigrade
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Chevron	Chevron Products Company
CWA	Clean Water Act
DLNR	Department of Land and Natural Resources, State of Hawaii
DOD	U.S. Department of Defense
DOH	Department of Health, State of Hawaii
DOI	U.S. Department of the Interior
Draft RP/EA	Draft Restoration Plan and Environmental Assessment
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
FPN	Federal Project Number
GIS	Geographic Information System
HEA	Habitat Equivalency Analysis
HECO	Hawaiian Electric Company
HST	Hawaiian Standard Time
LAT	Lead Administrative Trustee
m, m ²	meters, square meters
m/sec	meters per second
MOA	Memorandum of Agreement
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NMFS	National Marine Fisheries Service
nm	nanometers
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
NPS	National Park Service
NRDA	Natural Resource Damage Assessment
OEPC	Office of Environmental Policy and Compliance (DOI)
OPA	Oil Pollution Act of 1990
ppb	parts per billion
ppT	parts per thousand
psi	pounds per square inch

PVC	polyvinyl chloride
Refuge	Pearl Harbor National Wildlife Refuge
RIMPAC	Rim of the Pacific
RP/EA	Restoration Plan and Environmental Assessment
SCAT	Shoreline Cleanup Assessment Team
SHPO	State Historic Preservation Office
SUP	Special Use Permit
TPH	total petroleum hydrocarbons
UCSC	University of California at Santa Cruz
USC	United States Code
USCG	U.S. Coast Guard
USDOD	U.S. Department of Defense
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USN	U.S. Department of the Navy
Visitor Center	USS <i>Arizona</i> Memorial Visitor Center
WAFs	water-accommodated fractions
μg	micrograms
μl	microliters

A.4 CHRONOLOGY OF OIL SPILL RESPONSE ACTIONS

The following chronology of oil spill response actions was excerpted from U.S. Coast Guard Pollution Reports (called "polreps") prepared by the Marine Safety Office in Honolulu. Information contained in these polreps augments other information developed demonstrating the spatial and temporal extent of the spilled oil in Waiau Stream and Pearl Harbor. Reference citations are provided at the end of the chronology.

- May 14:
- release of No. 6 fuel oil from pipeline discovered;
 - major pockets of black oil observed from Waiau Bank south to Ford Island extending east to Hotel Piers and mouth of Aiea Bay;
 - Notice of Federal Interest issued to Chevron;
 - Letter of Designation delivered to Chevron (USCG 1996a).
- May 15:
- 700 bbls. of oily water recovered;
 - skimming operations commenced by *Hawaii Responder*, *Clean Islands* and Navy skimmers;
 - 7 vacuum trucks operating in vicinity of Power Plant;
 - *Arizona* and *Utah* Memorials boomed off;
 - deflection booms deployed in vicinity of Bishop Point and in South Channel;
 - HECO Power Plant intakes boomed off;
 - Aiea Bay sensitive area and Halawa Stream boomed off;
 - water intakes for National Wildlife Refuge secured (USCG 1996b).
- May 16:
- Chevron accepts responsibility and continues to conduct cleanup operations;
 - *Arizona* Memorial remains closed;
 - cleanup assets being applied include: *Hawaii Responder*, *Clean Islands*, *CGC Mallow*, 9 vacuum trucks and approximately 240 response personnel;
 - oil leaked through boom at Waimalu Stream;
 - source of new oil into Harbor appears to be oil on bottom of Waiau pond;
 - cleanup efforts heavily focused on Halawa Stream and *Arizona* Memorial Visitor Center (USCG 1996c);
 - approximately 6,000 bbls. oil/water mixture recovered to date (USCG 1996d).
- May 17:
- *Arizona* Memorial remains closed;
 - shoreline cleanup operations continue from discharge site at Waiau Stream to Pearl Harbor Dry Dock area;
 - cleanup activities continue at *Arizona* Memorial Visitor Center using 7 skiffs, 1 vacuum truck and 25 personnel;
 - cleanup activities at spill source at Waiau Stream continue with 7 vacuum trucks and 30 personnel;
 - cleanup of oiled piers at Pearl Harbor Naval Shipyard continues with skimmers, 2 vacuum trucks, 8 boats and 70 Navy personnel;
 - cleanup of Ford Island shoreline continues with 3 boats, 1 marco barge and 25 personnel;
 - decontamination of Navy vessels begins;
 - no free-floating oil reported during overflight however sheening from oiled piers continues (USCG 1996e);
 - small pockets of oil reported around mangroves and on beach areas on Waipio Peninsula shoreline (USCG 1996f).

- May 18: • *Arizona Memorial* re-opens (USCG 1996g).
- May 19: • cleanup operations at *Arizona Memorial* continue using pressure washers, sorbents, 4 skiffs and 50 personnel;
 • cleanup operations of oiled piers at Pearl Harbor Naval Station continues using 1 skimmer, 2 vacuum trucks, 11 boats and 76 personnel;
 • cleanup of Ford Island shoreline continues using 2 work boats, 3 skiffs, 1 crane truck and 70 personnel;
 • buried oil and asphalt pavement discovered on Waipio Peninsula shoreline (USCG 1996g).
- May 20: • cleanup operations at *Arizona Memorial Visitor Center* continue using pressure washers, sorbents, 7 skiffs without motors and 50 personnel;
 • Unified Command stands down (USCG 1996h).
 • Kona (southerly) winds mobilized previously trapped oil from under Navy Piers;
 • some re-oiling of *Arizona Memorial Visitor Center*;
 • CGC *Mallow* recovered 337 bbls. of oily water (USCG 1996j).
- May 21: • cleanup operations at spill source at Waiau Stream continues using sorbents, 6 vacuum trucks, 3 tank trucks, 80-ton crane, marco barge, 1 whaler, 1 skiff, 1 pontoon boat, 4 pressure washers and 55 personnel;
 • cleanup operations at *Arizona Memorial Visitor Center* continue using pressure washers, sorbents, 7 skiffs without motors and 53 personnel;
 • cleanup operations on Ford Island shoreline continue using sorbents, 1 boom truck, 1 dump truck, 1 rolloff truck, 1 whaler, 4 boats and 95 personnel;
 • cleanup operations on Waipio Peninsula shoreline continues using sorbents, 1 boat and 33 personnel (USCG 1996i).
- May 23: • divers located submerged oil within labyrinth of supply/discharge tunnels under Waiau Power Plant (USCG 1996j).
- May 26: • submerged oil recovery operations continue at Power Plant (USCG 1996j).
- May 28: • shoreline cleanup continues;
 • 17,000 gallons of oil recovered from Waiau Stream since 14 May;
 • Chevron accepted designation of source and started advertising in Tuesday, Thursday and Sunday editions of the *Honolulu Advertiser* (USCG 1996j).
- June 4: • minor shoreline cleanup continues at Ford Island, Waipio Peninsula and new Navy Piers on Pearl City Peninsula;
 • passive cleanup of specific areas may continue for some weeks;
 • discussions continue between Navy, contractors and Chevron regarding damages, liability and delay/disruption of three Navy construction sites;
 • some crayfish and frogs oiled and killed in Waiau Stream;
 • one bird reported to be oiled;
 • active cleanup complete at *Arizona Memorial Visitor Center* however some continued sheening with ebb tides;
 • crews continue to clean/high-pressure wash piling/faces of Bravo, Hotel, Kilo and Yankee Piers at Pearl Harbor Naval Station;
 • Waipio Peninsula shoreline continues to be lightly re-oiled during some tide cycles;
 • oiling on rock/gravel foundation of new Ford Island Bridge impacting this Navy construction project;

- ongoing cleanup operations to wash an 18-inch to 24-inch oily band from 1,200 pilings under the Hotel Pier renovation because pilings must be completely oil-free prior to application of new concrete epoxy;
 - Ongoing cleanup of oil stains on pier and oil trapped in riprap at New Pier (Victor Dock) on Pearl City Peninsula (USCG 1996j).
- June 5: • preliminary surveys indicate oil is migrating from Waiau Marsh and represents possible source of recontamination of Power Plant intakes (USCG 1996k).
- June 7: • high pressure washing of impacted piers at Naval Station suspended (USCG 1996k).
- June 10: • additional subsurface oil discovered in freshwater marshland adjacent to pipeline rupture;
- minor shoreline cleanup continues at Ford Island, Waipio Peninsula and new Navy Piers on Pearl City Peninsula;
 - four transects (10 - 25 feet) cut into Waiau Marsh encountered heavy oil in two locations;
 - some sheening with ebb tides at *Arizona* Memorial Visitor Center;
 - pom-poms and snares in place to work passively with tide along north shoreline of Ford Island;
 - Waipio Peninsula shoreline continues to be lightly re-oiled during some tide cycles;
 - cleanup on-going of stains on pier and oil trapped in riprap at New Pier (Victor Dock) on Pearl City Peninsula (USCG 1996k).
- June 17: • minor shoreline cleanup continues at Ford Island, Waipio Peninsula and new Navy piers on Pearl City Peninsula;
- unknown amount of subsurface oil remains in marsh adjacent to Waiau Stream;
 - some sheening with ebb tides at *Arizona* Memorial Visitor Center;
 - tidal action continues mobilizing some sheen on Ford Island
 - Waipio Peninsula shoreline continues to be lightly re-oiled during some tide cycles (USCG 1996l).
- July 16: • intend to keep several containment, collection and recovery sites in place until subsurface oil is removed from marsh adjacent to Waiau Stream (USCG 1996m).
- July 22: • passive cleanup at Ford Island continues (USCG 1996m).
- Sept. 21: • Chevron and HECO negotiating written agreement on final actions in marshland adjacent to pipeline rupture (USCG 1996n).

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A.5 HABITAT EQUIVALENCY ANALYSES¹

A.5.1 Conceptual Background

The fundamental concept behind HEA is that compensation for injured natural resources can be provided by restoration projects that provide comparable natural resource services (*i.e.*, through compensatory restoration). The criterion that rationalizes this concept is that Responsible Parties must pay for (or implement) compensatory restoration projects that are sufficient to provide replacement services which are equal in value to the lost services. Compensation is determined in three steps under this criterion. First, the value of the lost services is assessed. Second, appropriate compensatory restoration projects are selected. The purpose of this step is to identify projects that are capable of providing comparable replacement services to the relevant population. The final step is to scale the selected projects so that they will provide replacement services which are equal in value to the lost services. This last step potentially involves estimating the value of the replacement services provided by projects of different size and scope.

Obviously, this process relies heavily on economic valuation. Both the natural resource injury and the restoration project intended to compensate for that loss must be valued to ensure that the public is fully compensated. Hence, in relatively small injury cases, Trustees may be unable to assess natural resource damages in this manner within the constraint of reasonable cost. However, HEA, as a specific application of this criterion, requires little, if any, explicit economic valuation.

In HEA, compensatory restoration projects are scaled so that the quantity of replacement services they provide equals the quantity of lost services.² These services are quantified in physical units of measure such as "acre years."³ There is no need to value replacement services in monetary terms if they are comparable to the lost services.⁴ Therefore, to satisfy the compensation criterion, Trustees must determine whether compensatory restoration projects can provide services that are comparable to the lost services.

The ability to avoid economic valuation makes HEA a very appealing assessment tool, especially for small injury cases. However, the following cautions qualify the valid application of the methodology:

¹ This material has been summarized for this RP/EA by Bruce Peacock, National Park Service, Washington, D.C.

² Services provided in the future are discounted at an appropriate rate of discount to reflect time preference considerations.

³ An acre year refers to all the natural resource services provided by one acre of habitat for one year. This measure of natural resource services is specific to habitat since different habitats provide different services.

⁴ This condition is satisfied if 1) the unit economic values of the replacement services are comparable to those of the lost services, 2) these unit economic values are invariant with respect to the scale of compensatory restoration projects, and 3) these unit economic values are invariant with respect to time (except for adjustments for inflation and time preference).

- Before the scale of compensatory restoration can be determined, Trustees must select primary restoration projects that return the injured natural resources to their baseline conditions, or determine that such restoration projects are infeasible or otherwise inappropriate. This is because the total quantity of lost services depends, in part, on how fast injured natural resources are returned to their baseline conditions.
- The replacement services provided by compensatory restoration projects must be comparable to the lost services. HEA cannot account for significant differences in economic values that occur between different types of services.
- In general, HEA should be used in situations involving primarily the loss of ecological services with relatively little or no loss of direct human use. HEA cannot account for the reductions in marginal values that occur as people become satiated with increasingly larger compensatory restoration projects or as congestion increases.

Assuming that these cautions are heeded, HEA implicitly balances the lost economic values forgone by the public through time with additional economic values provided in the future. These values must be adjusted for differences in time to comport with observed differences in the public's perception of value through time. This adjustment process, known as discounting, permits one to examine values occurring at different times on a comparable basis. The discount rate used in this process is a key input to HEA and should be chosen carefully.

A.5.2 Implementation

The first step in HEA is to quantitatively characterize lost ecological services such as nutrient cycling, water quality improvement, and the provision of food and refuge for wildlife. At each point in time, lost services are characterized as a proportional reduction below baseline, where baseline characterizes the natural resource conditions absent the injury. Objective biological indices, such as Habitat Suitability Indices, or best professional judgment can be used to determine proportional reductions below baseline. These proportional reductions are then applied to the affected habitat area and aggregated over time to obtain the total quantity of lost services (*e.g.*, acre years). The total discounted quantity of lost services can be viewed as the "debit" created by the natural resource injury.

The second step in HEA is to quantitatively characterize the replacement services provided by the selected compensatory restoration project. At each point in time, replacement services are characterized as a proportional equivalent of baseline called relative productivity. Relative productivity reflects the net ecological services provided by the compensatory restoration project relative to the baseline productivity of the injured habitat. The total present value of relative productivity expressed as a proportion can be interpreted as the total number of discounted acre years of ecological services provided by each acre of restoration.

The third step in HEA is to solve for the project size that will equate the total discounted quantity of replacement services to the total discounted quantity of lost services. This project size is calculated by dividing the total present value of lost services in acre years by the total present value of relative productivity expressed as a proportion. This calculation assures that the compensatory restoration project will provide a "credit" just equal to the total discounted quantity of lost services.

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A.7 TRUSTEE ADOPTION OF RESTORATION PLAN




ADOPTION RESOLUTION

The undersigned, as authorized officials of their respective federal and State natural resource trustee agencies, hereby approve and adopt the "Final Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill into Waiiau Stream and Pearl Harbor, Oahu, Hawaii" and select the restoration projects described as Preferred Alternatives contained therein.

Department of the Interior

By:

Name:
Title:



John J. Reynolds, Authorized Official
Regional Director, Pacific West Region, National
Park Service

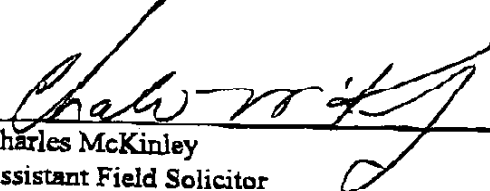
Date:

10/27/99, 1999

Concur:

Anne Badgley
Regional Director, Region 1
Fish and Wildlife Service

Approved as to Form:



Charles McKinley
Assistant Field Solicitor
Office of the Solicitor



ADOPTION RESOLUTION

The undersigned, as authorized officials of their respective federal and State natural resource trustee agencies, hereby approve and adopt the "Final Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill into Waiiau Stream and Pearl Harbor, Oahu, Hawaii" and select the restoration projects described as Preferred Alternatives contained therein.

Department of the Interior

By: John J. Reynolds. Authorized Official
Name: Regional Director, Pacific West Region, National
Title: Park Service

Date: _____, 1999

Concur: (for) Anne Badgley
Regional Director, Region I
Fish and Wildlife Service

Approved as to Form: Charles McKinley
Charles McKinley
Assistant Field Solicitor
Office of the Solicitor

ADOPTION RESOLUTION

This certifies that the Damage Assessment and Restoration Program Managers, on behalf of the National Oceanic and Atmospheric Administration, approved the "Final Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill into Waiiau Stream and Pearl Harbor, Oahu, Hawaii" and agreed to the select of the restoration projects described as Preferred Alternatives contained therein. Approval by the Program Managers is pursuant to the Damage Assessment and Restoration Program Board of Directors' delegation decision of July 17, 1996.

By:

Katherine A. Pease

Name:

Katherine A. Pease

Title:

Senior Counselor for Natural Resources
DARP Manager

Date:

22 November, 1999



DEPARTMENT OF THE NAVY
COMMANDER
NAVAL BASE PEARL HARBOR
517 RUSSELL AVENUE
PEARL HARBOR, HAWAII 96860-5020

IN REPLY REFER TO:

ADOPTION RESOLUTION

The undersigned, as authorized officials of their respective federal and State natural resource trustee agencies, hereby approve and adopt the *"Final Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill into Waiau Stream and Pearl Harbor, Oahu, Hawaii"* and select the restoration projects described as Preferred Alternatives contained therein.

Department of Defense
For the Secretary of the Navy

By:

Name:

Title:

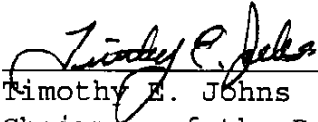
Date:

RADM John W. Townes III, USN
Commander, Navy Region Hawaii

11/24

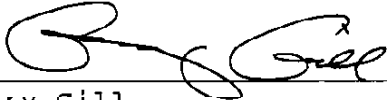
1999

State of Hawaii
Department of Land and Natural Resources

By: 
Name: Timothy E. Johns
Title: Chairman of the Board of
Land and Natural Resources

Date: October 29 _____, 1999

State of Hawaii
Department of Health

By: 
Name: Gary Gill
Title: Deputy Director, Department of Health
Date: November 2, 1999

A.8 FINDING OF NO SIGNIFICANT IMPACT



United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
600 Harrison Street, Suite 515
San Francisco, California 94107-1376



Finding of No Significant Impact

Restoration Plan/Environmental Assessment
for the
May 14, 1996 Chevron Pipeline Oil Spill
into
Waiau Stream and Pearl Harbor, Oahu, Hawaii

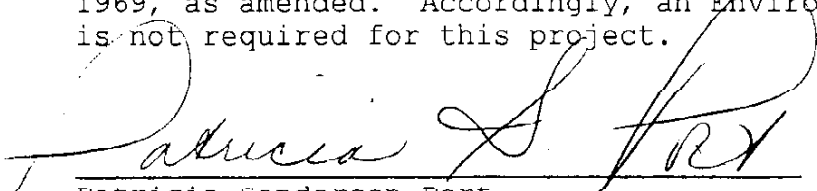
The Department of the Interior, Office of Environmental Policy and Compliance, is the lead federal agency for National Environmental Policy Act (NEPA) compliance for the Restoration Plan for the May 14, 1996 Chevron Pipeline Oil Spill into Waiau Stream and Pearl Harbor, Oahu, Hawaii. The cooperating agencies include the U.S. Fish and Wildlife Service, the National Park Service, the National Oceanic and Atmospheric Administration, the Department of the Navy (through the Commander, Navy Region Hawaii) and the State of Hawaii (through the Department of Health and the Department of Land and Natural Resources).

The Environmental Assessment for this project evaluated ten alternatives, including the "no action" alternative. The public has been afforded two opportunities to review and provide input on the alternatives, including the preferred alternatives. A Public Meeting was held in Honolulu, Hawaii, on May 17, 1999 to present the Draft Restoration Plan/Environmental Assessment to the public. Additionally, the Draft Restoration Plan/Environmental Assessment was made available to the public, for a 51-day open comment period from April 12, 1999 through June 1, 1999, in both hardcopy form and posting on government web pages.

DETERMINATION:

Based upon an environmental review and evaluation of the Environmental Assessment for the Restoration Plan for the May 14, 1996 Chevron Pipeline Oil Spill into Waiau Stream and Pearl Harbor, Oahu, Hawaii, I have determined that the proposed action does not constitute a major federal action significantly

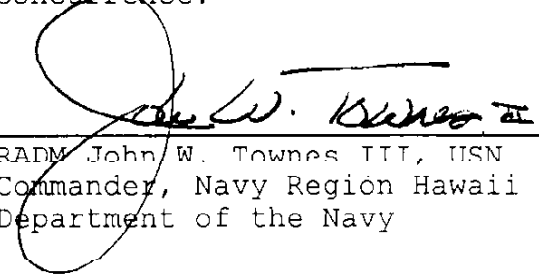
affecting the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969, as amended. Accordingly, an Environmental Impact Statement is not required for this project.



Patricia Sanderson Port
Regional Environmental Officer
Office of Environmental Policy and Compliance
Department of the Interior

11/10/99
Date

Concurrence:



RADM John W. Townes III, USN
Commander, Navy Region Hawaii
Department of the Navy

11/24/99
Date

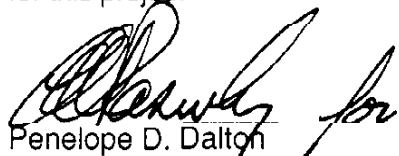
**FINDING OF NO SIGNIFICANT IMPACT
RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT
FOR THE
MAY 14, 1996 CHEVRON PIPELINE OIL SPILL
INTO WAIUO STREAM AND PEARL HARBOR**

The National Oceanic and Atmospheric Administration (NOAA) is a cooperating federal agency for National Environmental Policy Act (NEPA) compliance for the Restoration Plan and Environmental Assessment (RP/EA) for the May 14, 1996 Chevron Pipeline Oil Spill into Waiau Stream and Pearl Harbor. The lead federal agency for NEPA compliance for the RP/EA is the U.S. Department of the Interior (DOI). Other cooperating agencies include the Pearl Harbor Natural Resource Trustees (Trustees) -- the National Park Service (DOI); the U.S. Fish and Wildlife Service (DOI); the Hawaii Department of Health; the Hawaii Department of Land and Natural Resources; and the U.S. Department of Defense, U.S. Department of the Navy, Commander, Naval Base Pearl Harbor, Hawaii. These parties participated in the damage assessment and restoration planning activities resulting from the injuries to natural resources and resource services as a result of the oil spill.

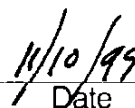
The Trustees evaluated several types of restoration alternatives: the no action/natural recovery alternative, ecological restoration alternatives, and lost human use restoration alternatives. Within those alternatives, several restoration projects were evaluated to determine what projects would best meet the goals and objectives of the Trustees. The Trustees concluded that their preferred restoration alternatives would be a mix of both the ecological and lost human use alternatives. The particular projects are briefly described as: restoration of an eight-acre area of the Pouhala Marsh; removal of red mangroves along the shoreline of the Waiawa Unit, Pearl Harbor National Wildlife Refuge; protection of the shoreline of the USS *Arizona* Memorial Visitor Center; and assisting in the replacement of the shoreside dock area at the USS *Arizona* Memorial Visitor Center. The draft RP/EA was presented to the public, and all public comments were supportive of the Plan and the proposed projects.

DETERMINATION:

Based upon an environmental review and evaluation of the Final Restoration Plan and Environmental Assessment for the May 14, 1996 Chevron Pipeline Oil Spill into Waiau Stream and Pearl Harbor, Oahu, Hawaii, I have determined that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969, as amended. Accordingly, an environmental impact statement is not required for this project.



Penelope D. Dalton
Assistant Administrator for Fisheries
National Marine Fisheries Service
National Oceanic and Atmospheric Administration


Date