

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 821
HONOLULU, HAWAII 96809

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

JOHN P. KEPPELER, I
DONA L. HANA'IKE

AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

RECEIVED

DEC 2 1992

'92 DEC -3 P343

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL
Refer to KA-90:2107

Mr. Brian Choy, Director
Office of Environmental
Quality Control
State of Hawaii
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Re: Notice of Determination/Negative Declaration for Proposed Memorandum of Agreement Between the United States Government and the State of Hawaii to Establish a Ground Hazard Area on State Lands Adjacent to the Pacific Missile Range Facility, Kauai, Hawaii

We are submitting a completed Form #91-1 together with four (4) copies of an environmental assessment with negative declaration for the above. The following information is provided in support of this declaration:

1. Preparing Applicant:

U.S. Army Strategic Defense Command-Huntsville
P.O. Box 1500
Huntsville, Alabama 35807-3801

2. Accepting Agency:

State of Hawaii
Department of Land and Natural Resources
Division of Land Management
1151 Punchbowl Street, Room 220
Honolulu, Hawaii 96813

Mr. Brian Choy
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3. Brief Description of Proposed Action:

The proposed action is to enter into a memorandum of agreement (MOA) with the United States Government (USG) which would authorize the USG to establish land use controls over certain state lands adjacent to Pacific Missile Range Facility (PMRF) launch sites. This MOA would be exercised a minimum of 19 times per year for a finite period of time ending in 1993. This would include no more than four launches per year for the Strategic Target System.

4. Determination:

We have determined that a negative declaration is appropriate and an environmental impact statement is not required.

5. Reason for Supporting Determination:

Pursuant to that August 29, 1989 letter from the U.S. Navy asking the State of Hawaii to consider proposed uses of State land in connection with missile launches from Pacific Missile Range Facility, the Board of Land and Natural Resources ("BLNR") conditionally approved entering into two MOAs with the Federal government on April 27, 1990. One of these MOAs is the subject of this environmental assessment and the lawsuit entitled Sierra Club, et al. v. William W. Paty, et al., Civil No. 92-2597-07 (First Circuit).

One of the conditions attached by the BLNR to the approval of entering into the MOAs was that the Federal government file a Conservation District Use Application ("CDUA") with the DLNR, as some of the State land sought to be used was within the State of Hawaii's Conservation District. The Federal government refused to do so.

In July 1990, the Federal government published an Environmental Assessment (EA) pursuant to 42 U.S.C. § 4321 et seq. (NEPA). The EA purportedly covered all Strategic Target System activities, including those in Hawaii which were the subject of the two MOAs. The State filed suit later in 1990 to compel the preparation of an Environmental Impact Statement (EIS), and to compel the Federal government to file a CDUA, State of Hawaii v. Richard Cheney, et al., U.S.D.C., Civil No. 90-00775 HMF. On May 9, 1991, Judge David A. Ezra ruled that no EIS had to be prepared but

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temporarily enjoined implementation of the Strategic Target System until concerns raised by the State were addressed in a supplemental EA. Judge Ezra further ruled that the Federal government did not have to comply with the State's CDUA requirement.

The Federal government prepared the supplemental EA, and in addition later in 1991 agreed to prepare an EIS. During this period there were minimal discussions between the State and Federal government on the terms of the instant MOA previously approved by the Land Board. Numerous drafts of the MOA have been negotiated since the Federal government agreed to prepare an EIS. The basic concept of a cooperative agreement between the State and Federal government has remained constant. However, the MOA has evolved so that some elements of a real estate license are now in current recent drafts. Accordingly, while the MOA in its original form may not have been a use of State land such as to trigger the requirements for Chapter 343, Hawaii Revised Statutes, it is the Department of Land and Natural Resources' (DLNR) opinion that at this point it would constitute such a use.

The Federal government published notice of the availability of the Draft EIS and of public hearings for the EIS in the March 8 and March 23, 1992 OEQC Bulletin. Public hearings were held on March 24 and 25, 1992, in Lihue, Kauai. Approximately 160 speakers appeared at these public hearings. Over 100 exhibits were submitted at these public hearings. Over 500 letters were submitted. By April 13, 1992, the close of the 45-day public comment period for the EIS. A significant number of these comments dealt with the issue of the temporary use of State land for safety zones and ground hazard areas in connection with Strategic Target System missile launches and the environmental consequences thereof. A draft MOA was included in the Draft EIS, and specifically commented on. Notice of availability of the Final EIS was published in the May 23 and June 8, 1992 OEQC Bulletin. DLNR had significant input into the Final EIS both by way of formal comment and by way of coordination with the Federal government.

On August 8, 1992, pursuant to Chapter 343, Hawaii Revised Statutes ("HRS") DLNR published a notice of availability of a draft EA for this proposed action for review and comment in the Office of Environmental

Mr. Brian Choy

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Quality Control ("OEQC") Bulletin. The comments received on that draft EA during the 30-day public comment period which began on August 8, 1992, as well as comments received up to and including September 18, 1992, have been reviewed and responded to. These comments and responses are included in the Final EA.

The effects of Hurricane Iniki, which struck Kauai on September 11, 1992, have been assessed. An Evaluation of Changes to the Existing Environment Described in the Strategic Target System Environmental Impact Statement and of Damage to Mission-Related Equipment and Facilities Due to the Effects of Hurricane Iniki can be found in the final EA. The video tape assessment prepared in conjunction with the Evaluation is available for viewing at the DLNR office in Honolulu, the Lihue Public Library, Kapaa Public Library and PMRF. Based in substantial part on this Evaluation, the assessed environment for the area covered by the MOA has not significantly changed from before Hurricane Iniki.

Certain mitigations have been committed to by the Federal government in the Record of Decision, dated June 22, 1992, for the Strategic Target System Program. I further condition this negative declaration on continual monitoring of the Federal government's Strategic Target System Program's effects on the State land which is the subject of the proposed MOA. This monitoring will be done by, among others, the State Historic Preservation Division, the State Division of Aquatic Resources, and the Division of State Parks.

For all of the foregoing reasons, the proposed use poses no known significant, short or long term, adverse impacts which cannot be mitigated. There will be no significant impacts on any State or Federal endangered or threatened species.

6. Agencies Consulted in the Preparation of the Environmental Assessment:

- Department of Health
- Department of Transportation
- State Historic Preservation Office

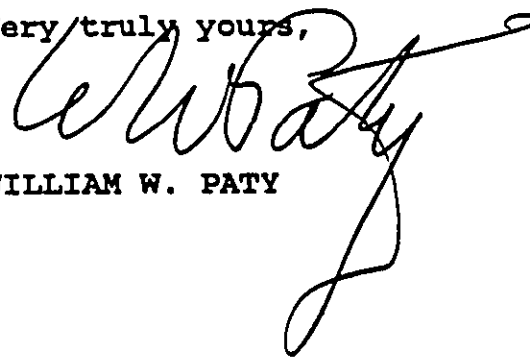
Mr. Brian Choy

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--Department of Planning and Economic Development
--Office of Hawaiian Affairs
--Division of Forestry and Wildlife
--Division of Aquatic Resources
--Division of State Parks
--Office of Conservation and Environmental Affairs
--Division of Conservation and Resource Enforcement

Very truly yours,



WILLIAM W. PATY

Enclosure

cc: Kauai Land Board Member
Kauai District Land Office

WWP/RYKY:ksy

DEC 23 1992

ISLAND KAUAI

DISTRICT BARKING SANDS

1992-12-23-KA-FEA-STARs DEA-KAUAI

NAME OF APPLICANT

U.S. ARMY STRATEGIC DEFENSE COMMAND-HUNTSVILLE

FINAL ENVIRONMENTAL ASSESSMENT
FOR
PROPOSED MEMORANDUM OF AGREEMENT
BETWEEN THE UNITED STATES GOVERNMENT AND
THE STATE OF HAWAII
TO ESTABLISH A GROUND HAZARD AREA ON
STATE LANDS ADJACENT TO
THE PACIFIC MISSILE RANGE
FACILITY, KAUAI, HAWAII

FINAL ENVIRONMENTAL ASSESSMENT
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December 2, 1992

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FINAL ENVIRONMENTAL ASSESSMENT

Project: Temporary Use of State Lands for Safety and Ground Hazard Areas for Strategic Target System and Navy Vandal Missile Launches from Kauai Test Facility at the United States Navy Pacific Missile Range Facility, Barking Sands, Kauai

Applicant: U.S. Army Strategic Defense Command

Approving Agency: Department of Land and Natural Resources

Agencies Consulted: Department of Health
Department of Transportation
State Historic Preservation Office
Department of Planning and Economic Development
Office of Hawaiian Affairs
Division of Forestry and Wildlife
Division of Aquatic Resources
Division of State Parks
Office of Conservation and Environmental Affairs
Division of Conservation and Resource Enforcement

A. Introduction

The Environmental Impact Statement (EIS) for the Strategic Target System, dated May, 1992 and the subsequent Record of Decision (ROD) signed by the Director of the Strategic Defense Initiative Organization, dated June 22, 1992 are hereby incorporated by reference.

In accordance with Chapter 343, Hawaii Revised Statutes (HRS), relevant sections of this EA highlight those elements of the Strategic Target System EIS and the ROD which are relevant to the MOA to provide land use control of the ground hazard area (GHA). The sections outlined include portions of the description of the proposed action, the affected environment, the environmental consequences and mitigations.

B. Background

The United States Army Strategic Defense Command (USASDC) proposes to launch Strategic Target System vehicles with experimental payloads into near space to simulate the reentry of intercontinental ballistic missiles. The vehicles would be launched from the Kauai Test Facility (KTF) at the United States Navy Pacific Missile Range Facility (PMRF) at Barking Sands, Kauai. In connection with the launch of these vehicles as well as the Navy's continued launching of its Vandal missile, the Federal Government has sought to enter into a MOA with the State of Hawaii,

through its Board of Land and Natural Resources (Land Board) and Kekaha Sugar Company, Ltd.

The Land Board conditionally approved entering into two MOAs on April 27, 1990. One of these MOAs is associated with the STARS and Vandal GHA and is the subject of this EA. The conditions established by the Land Board included the MOAs being "subject to the review and approval of the Office of the Attorney General" and "other terms and conditions as may be prescribed by the Chairperson [of the Land Board]."

In July 1990, the USASDC published an Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) pursuant to 42 U.S.C. sec. 4321 et seq. (NEPA). The EA covered all Strategic Target System activities, including those in Hawaii. The State filed suit later in 1990 to compel the preparation of an EIS, State of Hawaii v. Richard Cheney, et al., U.S.D.C., Civil No. 90-0775 HMF. On May 9, 1991, Judge David A. Ezra ruled that no EIS had to be prepared but temporarily enjoined implementation of the Strategic Target System until concerns raised by the State were addressed in a supplemental EA.

The USASDC prepared the supplemental EA, and in addition later in 1991, agreed to prepare an EIS. During this period there were minimal discussions between the State and USASDC on the terms of the two MOAs previously approved by the Land Board. Numerous drafts of the MOAs have been negotiated since USASDC agreed to prepare an EIS. The basic concept of a cooperative agreement between the State and Federal Government has remained consistent. However, the MOAs have evolved so that some elements of a real estate license are now in the final draft.

Notice of the availability of the Draft EIS and of Public Hearings for the EIS was published in the March 8 and March 23, 1992 Office of Environmental Quality (OEQC) Bulletin. A public hearing was held on March 24 and 25, 1992, in Lihue, Kauai. Approximately 160 speakers appeared at this public hearing. Over 100 exhibits were submitted at the public hearing. Over 500 letters were submitted by April 13, 1992, the close of the 45-day public comment period for the EIS. A significant number of these comments dealt with the issue of the temporary use of State land for safety zones and ground hazard areas in connection with Strategic Target System missile launches and the potential environmental consequences thereof. A draft MOA was included in the Draft EIS and received specific comments. Notice of Availability of the Final EIS was published in the May 23 and June 8, 1992 OEQC Bulletin. A ROD was issued on June 22, 1992, by the Director, Strategic Defense Initiative Organization. This EA is being prepared pursuant to Chapter 343, HRS and implementing regulations.

C. EIS and ROD Content and Availability

The Strategic Target System Final EIS consists of 4 volumes: the Draft EIS, released for public review in February 1992, and three volumes of: Responses to Comments and Changes to the Draft EIS; Public Hearing Transcripts; and Written Comments. The EIS

contents, the ROD contents and their availability follow:

1. EIS contents
 - a. A summary
 - b. Table of Contents
 - c. Statement of Purpose and Need for Action
 - d. Project Description
 - e. Discussion of known alternatives to the proposed action
 - f. Description of the environmental setting
 - g. A statement of the proposed action's relationship to the land use plans, policies, and controls for the affected area
 - h. A statement of probable impact on the environment
 - i. Relationship between local short-term uses and enhancement of long-term productivity
 - j. Disclosure of all irreversible and irretrievable commitments of resources
 - k. Discussion addressing all probable unavoidable adverse environmental effects
 - l. Description of mitigation measures to minimize impacts
 - m. A summary of unresolved issues
 - n. Lists of organizations and individuals consulted in preparation of the EIS
 - o. Reproduction of all substantive comments and responses made during the consultation process
 - p. A list of organizations and individuals commenting on the Draft EIS
 - q. Reproduction of all substantive comments and responses made during the EIS review period
2. ROD contents
 - a. Introduction
 - b. Alternative
 - c. Impact/Mitigations
 - d. Decision
 - e. Monitoring and Enforcement

3. Availability

The Final EIS, the ROD, and the associated Administrative Record (AR) are available at the following locations for public access:

- a. Lihue Public Library
- b. Kapaa Public Library
- c. PMRF
- d. Department of Land and Natural Resources, Oahu

D. Description of the Proposed Action

A draft of the MOA, proposed for adoption, is contained in the Appendix of this document. Pertinent elements of the Strategic Target System vehicle flight safety are discussed in Section 2.1.2.1 and the need for a GHA is presented in Section 2.1.2.2 of the Draft EIS. The ground hazard area is designated in Figure 2-13 of the Draft and Final EIS. Clearance requirements for the overwater launch hazard area and the GHA and the necessary land use

controls are presented in Section 2.1.2.3 of the Draft EIS with modifications indicated on page 2-5 of Volume 1 of the Final EIS.

E. Affected Environment

The affected environment that would be included within the area covered by the MOA is discussed for each of the potentially affected resources in Chapter 3 of the Draft EIS. Modifications to the existing environment chapter are found on pages 2-8 through 2-11 in Volume 1 of the Final EIS. These changes were made as a result of public comment and concerns expressed during the public review of the Draft EIS. Recent plant surveys of Polihale State Park have verified the presence of two additional species, Panicum niihauensis and Chamaesyce celastroides. The presence of these two species in the sand dunes inland from Queen's Pond does not change the overall evaluation of the potential impacts of the Strategic Target System program.

F. Identification and Summary of Potential Impacts and Alternatives

The environmental consequences and mitigations for the Strategic Target System GHA and the area covered by the MOA are discussed in the various resource sections of Chapter 4 of the Draft EIS and pages 2-11 through 2-21 of Volume 1 of the Final EIS.

The evaluation of potential impacts of Strategic Target System program activities within the area covered by the MOA indicate there would be no significant impacts on geology and soils. This resource is discussed in Section 4.1 of the Draft EIS.

The evaluation of potential impacts on ground and surface water resources within the area covered by the MOA are included in the discussion in Section 4.2 of the Draft EIS. These evaluations indicate no significant impacts on ground water, on surface water or on marine and fresh water quality due to successful or terminated launches.

Potential impacts on air quality within the area covered by the MOA are discussed in Section 4.3 of the EIS. Additional discussions are included in Section 4.3.1.2 (page 4-7), Table 4-1, under Carbon Monoxide (page 4-10), under Aluminum oxide and particulate matter (page 4-12), under Hydrogen chloride (page 4-15 and 4-17) and Table 4-5. Additional evaluations of cumulative impacts of air quality are presented in Section 4.3.3.1 (page 4-21) of the Draft EIS. All evaluations of air quality impacts indicate no potential for significant impacts to human health and safety with the implementation of the GHA under the MOA. Minor modifications of the air quality section of the Draft EIS based on public comment are presented on pages 2-11 through 2-12 of Volume 1 of the Final EIS.

Potential impacts on biological resources within the area covered by the MOA are discussed in detail in Sections 4.4.1.2, 4.4.1.3 and 4.4.3 of the Draft EIS. With implementation of mitigation measures outlined in Section 4.4.4, no significant impacts on biological

resources within the GHA covered by the MOA are expected. Minor modifications to the biological resources consequences section of the Draft EIS are presented on pages 2-14 through 2-16 of Volume 1 of the Final EIS. These modifications were made in response to public comment to the Draft EIS. Recent verification of the presence of Panicum niihauensis and Chamaesyce celastroides does not change the evaluation of impacts on the biological resources in the area covered by the MOA.

Potential impacts on cultural resources within the area covered by the MOA are discussed in detail in Sections 4.5.1.2 and 4.5.3 and potential mitigations are discussed in Section 4.5.4 of the Draft EIS. With implementation of mitigation measures outlined in Section 4.5.4, no significant impacts on cultural resources are expected within the GHA covered by the MOA. Minor modifications to the cultural resources consequences section of the Draft EIS are presented on pages 2-16 and 2-17 of Volume 1 of the Final EIS. These modifications were made in response to public comment of the Draft EIS.

Potential impacts on land use due to Strategic Target System program activities within the area covered by the MOA are discussed in detail in Section 4.6.1.2 of the Draft EIS. Cumulative impacts of these activities are discussed in Section 4.6.3 of the Draft EIS. The additional discussion based on public comments during the Draft EIS review period is presented on pages 2-17 and 2-18 of Volume 1 of the Final EIS. The land use controls evaluated in the land use section were found to have no significant impact on public use of the state park or the sugar cane fields within the area covered by the MOA. This evaluation is based on the minor increases in the limitations of access to these state lands over those limitations which have been historically implemented.

Evaluation of visual resources within the GHA indicates no significant impact. This resource is discussed in Section 4.7 of the Draft EIS.

The potential effects of increased noise during a launch within the area covered by the MOA is not expected to be significant, since humans will not be present in the GHA and the nearest public recipients are 5 to 8 miles away. Potential impacts on biological resources are discussed in the biological section of the EIS. Because of the short duration, noise will not have a significant impact on wildlife.

All hazardous materials used and all hazardous wastes generated will be within PMRF facilities. No hazardous wastes are expected to be generated within the area covered by the MOA. With the implementation of standard operating procedures and compliance with all applicable laws and regulations as part of the proposed action, no significant impacts are expected due to the use of hazardous materials or the generation of hazardous waste.

Potential impacts on public health and safety are discussed in detail in Section 4.10 of the Draft EIS. Even with early flight termination and the dispersion of debris into portions of the GHA

covered by the MOA, no significant impacts are expected to occur. With implementation of required standard operating procedures and compliance with applicable laws and regulations, no significant impacts are expected. Section 4.10 of the Draft EIS was modified to respond to public comment and concern expressed during the EIS review period. These responses are presented on pages 2-19, 2-20 and 2-21 of Volume 1 of the Final EIS.

The socioeconomic character of the area covered by the MOA would not be affected by changes in access to the sugar cane fields and portions of Polihale State Park. The minor restrictions in access to portions of Polihale State Park would not have significant effects on the socioeconomics of the tourist industry of Kauai. This resource is addressed in Section 4.12 of the Draft EIS.

The effects of Hurricane Iniki, which struck Kauai on September 11, 1992, have been assessed. An Evaluation of Changes to the Existing Environment Described in the Strategic Target System Environmental Impact Statement and of Damage to Mission-Related Equipment and Facilities Due to the Effects of Hurricane Iniki can be found enclosed herein as Appendix D-1. The video tape assessment prepared in conjunction with the Evaluation is available for viewing at the DLNR office in Honolulu, the Lihue Public Library, Kapaa Public Library and PMRF. Based in substantial part on this Evaluation, the assessed environment for the area covered by the MOA has not significantly changed from before Hurricane Iniki.

G. Mitigation Measures

Modifications to the proposed action to reduce environmental impacts are discussed in Section 2.1.4 and outlined in Table 2-1 of the Draft EIS. The potential environmental impacts of the proposed action and the no-action alternative are presented in Section 2.4 and outlined in Table 2-3 of the Draft EIS. This comparison of impacts indicates no significant impacts are expected following implementation of appropriate mitigations. Selected mitigations are detailed in the ROD and provisions will be added to the MOA which will allow the State to monitor environmental concerns, as appropriate.

APPENDIX A

Draft Memorandum of Agreement

(DRAFT)
MEMORANDUM OF AGREEMENT
ON
GROUND HAZARD SAFETY AREA
FOR
NAVY OPERATIONS
AT
PACIFIC MISSILE RANGE FACILITY HAWAIIAN AREA
BARKING SANDS, KAUAI, HAWAII

This Memorandum of Agreement, in the form of a real estate license, and for which adequate and sufficient consideration is acknowledged by signature hereunder, is entered into this _____ day of _____, 19____, by the U.S. Department of the Navy, represented by the Commander, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii (hereinafter called the "Navy"); the Department of Land and Natural Resources, State of Hawaii (hereinafter called "DLNR"); and the Kekaha Sugar Company, Ltd., as the lessee of certain State lands at Kekaha and Mana, Waimea (Kona), Kauai, Hawaii (hereinafter called the "Lessee").

WITNESSETH THAT:

WHEREAS, the Navy operates the Pacific Missile Range Facility, Hawaiian Area at Barking Sands, Kauai, Hawaii (hereinafter called the "Facility") to support U.S. Department of Defense and other government projects involved with the launching, tracking, and collection of data associated with guided missiles, satellite, and space vehicle research, development, evaluation and training programs; and

WHEREAS, the above programs involve missile launching operations for which the establishment of ground hazard safety areas (GHA) are considered essential to safeguard the safety, health, and welfare of persons not directly associated with said operations and activities by controlling the land uses therein on a temporary basis; and

WHEREAS, the GHAs shown in Exhibit "A" designate the hazard zones emanating from the respective facility launch areas, established in accordance with the U.S. Department of Defense criteria for Vandal (6000 foot GHA), and Strategic Target System (10,000 foot GHA) type missiles; and

WHEREAS, the Navy estimates four (4) launches per year with a GHA of 10,000 feet and fifteen (15) per year with a GHA of 6000 feet; and

WHEREAS, the U.S. Department of Defense missile launching safety criteria requires the evaluation of all personnel within the GHA for standard safety precautions just prior to and after a rocket launch; and

WHEREAS, the current standards for ground hazard safety zones at the Facility affect adjacent non-Navy controlled lands; and

WHEREAS, the non-Navy controlled lands affected by the ground hazard safety zones of the Facility are owned by the State of Hawaii and are portions of the lands outleased to the lessee for agricultural purposes under General Lease No. S-4222.

NOW, THEREFORE, it is mutually agreed to by the parties hereto that:

1. The DLNR and the Lessee will permit the Navy to request all personnel within the affected GHA to clear the area for approximately twenty (20) minutes and to close all roads into the GHA up to approximately twenty (20) minutes before a launch or for up to approximately ten (10) minutes before and ten (10) minutes after a launch depending on the type of launch; and
2. The DLNR and the Lessee will permit the Navy to enter upon the GHA and give notice to any persons within the GHA up to approximately three (3) hours before a launch; and
3. The DLNR and the Lessee will permit the Navy to post signs and place personnel at the boundaries of the GHA in order to ensure the GHA is clear; and
4. The Navy may request the assistance of the DLNR and the Lessee in ensuring the GHA is clear of personnel; and
5. The Navy will delay the launch to permit the passage of emergency vehicles and equipment; and
6. The Navy will advise DLNR and the Lessee whenever any non-Navy controlled areas affected by the GHA are modified or eliminated and amend this agreement; and
7. The Navy shall be responsible for any claims or injury caused by or resulting from any act or omission of the Navy in connection with the Navy's use of the premises shown in Exhibit "A", as provided in the Federal Tort Claims Act (62 Stat. 869-982; 28 U.S.C. 2671-2680); and
8. The Navy shall be responsible for clean up of any debris resulting from a failed launch; and
9. The Navy shall provide procedures and responsibilities for launches and emergencies, including the coordination with county and civil defense agencies; and
10. The Navy shall provide that adequate public access to the beach be preserved within the bounds of health and safety considerations; and

11. The Navy will notify the DADR, the Leeward and the Hawaii Department of Transportation at least seven (7) calendar days prior to each rocket launch or closing of any position of the Kaunualii Highway; and

12. The Navy shall develop a brief protection plan for known historic sites, if any, in the affected area; and

13. This Memorandum of Agreement shall go into effect on the date of the last signature and remain in effect until December 31, 1993.

FOR THE U.S. DEPARTMENT OF THE NAVY

BY _____

Title _____

FOR THE DEPARTMENT OF LAND AND
NATURAL RESOURCES, STATE OF HAWAII

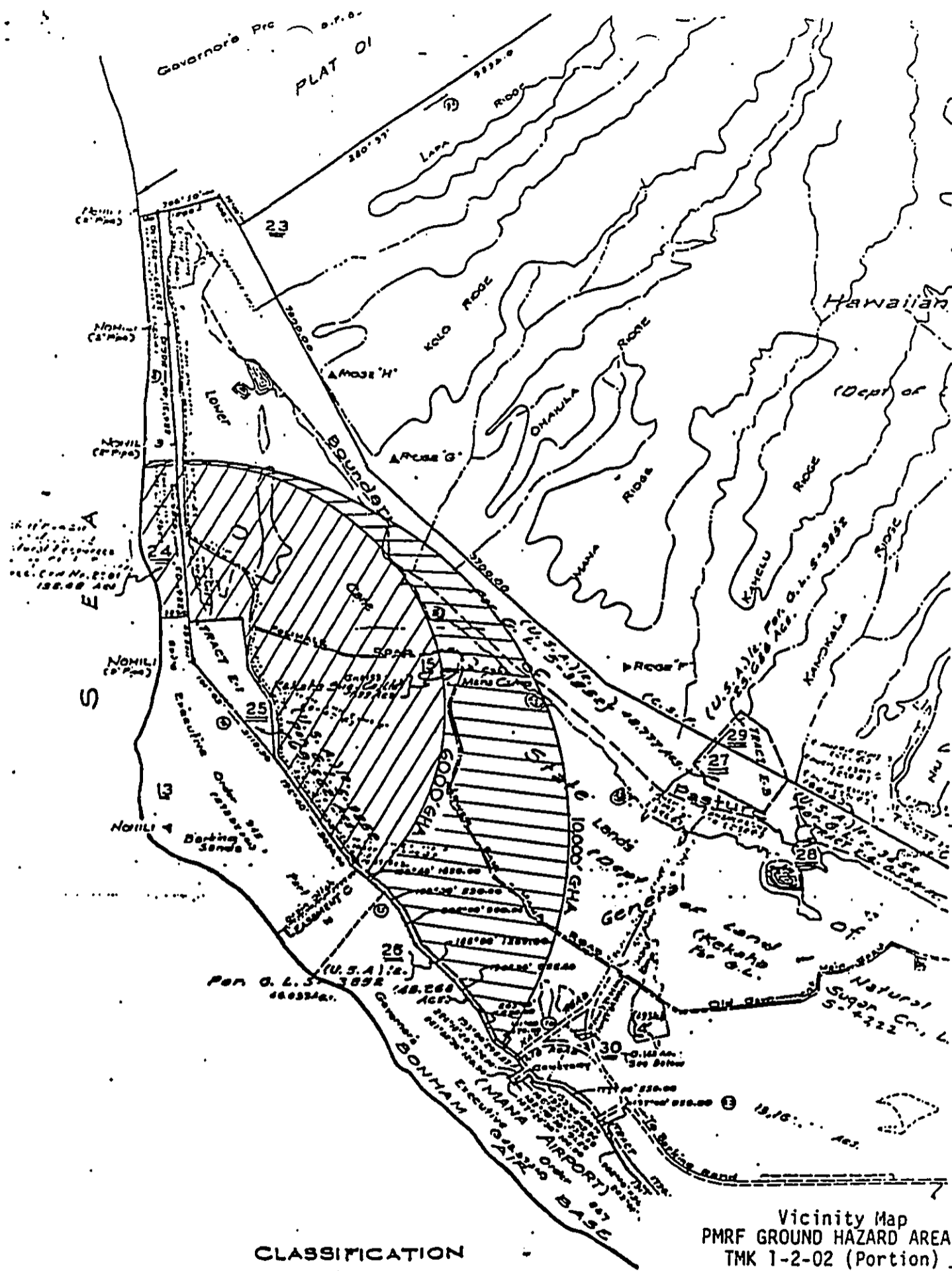
BY _____

Title _____

FOR KEKAHA SUGAR COMPANY, LTD.

BY _____

Title _____



CLASSIFICATION

Cane Lands	7380.657 Acres
Contributory Cane Lands	927.13 "

Vicinity Map
 PMRF GROUND HAZARD AREAS
 TMK 1-2-02 (Portion)

EXHIBIT "A"

APPENDIX B

Supporting Documentation



OFFICE OF
CIVILIAN
AND MANAGEMENT
SEP 5 9 57 AM '89

DEPARTMENT OF THE NAVY
PACIFIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
(MAKALAPA, HI)
PEARL HARBOR, HAWAII 96860-7300

11011
Ser 2411/ 9633
29 AUG 1989

Mr. Mason Young
Supervising Land Agent
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Young:

Our letter 11011 Ser 2411/8251 of July 21, 1989, requested State of Hawaii approval of a draft Memorandum of Agreement covering safety zones over State lands adjacent to the Pacific Missile Range Facility (PACMISRANFAC) at Barking Sands, Kauai and leased to Kekaha Sugar Company under State General Lease No. S-4222. It was requested that the Navy be advised of proposed changes in the current land use of these lands if such changes appears to impact on the purpose for which the safety zones were established. These safety zones need to be in effect continuously to protect the general public from the potential hazards which might result from rocket launching and aircraft operations and ordnance handling and storage requirements.

We have since been informed that mission requirements at PACMISRANFAC have expanded to require the designations of temporary ground hazard safety areas (GHA) during missile launching operations. The GHA controls are needed for protection of nonessential personnel during the ignition and initial lift-off phases of missile launches. These controls would be needed for only a 20-minute period covering these two phases of a missile launch.

In an effort to satisfy this Navy requirement with a minimum affect upon State and Kekaha Sugar Company interests, we have prepared the attached Memorandum of Agreement for your consideration. As indicated in the agreement, the GHA would be in effect about 10 minutes before launch and end 10 minutes after launch. Also, the Navy would be responsible for seeing that all personnel within the GHA are requested to vacate and remain clear of the State-owned lands affected by the GHA and to close all roads into the GHA to insure the area is clear of nonessential personnel.

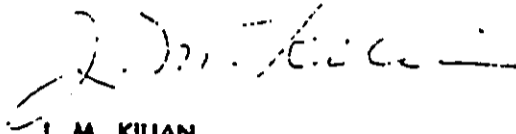
To implement the GHA requirement, Navy representatives met on August 4, 1989, with Mr. Lindsay A. Faye, Jr., President of Kekaha Sugar Company, and his staff to discuss the proposed agreement to permit the Navy to establish the GHA when required. There were no objections to the proposed agreement.

Accordingly, we ask that the State favorably consider the attached Memorandum of Agreement to permit the Navy to control access into the State-owned lands during GHA-required missile launch operations at PACMISRANFAC. Upon receipt of your comments, this office will finalize the document for execution by Kekaha Sugar Company and the State.

11011
Ser 2411/9633
29 AUG 1963

Please contact Mr. Eugene Chock at telephone 471-3217 if there are any questions. Thank you for your assistance in this matter.

Sincerely,



J. M. KILIAN
Director, Real Estate Division

Encl:
(1) Draft Memorandum of Agreement
for GHA at PACMISRANFAC

Copy to:
Land Administration
Attn: Mr. M. Burke
Amfac Hawaii Inc.
700 Bishop Street
Honolulu, Hawaii 96813

DOCUMENT FOR APPROVAL BY THE BOARD
OF LAND AND NATURAL RESOURCES

CONSENT

April 27, 1990

KAUAI

MEMORANDA OF AGREEMENT:

By and between United States of America, Department of the Navy and the State of Hawaii by its Board of Land and Natural Resources.

FOR:

Safety zone area adjacent to the Pacific Missile Range Facility at Barking Sands being a portion of Government Land situated at Kekaha Waimea (Kona), Kauai, same being also a portion of TMK: 1-2-02, as shown on the map labeled Land Board Exhibit "A" appended to the basic file.

ZONING:

State Land Use Commission: Agriculture and Conservation
County of Kauai: Agriculture

TERM OF AGREEMENT:

Date of execution to December 31, 1993

STATUS:

Area is encumbered by General Lease No. S-4222 to Kekaha Sugar Company, Ltd.

REMARKS:

The applicant requests approval of the two proposed memoranda of Agreement to cover safety zone requirements, which affect State lands adjacent to the Pacific Missile Range Facility at Barking Sands, Kauai. In one memorandum certain safety zones need to be in effect continuously to protect the general public from potential hazards, which might result from operations, ordnance handling and storage requirement at the naval activity. The second memorandum is concerned with ground hazard safety areas generated during the ignition and initial lift-off phases of certain types of missile launching operations and would be of a temporary and limited nature.

Kekaha Sugar Company, Ltd. has been contacted and has no objections to the proposed access controls over the affected land.

State and County departments have been contacted. Their recommendations and suggestion have been incorporated in the following recommendation to the Board.

APPROVED BY THE BOARD OF
LAND AND NATURAL RESOURCES
AT ITS MEETING HELD ON

4-27-90

ITEM F-1-c

RECOMMENDATION:

That the Board:

Approve the two memoranda of agreement as requested by the Department of the Navy, subject to the following terms and conditions:

- 1) A Conservation District Use Application be submitted and approved prior to entering agreement;
- 2) The term of the agreement shall be from the date of execution up to and including December 31, 1993, and no further agreement beyond that date be either implied or agreed to at this time;
- 3) The Navy shall be responsible for clean up of any hazardous waste resulting from a failed launch;
- 4) The Navy shall provide procedures and responsibilities for launches and emergencies including the coordination with county and civil defense agencies;
- 5) The Navy shall provide that adequate public access to the beach be preserved;
- 6) The Navy shall give the Department of Transportation a seven day notification in advance of the proposed closing of any portion of Kaunualii Highway due to a planned launching;
- 7) The Navy shall develop a brief protection plan for the known historic sites in the affected area;
- 8) If land disturbance occurs through an accident relative to launching, the Navy shall comply with the National Historic Preservation Act and the States' Historic Preservation Act;
- 9) The two memoranda of agreement shall be subject to the review and approval of the Office of the Attorney General;
- 10) Standard indemnity and hold harmless clause; and
- 11) Other terms and conditions as may be prescribed by the Chairperson.

mad

APPENDIX C

Consultations

JOHN WAINEE
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:

September 23, 1992

92-122/epo

TO: The Honorable William W. Pary, Chairperson
Department of Land & Natural Resources

FROM: John C. Lewin, M.D. *John C. Lewin*
Director of Health

SUBJECT: Environmental Assessment Summary for a Memorandum of Agreement (MOA)
Between the United States Government and the State of Hawaii Regarding the
Strategic Target Systems (STARS)
Barking Sands, Kauai

Thank you for allowing us to review and comment on the subject document, which was dated August 6, 1992. We have no comments to offer beyond those which we made to the U.S. Army's Final and Draft Impact Statements.

Copies of our comments, dated September 26, 1990 and April 21, 1992, are attached for your reference.

Attachments

JOHN WAINEE
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:

April 21, 1992

92-122/epo

Deputy Commander
U. S. Army Strategic Defense Command
CSSD-EN-V (D.R. Gallien)
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Sir:

Subject: Draft Environmental Impact Statement (DEIS)
for the Strategic Target System

Thank you for allowing us to review and comment on the subject document. We have the following comments to offer:

On September 26, 1990, in a letter addressed to Mr. Randy Gallien, we commented on the Revised Preliminary Final Environmental Assessment for the Strategic Target Systems in Kauai. These comments are still applicable, and a copy of that letter is enclosed. The only additional comments that we would make at this time are the following:

1. A serious concern exists as to the devastating impact an early termination of the booster, either on the launch pad or just above the launch pad, would have on the surrounding environment and human health. When the booster is terminated, both burning and unburned booster propellant, along with the hydrazine and nitrogen tetroxide liquid propellant in the rocket, will be dispersed over a wide area.

The draft EIS does not address the effects these dispersed chemicals would have on the environment and the risks posed to human health. It also does not fully cover what actions will be taken to clean-up the chemical contamination and to handle the disposal of the contaminated hazardous waste. The final EIS should address these issues and include a contingency plan which would be used in a response to an accident of this type.


Deputy Commander
April 21, 1992
Page 2

92-122

2. The EIS should disclose the extent of heavy metal and corrosive releases expected from normal atmospheric flight operations.

If you should have any questions, please contact Mr. Michael Miyasaka at 586-4226.

Very truly yours,



FOR JOHN C. LEWIN, M.D.
Director of Health

Enc.

c: Solid and Hazardous Waste Branch

JOHN WABER
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3176
HONOLULU, HAWAII 96801

September 25, 1990

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

96-170

In reply, please refer to
EPHSD

2-170

Mr. Randy Gallen, USASDC CSSD-EN
106 Wynn Drive
P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Gallen:

Subject: Comments on the Revised Preliminary Final Environmental Assessment for the Strategic Target Systems (STARS)

Thank you for allowing us to review and comment on the subject document. We provide the following comments:

Air Pollution

The Environmental Assessment should provide as an appendix a detailed discussion on the air quality impact analysis. As a minimum, the following areas should be addressed:

1. The air pollution dispersion models and the meteorological conditions used in determining the air quality impacts should be clearly described along with any deviations or assumptions.
2. Since each launching is a limited-term event, the impacts should be determined for a shorter averaging period. A 1-hour average concentration is preferable to the 8-hour average concentration as reported.
3. The impact is calculated for a distance of 3,000 meters from the launch pad. The impact should be calculated for maximum concentration at or beyond the property line and also at the nearest residence.
4. The assessment of the emissions and the air quality impacts resulting from a liquid fuel spill, a launch pad explosion, and an early launch termination should be conducted.
5. It is not clear whether only solid propellant boosters will be used or whether liquid propellant may be used as an alternative. The air quality assessment should consider the impacts resulting from all the various types of boosters that might be employed.

HARRY G. ALLEN

-2-

September 28, 1990

6. Health risks associated with air quality impacts should be discussed. At a minimum, the impact results with threshold limit values adjusted with an appropriate safety factor should be compared. It would also be important to discuss long-term effects associated with repeated exposures to potential air pollutants including carcinogenic effects. Worst case and most likely case scenarios should be considered.

Solid and Hazardous Waste

The report does address our concerns related to the generation and proper management of hazardous waste.

Hazard Evaluation and Emergency Response

1. The transportation safety plan for Hydrazine and Nitrogen tetroxide shipments should include the notification of both the State Civil Defense Agency and the Kauai County Civil Defense Agency.
2. For spills occurring during fueling/defueling of Hydrazine and Nitrogen tetroxide: "washing down to dilute concentrations" is not the best method for clean-up of these chemicals. Using sand or other absorbent material is the method of choice. Water spray should be used to control vapors (DOT 1990 Emergency Response Guidebook).

Otherwise, this report has adequately addressed the toxicological and health related aspects of the chemicals involved.

Noise

The Environmental Assessment contains no information on projected noise levels from STARS vehicles, therefore, the potential noise impacts on residential communities cannot be assessed.

The report indicates that noise impacts would not be significant since the noise is a one-time event, launches will not be simultaneous and the nearest noise sensitive area (residential), off base, is eight miles from the launch site. However, single events with noise levels significantly above the ambient levels will result in disturbances in terms of annoyances. This environmental assessment must include an analysis on the potential noise levels at the various communities that may be affected.

Sincerely,



BRUCE S. ANDERSON, Ph.D.
Deputy Director for
Environmental Health


cc: Office of State Planning, Attention: John Nakagawa

RECEIVED
DIVISION OF
STATE OF HAWAII - DEPARTMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources

September 8, 1992

TO: Mason Young, Administrator
Division of Land Management

ATTN: Gary Martin, Land Agent

FROM: Henry M. Sakuda, Administrator 
Division of Aquatic Resources

SUBJECT: Comments Regarding Environmental Assessment Summary for
a Memorandum of Agreement Between the U.S. Government and
the State of Hawaii on the Strategic Target System
Project

=====
This is to confirm our oral consultation of August 6, 1992 where we advised you that our concerns relative to the impacts of the proposed STARS and vandal missile launches were satisfactorily addressed by the Federal EIS and the record of decision. Our earlier concerns regarding the impact of the project upon aquatic resources can be addressed by conditioning DLNR's acceptance of this environmental assessment to allow the Division of Aquatic Resources to monitor the applicant's activities.

DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife

MEMORANDUM

September 9, 1992

TO: Gary Martin, Division of Land Management

FROM: Ron Walker, Wildlife Program Manager *RW*

SUBJECT: Comments on Environmental Assessment Summary for a Memorandum of Understanding between the U.S. Government and the State of Hawaii on the Strategic Target Systems Project.

This follows up on my August 6, 1992 oral comments to you on the subject matter.

The Division of Forestry and Wildlife confirms that the environmental assessment, including the 4 volume EIS prepared earlier and the record of decision referenced in the environmental assessment, is complete and accurate in disclosing the presence or absence of threatened or endangered species of plants and animals and impacts of the project on native species. No nene have been seen at or near the project site during annual surveys conducted by the Division. Rumours of sightings of nene on the West side of Kauai have not been confirmed.

We have no additional comments on this matter.

SEP 13 10 11 PM '92

DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS

September 10, 1992

MEMORANDUM

TO: Mr. Mason Young, Land Management Administrator
Division of Land Management

FROM: Ralston Nagata
State Parks Administrator

SUBJECT: Environmental Assessment for the Memorandum of Agreement
between U.S.A. and State of Hawaii Establishing a Grounds Hazard
Area in the Vicinity of PMRF

In response to your August 7, 1992 request for comments to the EA for the subject MOA, we note that the Final Federal EIS clarified the anticipated interruption in park use during launches. Such interruption would be in the form of access to and from the park and removal of park users from ground hazard areas. We would need to work with the launch administrators to maximize opportunity for public notice, particularly park goers with campsites within the ground hazard area.

Please also incorporate into the MOA the concerns provided to you dated May 20, 1992 calling for a detailed mitigation plan.


RALSTON NAGATA

JOHN WAIHEE
GOVERNOR OF HAWAII



JUN 9 1 52 PM '92

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF CONSERVATION AND RESOURCES ENFORCEMENT
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

JOHN P. KEPPELER, II
DONA L. MANAIKE

AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

June 8, 1992

MEMORANDUM

TO: Mason Young, Land Management Administrator
FROM: Maurice Matsuzaki, Enforcement Chief *John 6/8/92*
SUBJECT: Draft of Memorandum of Agreement on Ground Hazard Safety
Area for Pacific Missile Rifle Range Facility, Barking
Sands, Kauai

The Division of Conservation and Resources Enforcement would like to express our concerns in the following areas:

With regards to Condition #4, who will be responsible for costs incurred if DLNR personnel assist in ensuring the GHA is clear of personnel, before, during and after a launch?

There is a typographical error in Condition #6 -- "of" should be "or".

In Condition #8, does clean up of any debris resulting from a failed launch also include clean up and/or removal of fuel-contaminated earth/sand? Should damage occur to areas or facilities, will the Navy be responsible for restoration? Are there any health hazards (immediate or long term) that are associated with this activity.

With regards to Condition #9, will the procedures and responsibilities related to this activity be spelled out in written form? Are the various agencies involved in this activity (County and Civil Defense) aware of what their roles will be?

We would appreciate being kept informed on the status of this Agreement. Should you need additional information, please contact me at 587-0066.

After hours, weekends and holidays, call The Conservation Hotline 587-0077
Neighbor Islands call Enterprise Operator 5469

JOHN WAIHEE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
RIGHT-OF-WAY BRANCH
888 MILILANI STREET, SUITE 502
HONOLULU, HAWAII 96813

REX D. JOHNSON
DIRECTOR
DEPUTY DIRECTORS
JOYCE T. OMINE
AL PANG
JEANNE K. SCHULTZ
CALVIN M. TSUDA

IN REPLY REFER TO
HWY-R
3.66392

TO: Mr. W. Mason Young
Land Management Administrator
Department of Land and Natural Resources

ATTENTION: Mr. Gary Martin

FROM: Jerry T. Iwata *J. T. Iwata*
Right-of-Way Branch, Highways Division
Department of Transportation

SUBJECT: Ground Hazard Area on State Land for the Pacific
Missile Range Facility (PMRF), Barking Sands, Kauai

This is to confirm our discussion on August 6, 1992 that we have no comments to the Environmental Assessment Summary for the Memorandum of Agreement between the U.S.A. and the State of Hawaii to establish a ground hazard area on State land adjacent to the PMRF on Kauai beyond our previous comments applicable to the EIS regarding the STARS program.



OFFICE OF STATE PLANNING

Office of the Governor

MAILING ADDRESS: P.O. BOX 3540, HONOLULU, HAWAII 96811-3540
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR
TELEPHONE: (808) 587-2846, 587-2800

FAX: Director's Office 587-2848
Planning Division 587-2824

Ref. No. P-3538

September 10, 1992

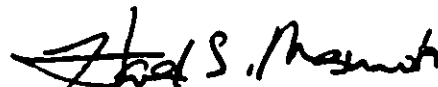
MEMORANDUM

TO: The Honorable William W. Paty, Chairperson
Department of Land and Natural Resources

SUBJECT: Environmental Assessment for a Memorandum of Agreement (MOA) Between
the United States Government and the State of Hawaii Regarding the
STARS Project at the Pacific Missile Range Facility, Barking Sands,
Kauai (FC/90-031)

The STARS Project was previously reviewed and approved for Coastal Zone Management (CZM) Federal consistency on October 2, 1990. On April 15, 1992, we commented on the STARS environmental impact statement and project revisions and found the project to remain consistent with Hawaii's CZM Program. We are in agreement with the intent of the MOA and do not have any additional comments on your environmental assessment dated August 6, 1992.

Thank you for the opportunity to comment. If there are any questions, please contact our CZM office at 587-2878.


Harold S. Masumoto
Director

JOHN WAIHEE
GOVERNOR OF HAWAII



AUG 17 12 01 PM '92

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813

August 14, 1992

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCE

DEPUTIES

JOHN P. KEPPELER, II
DONNA L. HANAIKE

AQUACULTURE DEVELOPMENT
PROGRAM

AQUATIC RESOURCES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES

FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

MEMORANDUM

LOG NO: 6050
DOC NO: 2041W

TO: Gary Martin
Land Management Division

FROM: Don Hibbard, Administrator
State Historic Preservation Division

SUBJECT: Historic Preservation Review -- E.A. Summary for the
M.O.A. Between the United States Government and the
State of Hawaii
PMRF
Mana, Waimea, Kaua'i

As we previously stated in our verbal response to you last week, we concur with you on the above document. We agree with the "no adverse effect" determination on significant historic sites if the mitigation plan will be in accordance with the Draft E.I.S..

If you have any questions regarding this matter, please contact Ms. Nancy McMahon our staff archaeologist for the County of Kaua'i at 587-0006.

NM:sty


DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
Administration
1151 Punchbowl St. #325
Honolulu, HI 96813



MEMORANDUM

September 24, 1992

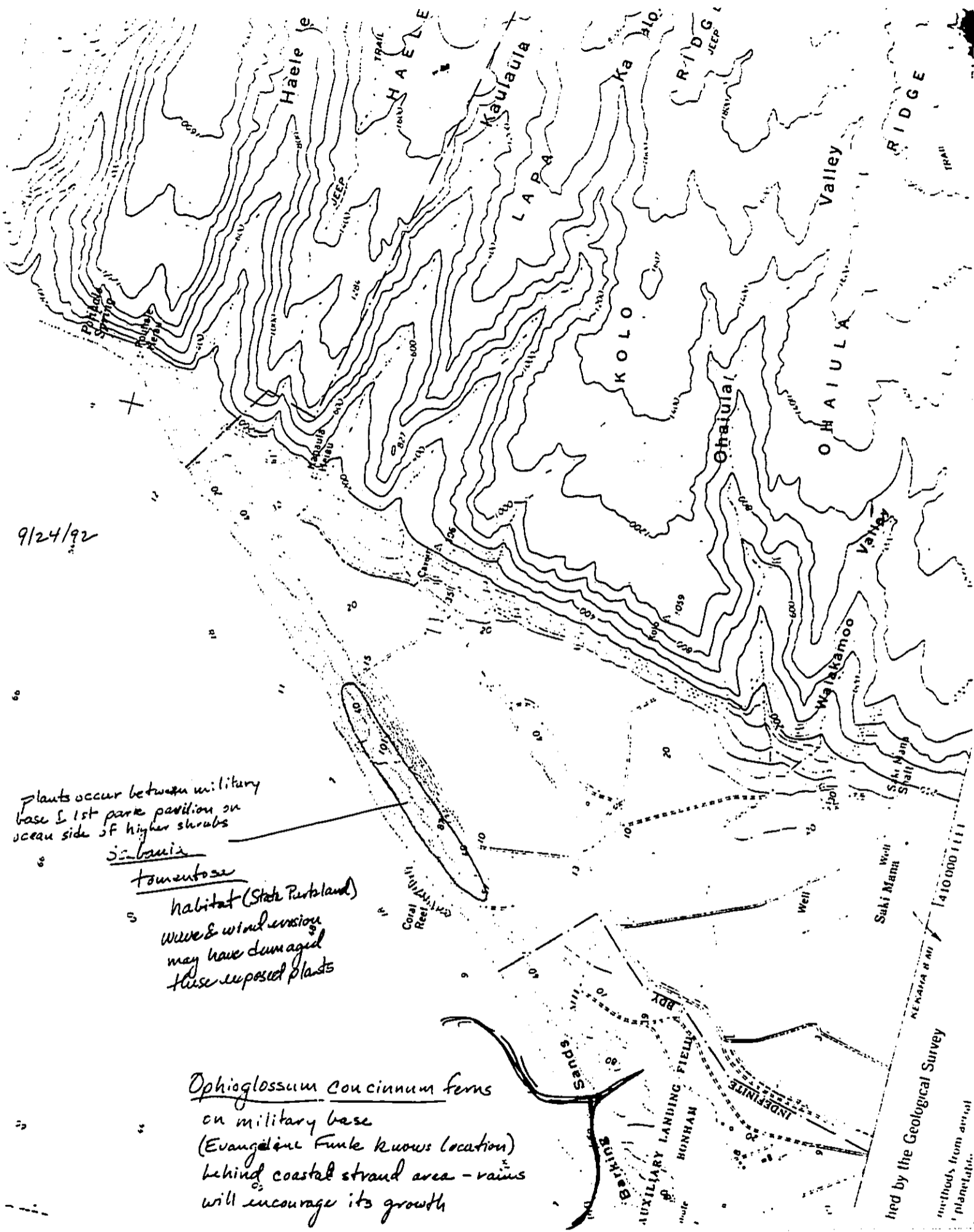
TO: MASON YOUNG, Administrator
Land Management

FROM: RONALD L. WALKER, Acting Administrator 
Forestry and Wildlife

SUBJECT: STARS

Reference your memo, same subject--please find attached a map which depicts possible locations of two plant species that are in the process of formal listing as endangered by the U.S. Fish and Wildlife Service.

Based on recent aerial imagery of the area, we feel that both species may have been impacted by Iniki. Our preliminary remarks regarding possible impact are annotated on the map.



9/24/92

Plants occur between military base & 1st park pavilion on ocean side of higher shrubs

Scaevola tomentosa

Habitat (State Parkland) wave & wind erosion may have damaged these exposed plants

Ophioglossum concinnum ferns on military base (Evangeline Funk knows location) behind coastal strand area - rains will encourage its growth

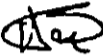
Map by the Geological Survey
Methods from aerial photographs

RECEIVED
DIVISION OF
LAND MANAGEMENT
SEP 29 3 03 PM '92

State of Hawaii
Department of Land and Natural Resources
DIVISION OF AQUATIC RESOURCES

September 24, 1992

TO: W. Mason Young, Administrator
Division of Land Management

FROM: Henry M. Sakuda, Administrator 
Division of Aquatic Resources.

SUBJECT: Strategic Target System (STARS), Pacific Missile Range Facility,
Barking Sands, Mana, Kauai

Other than water clarity which appears more murky than usual, we cannot determine at this time, the impact that Hurricane Iniki has had on the subject parcel.

DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF STATE PARKS

September 25, 1992

MEMORANDUM

TO: Mr. Mason Young, Administrator
Division of Land Management

FROM: Ralston Nagata
State Parks Administrator

SUBJECT: Strategic Target System (STARS), Pacific Missile Range Facility, Barking
Sands, Mana, Kauai, Tax Map Key 1-2-02:13

Our preliminary assessment of the State park lands, falling within the hazard arc, indicates some sand movement and levee loss and broken branches. No major change occurred to this area.

Park lands beyond the arc also included a demolished day use shelter. Water service to entire park currently down because commercial electricity not available to power water pump.


RALSTON NAGATA

State of Hawaii
Department of Land and Natural Resources
OFFICE OF CONSERVATION AND ENVIRONMENTAL AFFAIRS

SEP 24 9 37 AM '92

September 24, 1992

MEMORANDUM

TO: W. Mason Young, Administrator
Division of Land Management

FROM: Roger C. Evans, Administrator

SUBJECT: Strategic Target System (STARS), Pacific Missile
Range Facility, Barking Sands, Mana, Kauai,
Tax Map Key: 1-2-02: 13

The OCEA is not affected by the specific concerns stated in your September 23, 1992 memorandum.

APPENDIX D

Comments and Responses

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 821
HONOLULU, HAWAII 96808

OCT - 9 1992

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

JOHN P. KEPPELER, II
DONA L. HANAÏKE

AQUACULTURE DEVELOPMENT
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CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

Ref.: LM-GM

KA-90:2107
1

Mr. Dennis R. Gallien
Environmental Engineer
U.S. Army Strategic Defense Command
Environmental and Engineering Office
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Gallien:

Subject: Environmental Assessment for Proposed Memorandum
of Agreement Governing Use of State of Hawaii
Land at Waimea, Barking Sands, Kauai

On September 11, 1992 Hurricane Iniki hit the Hawaiian Islands causing widespread damage, particularly on the island of Kauai.

As the Environmental Assessment regarding the above subject matter is currently in the process of being finalized for submission to the Office of Environmental Quality Control, it would be appropriate to include a damage assessment of the Pacific Missile Range Facility by Hurricane Iniki and how said damage (if any) will affect the Strategic Target Systems (STARS) program.

Should you have any questions, please contact our Division of Land Management at 587-0414.

Mr. Dennis R. Gallien

Page 2

107 - 9 1992

Thank you for your attention to this matter.

Very truly yours,

/s/ DONA HANAIKE

WILLIAM W. PATY

cc: Kauai Land Board Member
Kauai District Land Office
Mr. Randy Young
Ms. Dona Hanaike

Miss

Final

**EVALUATION OF CHANGES TO THE EXISTING
ENVIRONMENT DESCRIBED IN THE
STRATEGIC TARGET SYSTEM
ENVIRONMENTAL IMPACT STATEMENT
AND OF DAMAGE TO MISSION-RELATED
EQUIPMENT AND FACILITIES DUE TO THE
EFFECTS OF HURRICANE INIKI**

October 1992



**U.S. Army Strategic Defense Command
Huntsville, Alabama 35807-3801**

Final

**EVALUATION OF CHANGES TO THE EXISTING
ENVIRONMENT DESCRIBED IN THE
STRATEGIC TARGET SYSTEM
ENVIRONMENTAL IMPACT STATEMENT
AND OF DAMAGE TO MISSION-RELATED
EQUIPMENT AND FACILITIES DUE TO THE
EFFECTS OF HURRICANE INIKI**

October 1992

prepared for:

**U.S. Army Strategic Defense Command
Huntsville, Alabama 35807-3801**

prepared by:

**Advanced Sciences, Inc.
4909 Murphy Canyon Road
Suite 500
San Diego, California 92123**

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APPENDICES

appendix

- A CENTRAL PACIFIC HURRICANE CENTER PATH
OF HURRICANE INIKI**
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- F BUILDING SPECIFICATIONS FOR KTF**

1. BACKGROUND SUMMARY

The existing environment within the region of influence of the Strategic Target System project has been described in detail in the Environmental Impact Statement (EIS) (USASDC 1992) prepared for this program. Hurricane Iniki hit the southern shore of Kauai on September 11, 1992, with winds in the 120 to 160 miles per hour (mph) (104 to 139 knots) range (Appendix A). The highest surface wind speed was about 143 mph (124 knots) measured at Makuena Point (Price, pers. com. 1992). Wind gusts were measured at Kauai Test Facility (KTF) slightly in excess of 65 mph (56.42 knots) (Appendix B). Sustained winds were measured at the runway at the Pacific Missile Range Facility (PMRF) at about 67 mph (58 knots) with gusts to about 100 mph (89 knots) (Appendix C). A single, presumably anomalous, reading of a 227-mph (197-knot) wind speed at Makaha Ridge was reported in the *Honolulu Advertiser* October 7, 1992. The reading occurred just as the instrument failed and was unconfirmed by other instruments. Following Hurricane Iniki, the Army decided to conduct an evaluation of the effect of the hurricane on the environment within the program's region of influence. This evaluation of the effects of Hurricane Iniki was made to determine if any changes in the existing environment would affect the conclusions made in the EIS and to determine if mission-critical component capabilities were degraded.

2. METHODOLOGY

In order to effectively evaluate any changes in the environmental conditions as they were described in the Strategic Target System EIS, a combination of helicopter overflight and ground reconnaissance was conducted on October 2 and 3, 1992. The group conducting the analysis was an interdisciplinary team of government engineers and support scientists, who were thoroughly familiar with the prehurricane conditions. During this evaluation, video tape and still photography were used to document and augment visual observations. To put the damage assessment at KTF and PMRF into perspective with other damaged areas on Kauai, the team made helicopter overflight and on-the-ground observations at Kekaha, Waimea, and Poipu Beach; conducted interviews with PMRF and KTF staff; and had conversations with members of the adjacent communities. In addition, staff from the Hawaii Department of Land and Natural Resources participated in the ground reconnaissance and overflight and in the review of this document.

3. FINDINGS

PMRF occupies a long, narrow site extending 13 kilometers (8 miles) along the western shore of the island of Kauai. The land area, 779 hectares (1,925 acres), is low and flat. Natural vegetation is mainly kiawe/koa haole scrub and grasses. The large open fields are regularly mowed.

The facility is bordered by Polihale State Park on the north, by sugar cane fields on the east, by the county landfill on the south, and by the ocean on the west. The Strategic Target System launch site is located on KTF at the northern end of PMRF, against the southern margin of the Nohili Dunes.

3.1 GEOLOGY AND SOILS

The basic geologic and soil system remains unchanged (see Figures 1 through 24 in Appendix D and the video, which is under separate cover). Some wind-related movement of sand from the coastal and sand dune areas caused minor sand deposition within KTF. This sand movement did not cause any significant change in the character of the sand dunes, coastline, or soil within the project region of influence (Figures 1 through 24, and the video).

3.2 WATER RESOURCES

The basic characteristics of the water resources within the project region of influence remain unchanged as a result of the hurricane. Standing water is present in some areas of the sugar cane fields (Figures 15 and 22, and the video); however, this condition is expected to be corrected when all drainage system pumps go back on-line. Currently, the southern pumps are operational, and the northern pumps are expected to be operational within one month.

3.3 AIR QUALITY

Although Hurricane Iniki may have increased particulate loading during the storm event, no residual effects on the air quality of Kauai were apparent during the reconnaissance activities. The existing air quality conditions as described in the Strategic Target System EIS were not changed by Hurricane Iniki.

3.4 BIOLOGICAL RESOURCES

The basic character and condition of the biological resources within the Strategic Target System ground hazard area (GHA) remain unchanged from those described in the EIS. In some areas near the coast, there has been some additional salt spray and windburn on the leaves and loss of leaves (Figures 7, 8, 11, 13, 14, and 19). Farther inland and on the sand dunes, there has been

leaf loss and branch and trunk breakage in the kiawe/koa haole vegetation (Figures 4, 16, and 20). This effect of the hurricane on the vegetation is expected to be short-term. Since the character of the sand dunes has not changed significantly (Figures 1, 2, 3, 6, 7, 13, 14, 18, and 19), there has been no change in the habitat of any sensitive sand dune species from that described in the EIS. In addition, the habitat for other terrestrial plant and wildlife species in areas where sand dunes are not present was not changed significantly. Therefore, there has been no change in the status of the sensitive species from that previously described.

The drainage canals (Figures 15, 22, and 23), the Mana Base Pond (Figure 21), and the agricultural ponds appear unchanged in their character from that described in the EIS. Therefore, no change in the existing environment as described in the EIS relative to the sensitive water-associated bird species has occurred as a result of Hurricane Iniki.

Decaying leaves and branches could increase the risk of fire during launches; however, the mitigations listed in the EIS are still appropriate and will minimize the potential for fire. These mitigations include clearing brush and wetting the vegetation adjacent to the launch pad, and having fire-suppression crews standing by during the launch. Implementation of these mitigations will return the fire threat to vegetation to the levels described in the EIS.

3.5 CULTURAL RESOURCES

The basic character of the cultural resources within the Strategic Target System GHA remains unchanged from that described in the EIS. Because no changes have occurred in the physical character of the sand dunes as a result of the hurricane (Figures 1 through 14), no change is required to the description of the cultural resources potentially associated with the dunes from that presented in the EIS. There is no significant coastal erosion within the GHA (Figures 3, 4, 5, 13, 14, 15, 18, 19, and 22); therefore, the cultural resources in that portion of the GHA remain unchanged. Observations within the GHA indicated that Hurricane Iniki had no effect on observable cultural resources.

3.6 LAND USE

Land use remains unchanged from that described for the GHA in the Strategic Target System EIS as a result of Hurricane Iniki. The sugar cane lands within the GHA have many parcels with young, recently planted sugar cane. The young cane did not appear to be damaged. Although it is evident that some mature cane had wind damage, this damage appeared minor compared to that present in other areas of Kauai.

3.7 VISUAL RESOURCES

The basic character of visual resources in the GHA as described in the Strategic Target System EIS remains unchanged. The view of the launch complex from off-site is still effectively screened by vegetation and the dunes. The tone and texture of the vegetation have changed because of the loss of leaves and broken branches (Figures 13, 17, 19, 20, and the video). These changes in the visual aspect of the vegetation are short-term and are expected to last only until the plants produce new leaves.

3.8 NOISE

The existing noise environment in the project region of influence as described in the EIS remains unchanged as a result of Hurricane Iniki.

3.9 HAZARDOUS MATERIALS AND WASTE

The handling of hazardous materials and waste by PMRF as described in the EIS remains unchanged as a result of the hurricane. No hazardous materials or wastes were released at KTF or PMRF as a result of Hurricane Iniki. In addition, no elements of the liquid fuels required by some Strategic Target System experiments were on the island at the time of the hurricane. The proposed location for the storage of these fuel elements is well beyond the reach of any hurricane surf, as previously described in the EIS. This is borne out by the location of the high surf line and by observations of KTF staff during the hurricane (Gillette, pers. com. 1992).

Wind damage to a state of Hawaii-owned warehouse, leased by the U.S. Navy at Port Allen, exposed asbestos material. The building has been vacated, the pier has been closed, and cleanup of the asbestos is underway. This cleanup will take about five weeks to complete (Kagawa, pers. com. 1992a).

3.10 PUBLIC HEALTH AND SAFETY

All aspects of project-related public health and safety have been described in detail in the EIS. All facilities and systems necessary for a safe and successful launch of the Strategic Target System booster have been evaluated by the program scientists and engineers. Hurricane Iniki and its aftermath have not altered either the measures required to assure public health and safety or the Strategic Target System project's capability to adhere to those requirements.

No significant damage occurred at Makaha Ridge (Figures 25 and 26, and the video), Kokee (see the video), or Kaena Point with respect to facilities required to support the Strategic Target System (Schindwolf, pers. com. 1992). All equipment will undergo additional testing as part of the normal prelaunch activities. As is the case for any proposed launch, the actual launch cannot take place until all facilities systems meet the operational performance and range safety requirements.

Emergency response capabilities at PMRF and KTF, as well as redundant communications systems support for flight operations and safety systems, have returned to prehurricane levels. Communications with local officials also have been restored (Schindwolf, pers. com. 1992).

3.11 INFRASTRUCTURE

The capability of the basic KTF and PMRF infrastructure to be used by the Strategic Target System Program as described in the EIS was not changed by the impact of Hurricane Iniki. Water availability, solid waste management, sewage treatment capacity, and project electrical requirements can all be met by the infrastructure currently in place. Although commercial electric power was lost as a result of the hurricane, this power source was never intended to be

the source of power during launch activities. KTF has 600 kilowatts (kW) of available power generation capacity (two 300-kW units), and the Strategic Target System program will only use about 300 kW of power. PMRF also has adequate existing power capacity independent of public utilities (2,100 kW with a normal load of 1,000 kW) and is planning to add two 750-kW generators to this capacity. The two 750-kW generators were provided to PMRF following Hurricane Iniki in order to provide generating capability to the base family housing areas and personnel support areas, as well as some facility functions in the north operations area (i.e., Building 105) (Kagawa, pers. com. 1992b). Commercial power should be restored in mid-November. In the past, commercial power has acted only as a tertiary backup for KTF operations and this will remain as a standard practice.

Although minor damage did occur to the telemetry equipment (Schindwolf, pers. com. 1992), full capabilities with redundancies do exist, and all repairs are anticipated to be complete by mid-November. The only other Strategic Target System mission-related equipment damage was to the missile assembly building in the form of a collapsed door and the removal of a 6-foot section of the roof caused by the wind. Some wetting of the floor and building insulation occurred, but cleanup and repair were immediate. The project-related buildings were built to specifications designed to withstand winds of 80 mph (69 knots) (Appendix F).

An inspection was conducted of each of the three rocket motors required for the first launch of the Strategic Target System by Sandia National Laboratories staff and the motor manufacturers. All systems were certified as being ready for flight (Schindwolf, pers. com. 1992). In addition, as with any other launch, extensive system checks will be conducted again on all critical components during the buildup of the Strategic Target System vehicle prior to launch.

3.12 SOCIOECONOMICS

The economy of the island of Kauai has been severely affected by the damage caused by Hurricane Iniki (Figures 27 through 35, and the video). However, the ongoing activities and jobs at PMRF and KTF will continue and help stabilize the economy. The availability of housing for project personnel has been affected. Hotel accommodations have been drastically reduced (Figures 33 through 35), but some limited capacity may be available in Waimea and the Lihue/Kapaa area within several months. In addition, other options are available to house project staff. One option is to house the staff on PMRF in the hangar building and elsewhere on the base. A second option is the use of air transport to move staff to and from Honolulu on a daily basis. As hotel capacity increases following repairs, the use of these facilities by Strategic Target System project staff may also provide transitional stability until tourism rebounds to prehurricane status.

4. CONCLUSIONS

Hurricane Iniki caused severe damage to many areas of the island of Kauai. However, in the areas of KTF and PMRF, the extent of damage to equipment, facilities, and the cultural and natural resources was minimal. The wind speeds were significantly lower than elsewhere on the island and the destructive forces of wave action appeared to have been significantly less. No observable erosion of the coastline occurred, and the Polihale and Nohili Sand Dune complex did not exhibit significant changes in dune characteristics and vegetation cover. The vegetation throughout the GHA did exhibit loss of leaves and branches, but there was no long-term damage that would change the character of the habitat. Because no significant changes in the coastline or sand dunes occurred as a result of the hurricane, no change occurred to the character of the cultural resources in the project area.

Only minor damage occurred to the equipment and facilities required to support a Strategic Target System launch, as discussed above. Redundant capabilities still exist, and all repairs should be completed by mid-November.

No significant changes due to Hurricane Iniki occurred to the mission-related equipment affecting safety, or to the existing environment of the KTF/PMRF area as described in the EIS. Therefore, it is not necessary to modify mitigations established to avoid Strategic Target System program impacts as presented in the EIS.

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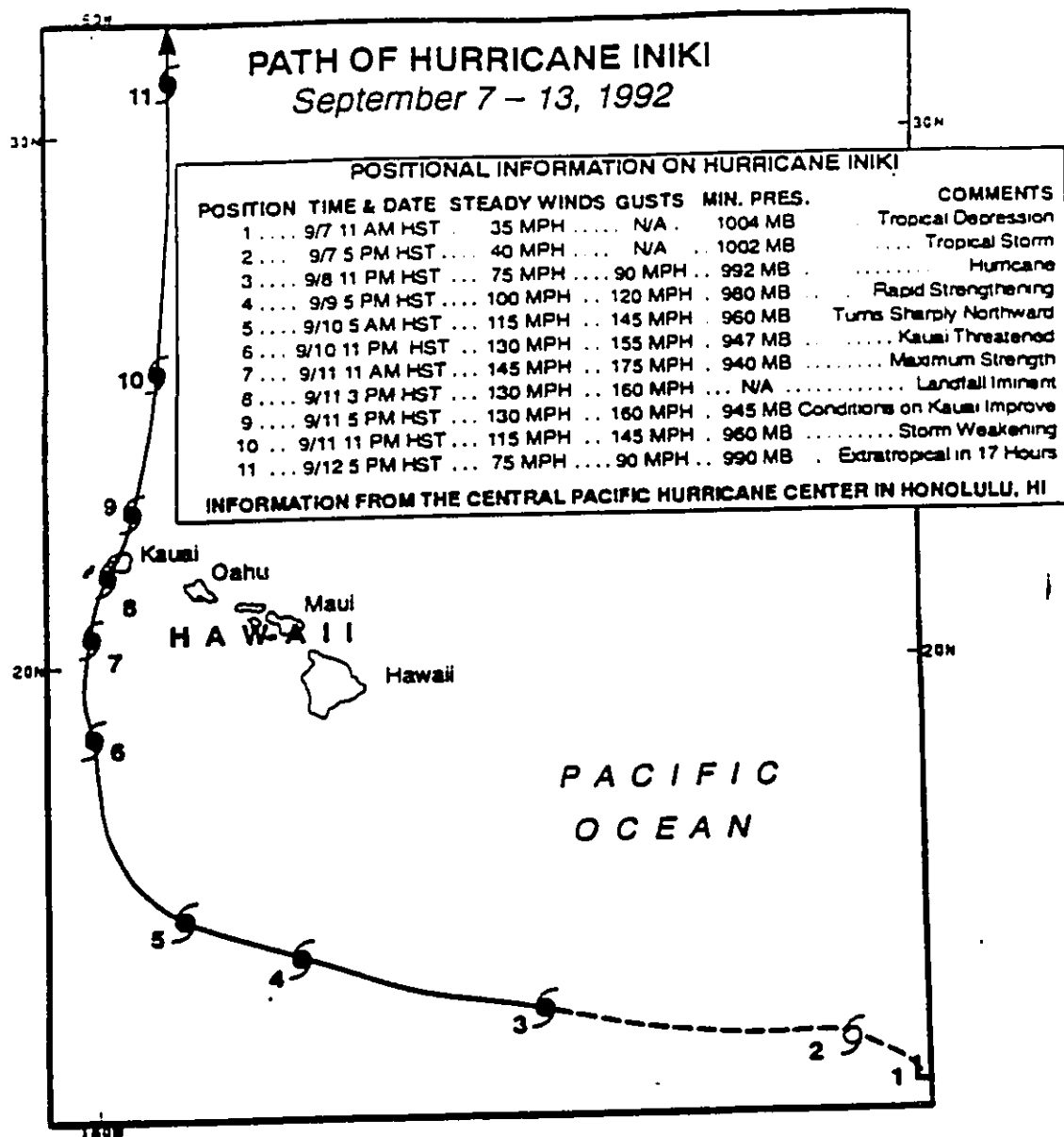
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APPENDIX A

**CENTRAL PACIFIC HURRICANE CENTER
PATH OF HURRICANE INIKI**

UNITED STATES CLIMATE HIGHLIGHTS FEATURE



POWERFUL HURRICANE INIKI BLASTS THE WESTERN HAWAIIAN ISLANDS. A weak tropical depression formed in the central Pacific Ocean around mid-day Saturday, Sep. 5, and drifted westward before dissipating well to the southeast of Hawaii late Sunday (not shown). Less than a day later, however, the tropical depression regenerated over warmer waters and steadily strengthened into a formidable hurricane as it moved westward, then northwestward, until it was positioned a few hundred miles south of Oahu early Thursday, Sept. 10. During the next 24 hours, Iniki strengthened into a Category 4 hurricane (on the Saffir-Simpson scale, approximately the same strength as Andrew) and took a sharp turn toward the north. Iniki reached maximum strength around mid-day Friday (see position 7 above) and marched over the island of Kauai, HI as a slightly weaker hurricane during mid-afternoon Friday. The eye of Iniki moved onto south-western Kauai shortly after 3 PM HST (Hawaii Standard Time), and was northeast of the island by 5 PM HST. Despite Iniki's rapid forward speed of 20 - 25 mph (and, therefore, its brief presence), Hawaiian Civil Defence authorities estimated that major damage covered 75% - 80% of the island. Iniki was the strongest hurricane in at least 90 years to affect Hawaii, which is usually protected from significant tropical cyclones by the cooler water surrounding the islands. According to press reports, approximately 10,000 of Kauai's 21,000 homes and most of its 70 hotels were badly damaged as over 8,000 individuals (from Kauai's population of 52,000) were left homeless. Fortunately, the brunt of the storm missed the island of Oahu (which is far more populous), where only minor damage, moderate rains, and tropical storm force winds were reported. Press reports indicated that preliminary damage estimates were in the \$1 billion range, making Iniki the most destructive hurricane (in terms of dollar damage) ever to strike Hawaii, generating more than 5 times the dollar damage of the most destructive storm prior to Iniki (Hurricane Iwa in 1982).

APPENDIX B

KTF WIND SPEED DATA

Printout sheets are for 9/11/92.
The date 9/12/92 that is shown is an
error related to leap year.

F

Enter A Command
R

Enter A Command
LOCATION: SITE 3
OPERATOR: KTF
REPORT: 1

SCAN INTERVAL: 1 MINUTES
REPORT INTERVAL: 10 MINUTES
START WHEN?:
STOP WHEN?:

1992
8

	WIND AVG	WIND SPD MPH	WIND MAX MPH	WIND SPD MPH	WIND DIRECT DEGREES	WIND VAVG	MAIN BATTERY VOLTS AVG
09/01 14:23	4.7	6.1	340.	12.6			
09/01 14:33	5.3	8.1	360.	12.6			
09/01 14:43	4.1	5.8	321.	12.6			
09/01 14:53	3.9	7.0	285.	12.6			
09/01 15:03	5.1	6.9	296.	12.6			
09/01 15:13	5.2	6.7	233.	12.6			
09/01 15:23	3.8	6.8	256.	12.6			
09/01 15:33	3.7	4.6	277.	12.6			
09/01 15:43	5.6	7.5	238.	12.6			
09/01 15:53	3.3	5.4	275.	12.6			
09/01 16:03	3.6	5.3	240.	12.6			
09/01 16:13	3.3	4.2	296.	12.6			
09/01 16:23	3.5	5.0	216.	12.6			
09/01 16:33	2.8	5.2	237.	12.6			
09/01 16:43	2.8	4.4	215.	12.6			
09/01 16:53	2.8	4.1	208.	12.5			
09/01 17:03	4.2	5.4	215.	12.5			
09/01 17:13	3.4	5.1	275.	12.5			
09/01 17:23	5.6	10.4	357.	12.5			
09/01 17:33	3.0	6.0	324.	12.5			
09/01 17:43	3.3	5.0	336.	12.5			
09/01 17:53	3.3	6.5	14.	12.5			
09/01 18:03	2.2	4.7	350.	12.5			
09/01 18:13	2.5	3.2	359.	12.5			
09/01 18:23	1.1	3.2	360.	12.5			
09/01 18:33	2.2	4.2	52.	12.5			
09/01 18:43	1.5	2.9	53.	12.5			
09/01 18:53	2.4	4.0	88.	12.5			
09/01 19:03	2.6	4.0	150.	12.5			
09/01 19:13	1.6	3.8	164.	12.5			
09/01 19:23	2.3	3.0	136.	12.5			
09/01 19:33	2.9	3.7	124.	12.5			
09/01 19:43	2.8	3.6	111.	12.5			
09/01 19:53	3.6	4.3	98.	12.5			
09/01 20:03	2.8	3.5	80.	12.5			
09/01 20:13	3.1	4.1	68.	12.5			
09/01 20:23	3.8	5.1	78.	12.5			
09/01 20:33	3.0	4.0	13.	12.5			
09/01 20:43	0.2	2.1	350.	12.5			
09/01 20:53	0.0	0.0	354.	12.5			
09/01 21:03	0.5	1.9	344.	12.5			
09/01 21:13	0.2	2.2	62.	12.5			
09/01 21:23	0.0	0.0	88.	12.5			
09/01 21:33	2.4	4.7	73.	12.5			
09/01 21:43	1.1	2.8	356.	12.5			
09/01 21:53	0.6	2.2	17.	12.5			
09/01 22:03	0.6	2.1	61.	12.5			
09/01 22:13	0.9	2.7	41.	12.5			
09/01 22:23	0.0	0.0	43.	12.5			
09/01 22:33	1.3	2.7	9.	12.5			
09/01 22:43	0.2	1.8	20.	12.5			
09/01 22:53	0.6	2.1	18.	12.5			
09/01 23:03	0.6	2.0	31.	12.5			
09/01 23:13	2.5	5.5	75.	12.5			

Format Sheet
only

09/11

09/12 06:03	7.6	13.7	99.	12.1
09/12 06:13	5.3	13.7	102.	12.1
09/12 06:23	7.5	12.2	112.	12.1
09/12 06:33	8.3	11.3	54.	12.1
09/12 06:43	6.9	11.9	65.	12.1
09/12 06:53	3.3	6.9	38.	12.1
09/12 07:03	5.2	8.2	25.	12.1
09/12 07:13	6.1	9.1	32.	12.1
09/12 07:23	4.9	5.7	6.	12.1
09/12 07:33	7.1	9.1	3.	12.1
09/12 07:43	4.3	6.7	360.	12.1
09/12 07:53	4.5	14.3	330.	12.1
09/12 08:03	4.6	6.1	329.	12.1
09/12 08:13	3.3	6.6	54.	12.1
09/12 08:23	5.0	7.1	54.	12.1
09/12 08:33	5.2	7.7	100.	12.1
09/12 08:43	8.1	11.4	102.	12.1
09/12 08:53	5.1	6.7	81.	12.1
09/12 09:03	5.9	8.8	70.	12.1
09/12 09:13	5.9	8.1	78.	12.1
09/12 09:23	5.6	8.3	61.	12.1
09/12 09:33	7.2	10.6	64.	12.1
09/12 09:43	6.2	9.0	13.	12.1
09/12 09:53	5.3	17.9	342.	12.1
09/12 10:03	4.5	8.8	10.	12.1
09/12 10:13	4.2	7.2	353.	12.1
09/12 10:23	6.9	11.6	358.	12.1
09/12 10:33	7.9	13.9	18.	12.1
09/12 10:43	7.8	10.6	16.	12.1
09/12 10:53	11.2	16.0	13.	12.1
09/12 11:03	10.6	13.8	7.	12.1
09/12 11:13	7.1	12.0	355.	12.1
09/12 11:23	5.4	9.1	87.	12.1
09/12 11:33	6.9	12.9	117.	12.1
09/12 11:43	9.0	16.1	37.	12.1
09/12 11:53	7.6	9.0	44.	12.1
09/12 12:03	10.9	12.9	34.	12.1
09/12 12:13	12.8	19.7	37.	12.1
09/12 12:23	13.8	19.5	47.	12.1
09/12 12:33	10.9	13.6	63.	12.1
09/12 12:43	8.0	11.7	56.	12.1
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09/12 13:13	8.3	13.9	69.	12.1
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09/12 13:33	10.6	18.3	64.	12.1
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09/12 14:23	19.9	25.5	50.	12.1
09/12 14:33	24.4	39.2	51.	12.1
09/12 14:43	20.3	25.7	46.	12.1
09/12 14:53	20.4	46.3	56.	12.1
09/12 15:03	34.8	52.0	51.	12.1
09/12 15:13	35.3	51.4	47.	12.1
09/12 15:23	38.5	49.8	39.	12.1
09/12 15:33	44.9	60.9	38.	12.1
09/12 15:43	49.2	60.1	28.	12.1
09/12 15:53	44.9	57.6	23.	12.1
09/12 16:03	32.8	44.6	12.	12.1
09/12 16:13	19.8	23.5	357.	12.1
09/12 16:23	36.6	65.8	334.	12.1
09/12 16:33	34.3	49.1	328.	12.1
09/12 16:43	38.0	61.9	300.	12.1
09/12 16:53	48.0	58.1	289.	12.1
09/12 17:03	45.0	54.2	288.	12.1
09/12 17:13	46.6	54.2	284.	12.1
09/12 17:23	40.1	54.0	291.	12.1

09/11

09/11				
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09/12 17:43	6.4	66.8	277.	12.1
09/12 17:53	45.0	58.8	294.	12.1
09/12 18:03	35.1	43.3	291.	12.1
09/12 18:13	32.4	56.1	307.	12.1
09/12 18:23	23.0	34.8	301.	12.1
09/12 18:33	22.5	39.5	304.	12.1
09/12 18:43	22.4	35.8	309.	12.1
09/12 18:53	16.3	23.4	301.	12.1
09/12 19:03	16.2	30.3	322.	12.1
09/12 19:13	13.7	21.5	310.	12.1
09/12 19:23	16.0	23.7	279.	12.1
09/12 19:33	17.9	22.3	288.	12.1
09/12 19:43	14.6	20.7	278.	12.1
09/12 19:53	13.5	24.2	279.	12.1
09/12 20:03	8.5	12.5	267.	12.1
09/12 20:13	9.0	15.2	263.	12.1
09/12 20:23	9.8	13.6	255.	12.1
09/12 20:33	13.0	18.3	252.	12.1
09/12 20:43	11.4	15.6	246.	12.1
09/12 20:53	12.7	18.6	246.	12.1
09/12 21:03	10.2	19.9	257.	12.1
09/12 21:13	11.3	16.4	245.	12.1
09/12 21:23	12.4	19.0	238.	12.1
09/12 21:33	9.3	16.4	259.	12.1
09/12 21:43	9.2	16.0	242.	12.1
09/12 21:53	11.5	16.1	248.	12.1
09/12 22:03	10.1	12.9	241.	12.1
09/12 22:13	13.0	16.3	244.	12.1
09/12 22:23	15.0	20.6	237.	12.1
09/12 22:33	14.7	19.2	241.	12.1
09/12 22:43	14.6	20.1	239.	12.1
09/12 22:53	13.5	15.9	244.	12.1
09/12 23:03	12.8	14.7	226.	12.1
09/12 23:13	12.6	16.9	229.	12.1
09/12 23:23	10.2	12.4	225.	12.1
09/12 23:33	8.5	10.2	221.	12.1
09/12 23:43	8.0	10.0	214.	12.1
09/12 23:53	7.1	9.4	205.	12.1
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09/13 00:23	4.1	5.1	160.	12.0
09/13 00:33	4.6	5.5	159.	12.0
09/13 00:43	4.6	5.0	158.	12.0
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09/13 01:33	4.7	5.9	165.	12.0
09/13 01:43	4.0	5.7	164.	12.0
09/13 01:53	5.0	6.2	159.	12.0
09/13 02:03	5.1	6.1	153.	12.0
09/13 02:13	5.2	6.8	145.	12.0
09/13 02:23	4.7	5.4	153.	12.0
09/13 02:33	4.2	5.1	171.	12.0
09/13 02:43	5.5	6.9	171.	12.0
09/13 02:53	5.2	8.0	164.	12.0
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09/13 03:53	5.6	7.8	166.	12.0
09/13 04:03	5.3	7.7	163.	12.0
09/13 04:13	4.7	6.4	174.	12.0
09/13 04:23	5.3	6.9	177.	12.0
09/13 04:33	5.1	6.6	178.	12.0
09/13 04:43	5.4	7.0	177.	12.0
09/13 04:53	6.6	8.8	172.	12.0

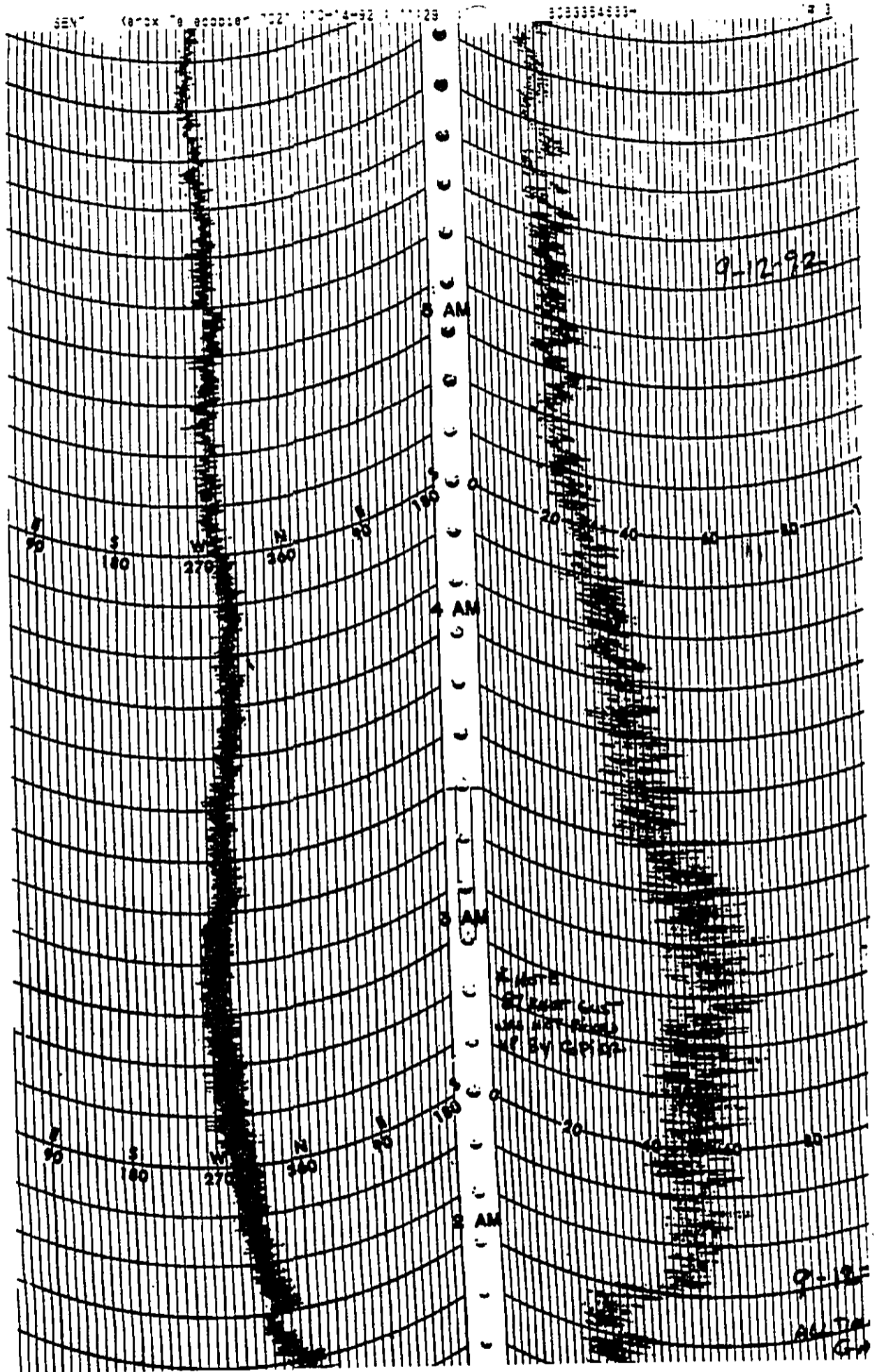
09/12

APPENDIX C

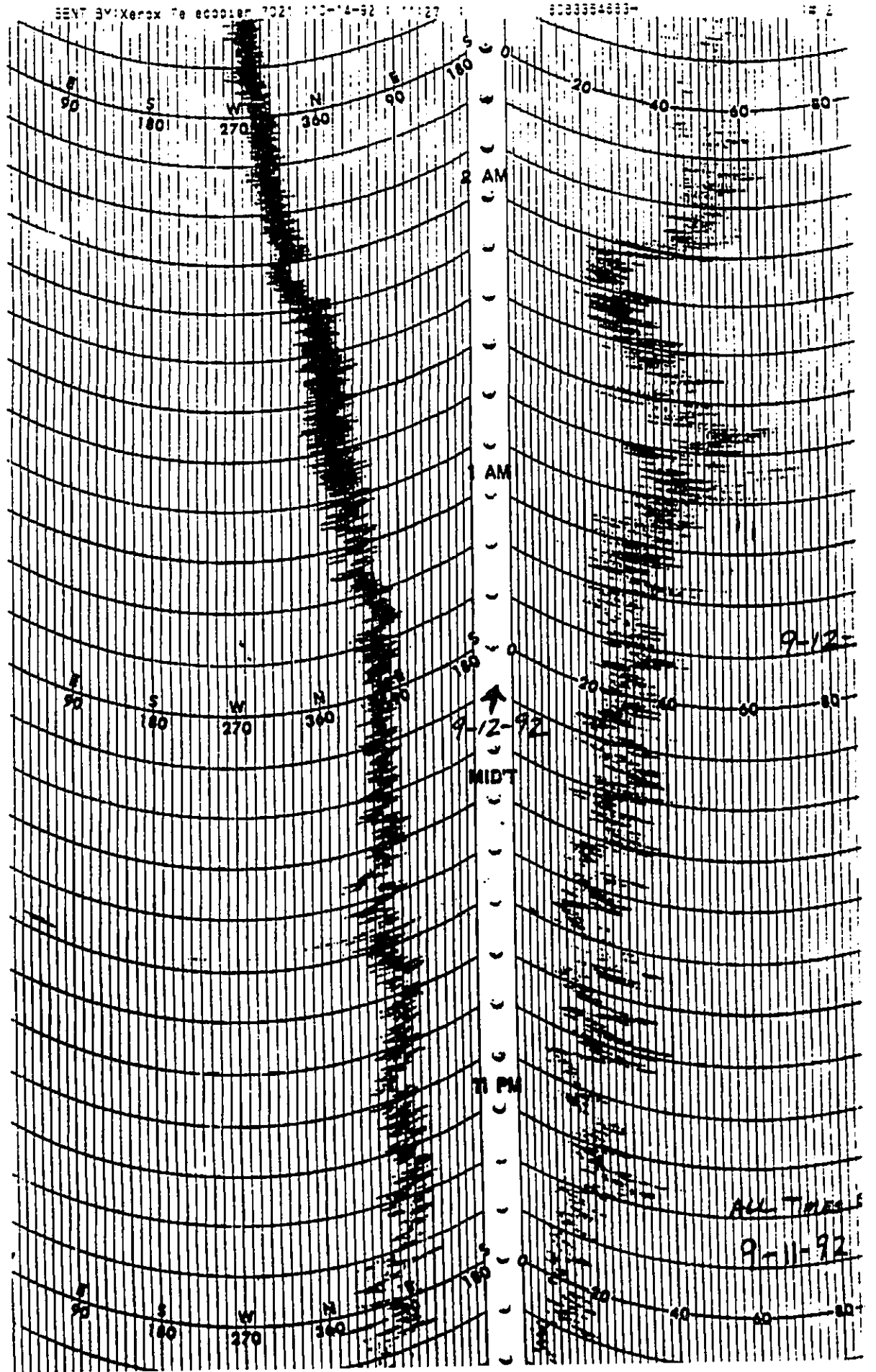
PMRF WIND SPEED DATA

Time is in Greenwich Mean Time.
Wind speed (on the right) is in knots.
Wind direction is on the left.

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APPENDIX D

FIGURES



Figure 1. Nohili Dune prior to Hurricane Iniki. Note white pipe stakes, peaks, valleys, ridges, and location of vegetation cover.

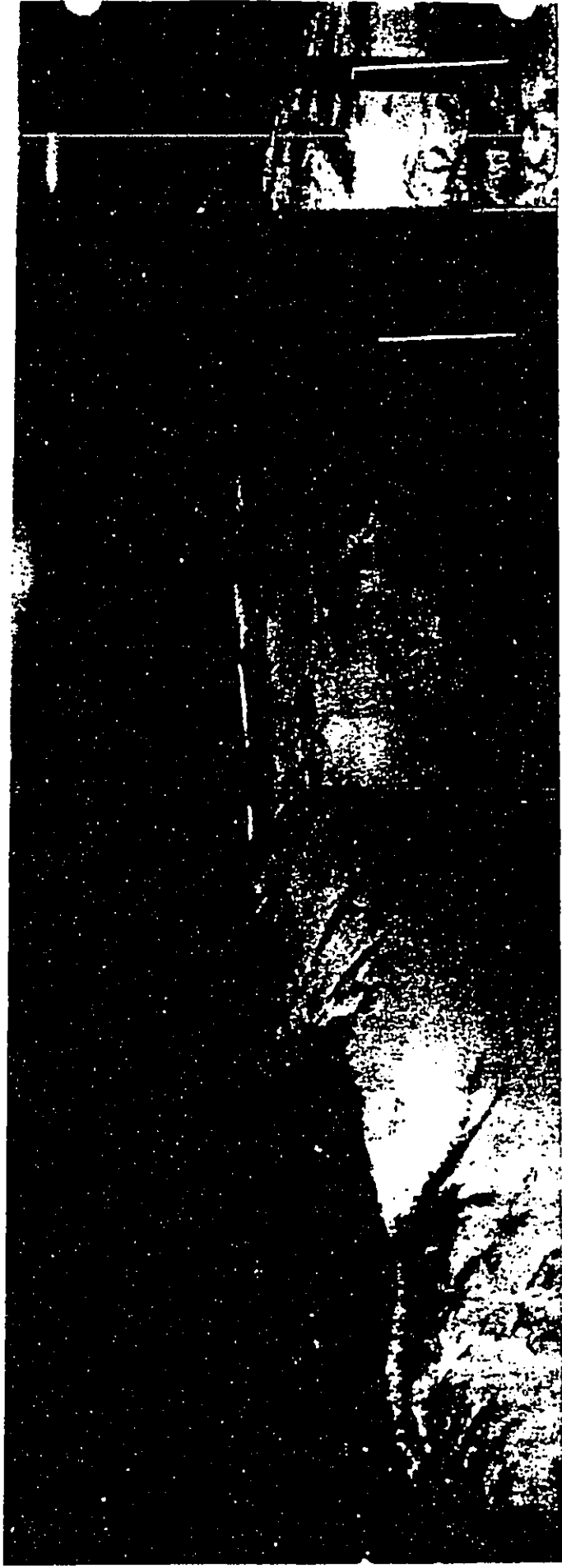


Figure 2. Nohili Dune after Hurricane Iniki. Note the white pipe stakes, peaks valleys, ridges, and location of vegetation are the same as in Figure 1. The shrub vegetation exhibits leaf loss and increased leaf burn over that visible in Figure 1.



Figure 3. Part of the Nohile Dune/Barking Sands dune complex. Indicates unmodified dune system with stabilizing vegetation still in place following Hurricane Iniki.

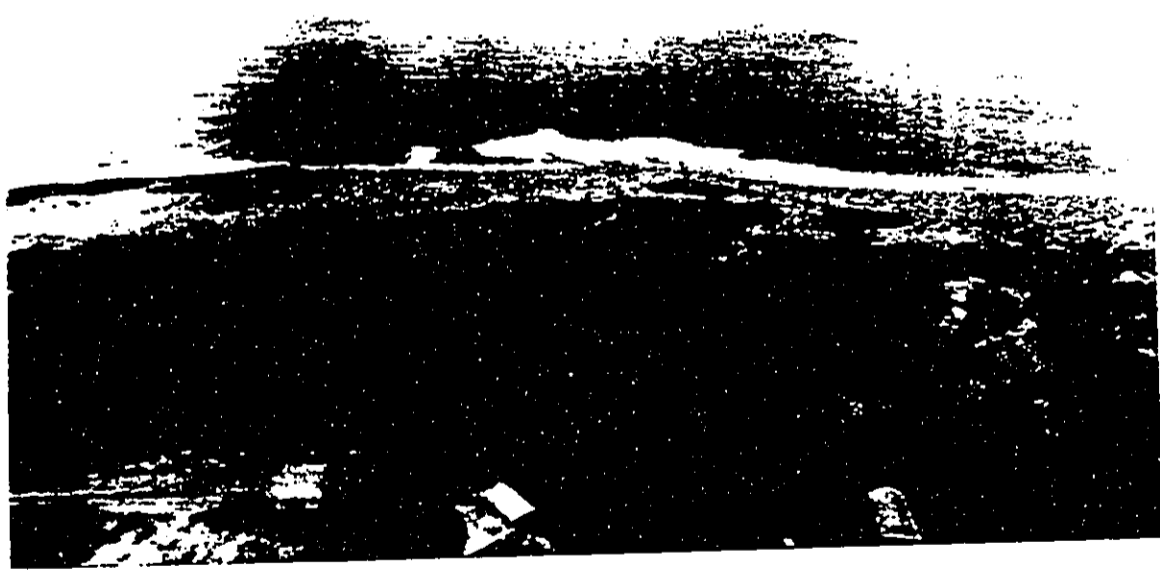


Figure 4. Nohili Dune/Barking Sands dune complex adjacent to KTF. The dunes are unchanged following Hurricane Iniki although the vegetation shows evidence of leaf loss and windburn.

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Figure 5. Barking Sands dune complex looking south toward Nohili Dune. Photograph shows stabilized character of the dune complex. No erosion due to wind or surf is apparent.

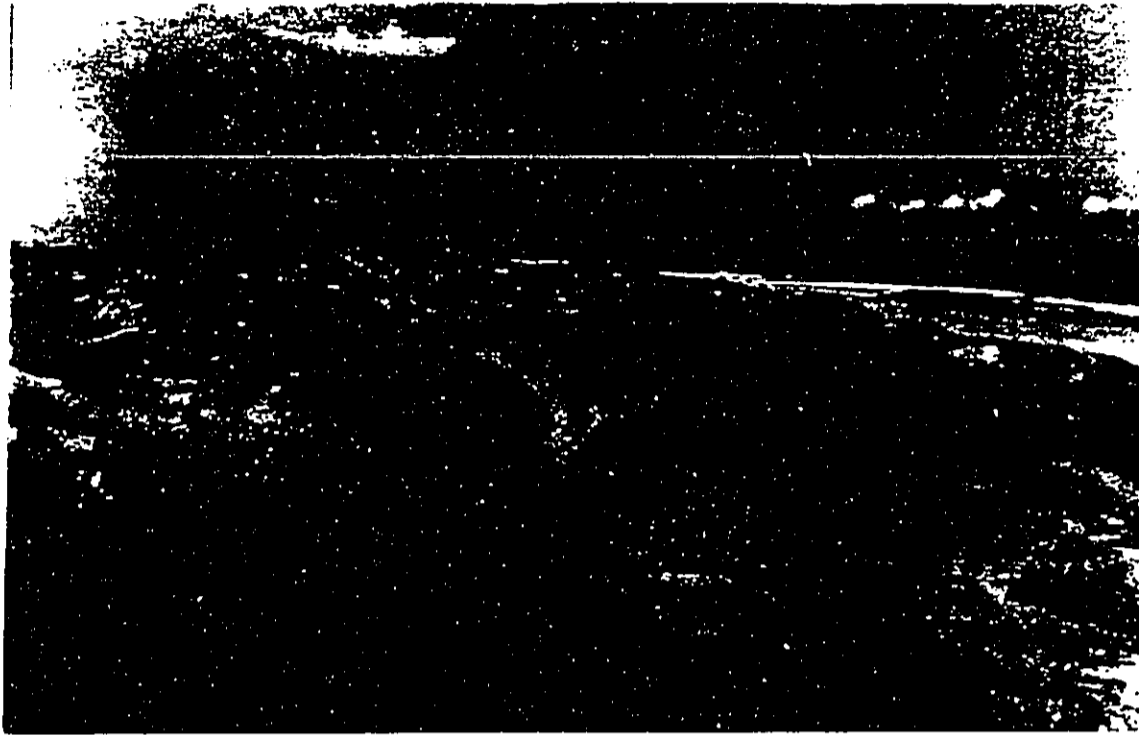


Figure 6. Stabilized dune system in Polihale State Park. Vegetation exhibits windburn and loss of leaves from Hurricane Iniki. There is no evidence of erosion due to wind or surf. A road for off-road vehicles is visible through the dunes.

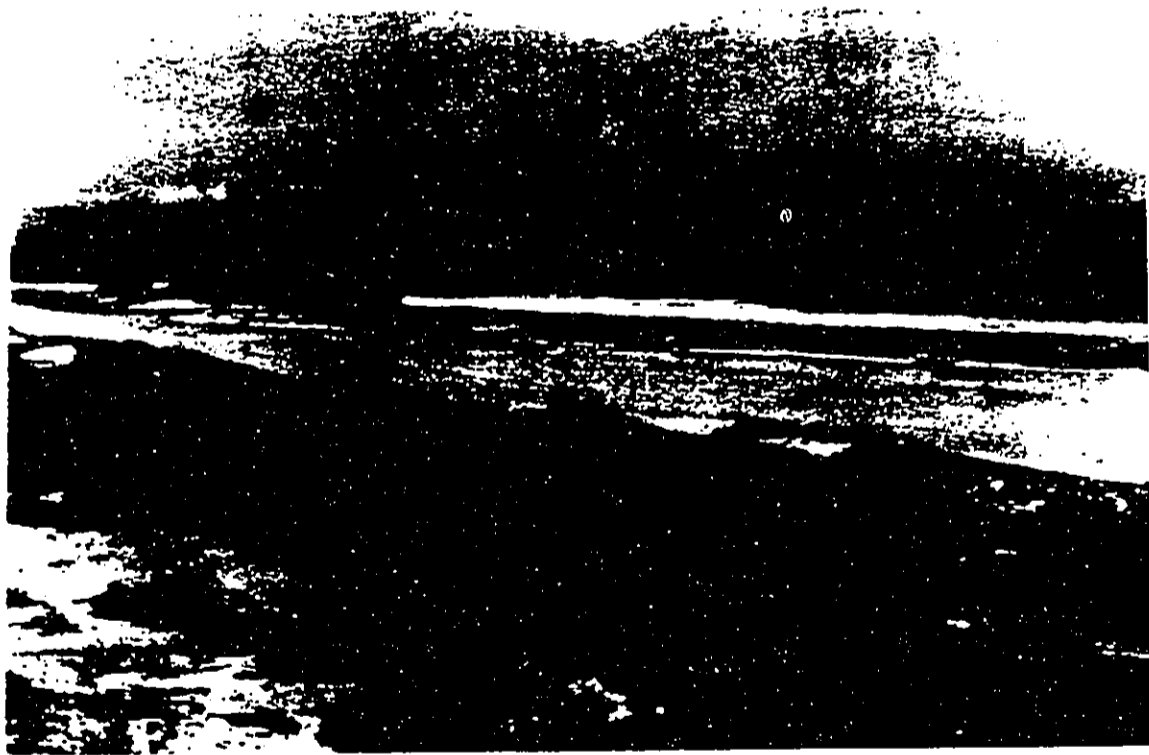


Figure 7. Stabilized dune system in Polihale State Park. Vegetation exhibits windburn and leaf loss. No evidence of erosion is apparent.



Figure 8. Stabilized dunes in Polihale State Park. Off-road vehicle roads and picnic shelter are visible. Coastal part of dune exhibits shrub vegetation leaf loss and windburn.



Figure 9. Stabilized dunes in Polihale State Park. Picnic shelter is visible, interior dune shrub vegetation (foreground) shows some leaf loss but is not heavily damaged.



Figure 10. Looking north along Polihale State Park and the Na Pali cliffs. Stabilized dunes exhibit no evidence of erosion by wind or surf. No evidence of collapse of the Na Pali cliffs is apparent.

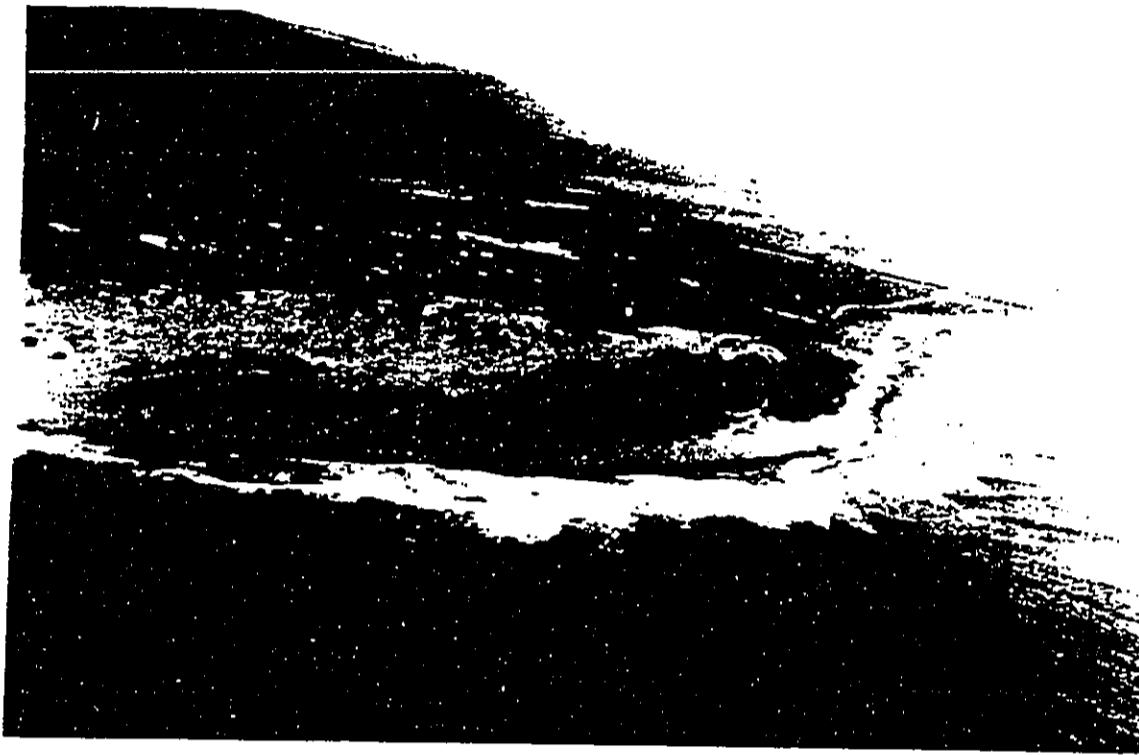


Figure 11. Nohili Point and Nohili Dune with KTF facilities in the background. The dune vegetation exhibits windburn and leaf loss. There is no indication of wind or surf erosion of the dunes or the coastal zone.



Figure 12. Nohili Dune with the Strategic Target System launch facility at the base of the dune. The vegetation exhibits windburn and leaf loss. There is no evidence of erosion. No erosion of the coastal zone on the dune is apparent.



Figure 13. Nohili Point and Nohili Dune. The vegetation shows evidence of leaf loss and windburn. No evidence of coastal or dune erosion.



Figure 14. Stabilized sand dunes behind (north) of Nohili Dune. Note markers along the dune foreground were not damaged by wind or surf. The vegetation exhibits windburn and leaf loss, but no erosion damage.

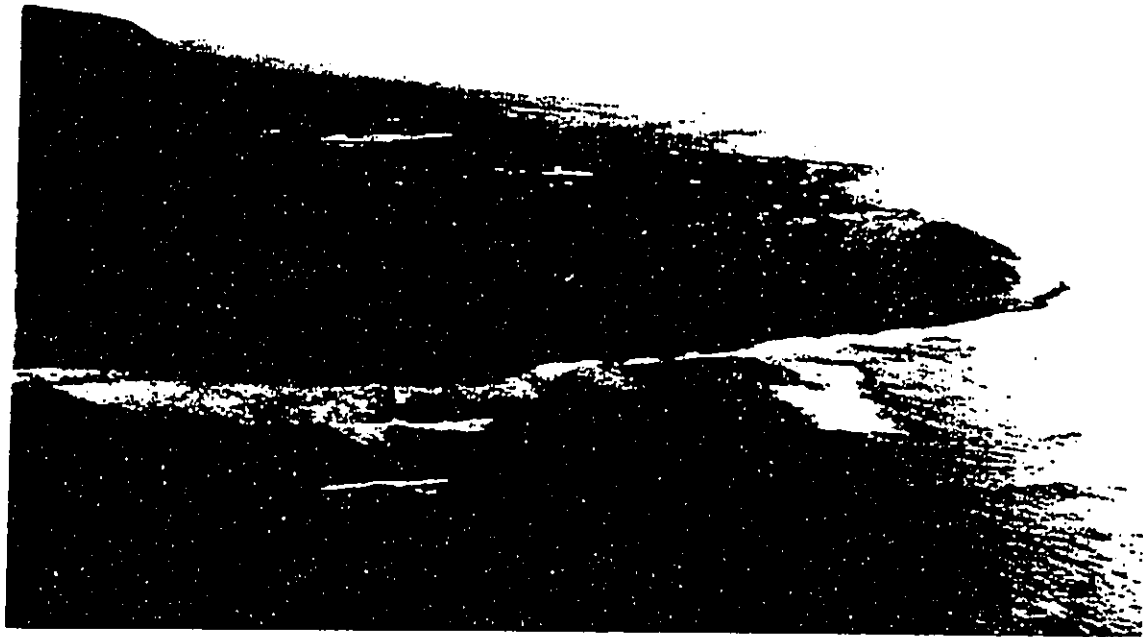


Figure 15. Nohili Dune looking south. Standing water is visible in the sugar cane fields south and east of KTF.



Figure 16. Nohili Dune from KTF. The photograph shows the Strategic Target System launch pad and vertical assembly building. The vegetation exhibits broken branches and trunks, leaf loss, and windburn. Some larger Kiawe trees to the left in the photograph have been uprooted.



Figure 17. KTF from Nohili Dune. Note vegetation stabilized dune surface and leaf loss on shrubs at crest of dune.



Figure 18. Nohili Dune from coastline prior to Hurricane Iniki. Note shrubs in middle distance.

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Figure 19. Nohili Dune from coastline after Hurricane Iniki. Note windburn and leaf loss on shrubs on the dune and in foreground. Note shrubs in foreground are the same as those in middle distance in Figure 18. The plants are sprouting new leaves. Shoreline remains the same.

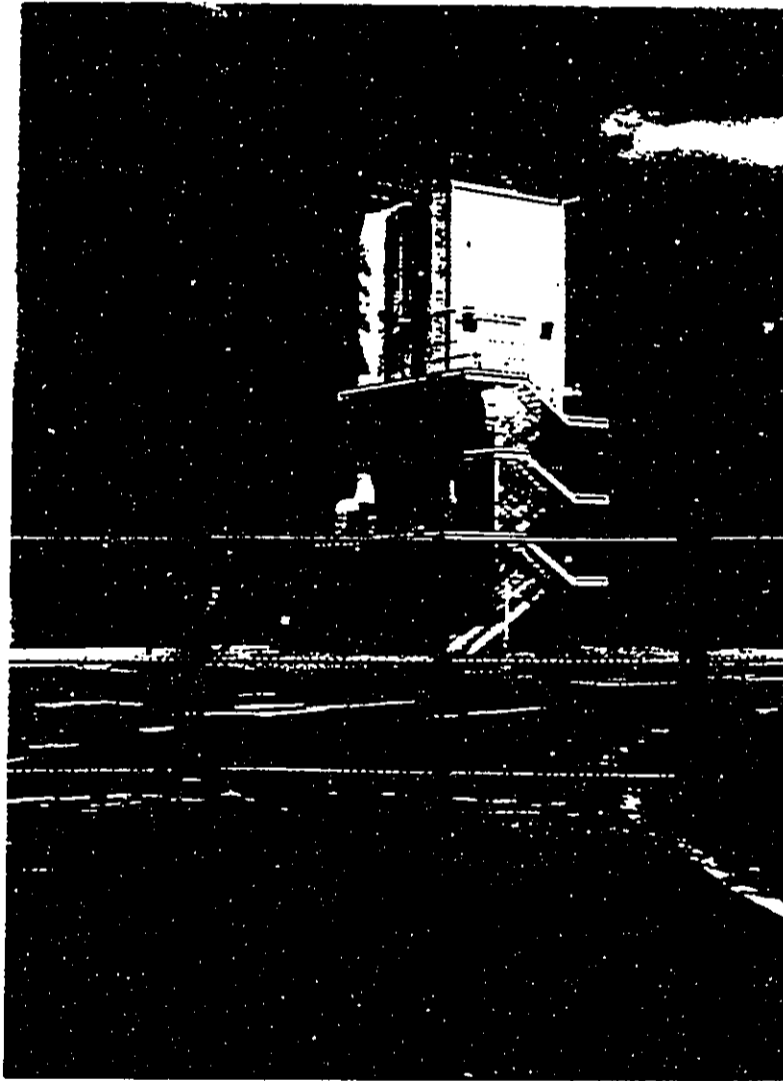


Figure 20. Strategic Target System vertical assembly building at KTF. Note shrub vegetation leaf loss and windburn as well as broken branches. Some windblown sand in the launch pad area.



Figure 21. Mana Base Pond wildlife refuge.

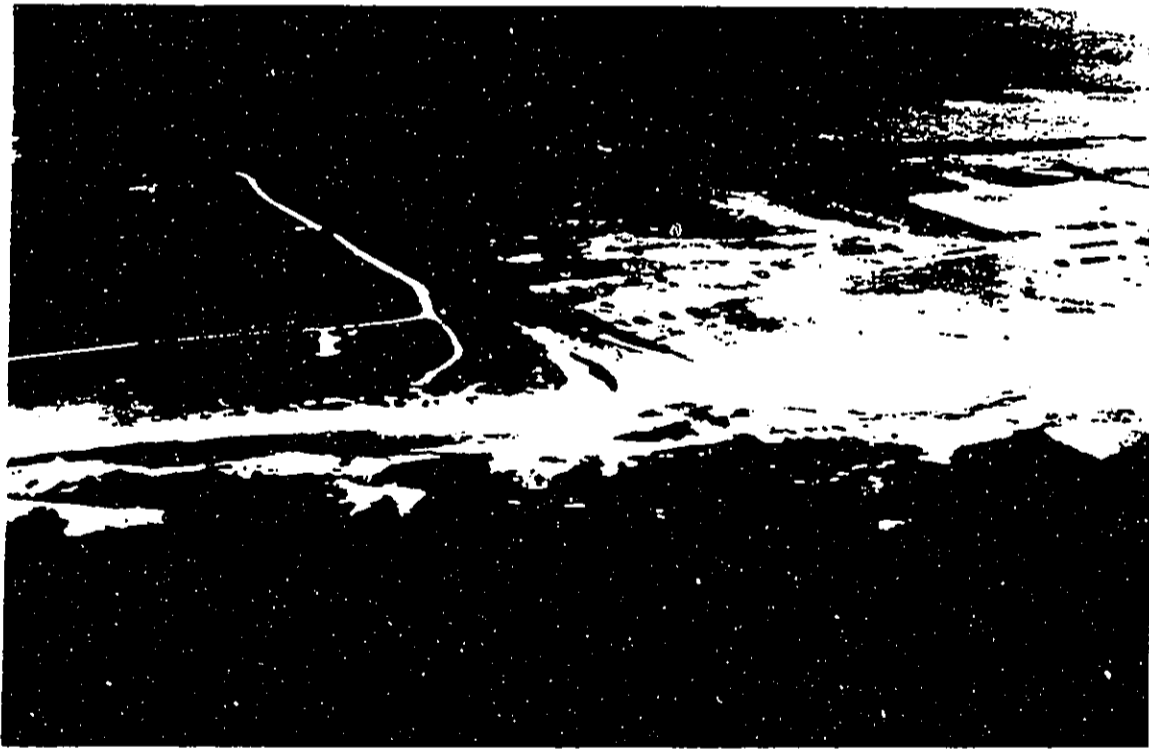


Figure 22. Nohili drainage ditch. Note standing water in cane fields and lack of flow in ditch due to inoperative pumps.

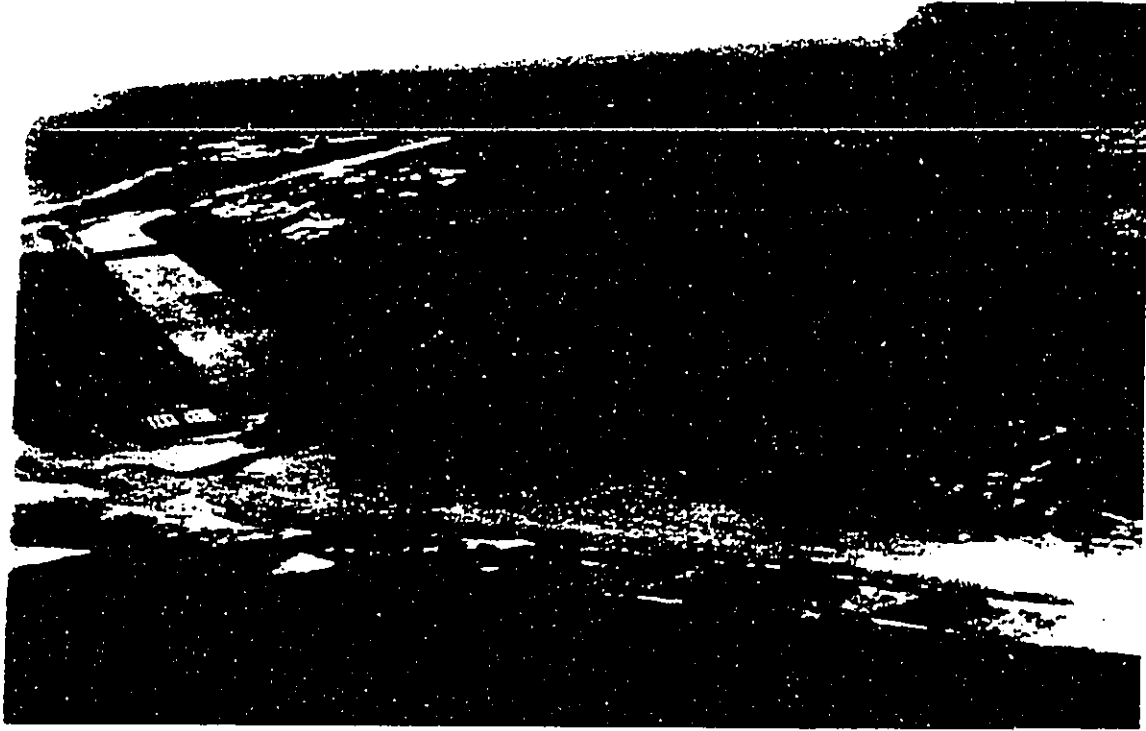


Figure 23. North Majors Bay. No apparent shoreline erosion or damage to vegetation or housing. Waiele drainage ditch is flowing because water pumps are operable.



Figure 24. Majors Bay. No apparent change in character of the shoreline from that described in EIS.

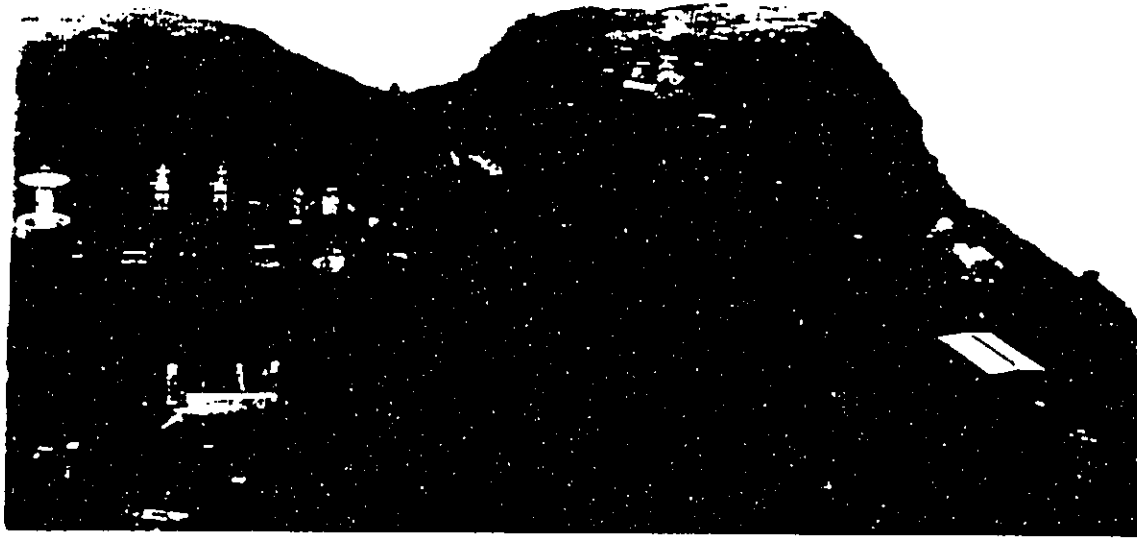


Figure 25. Makaha Ridge. No apparent damage to building or various antenna arrays.

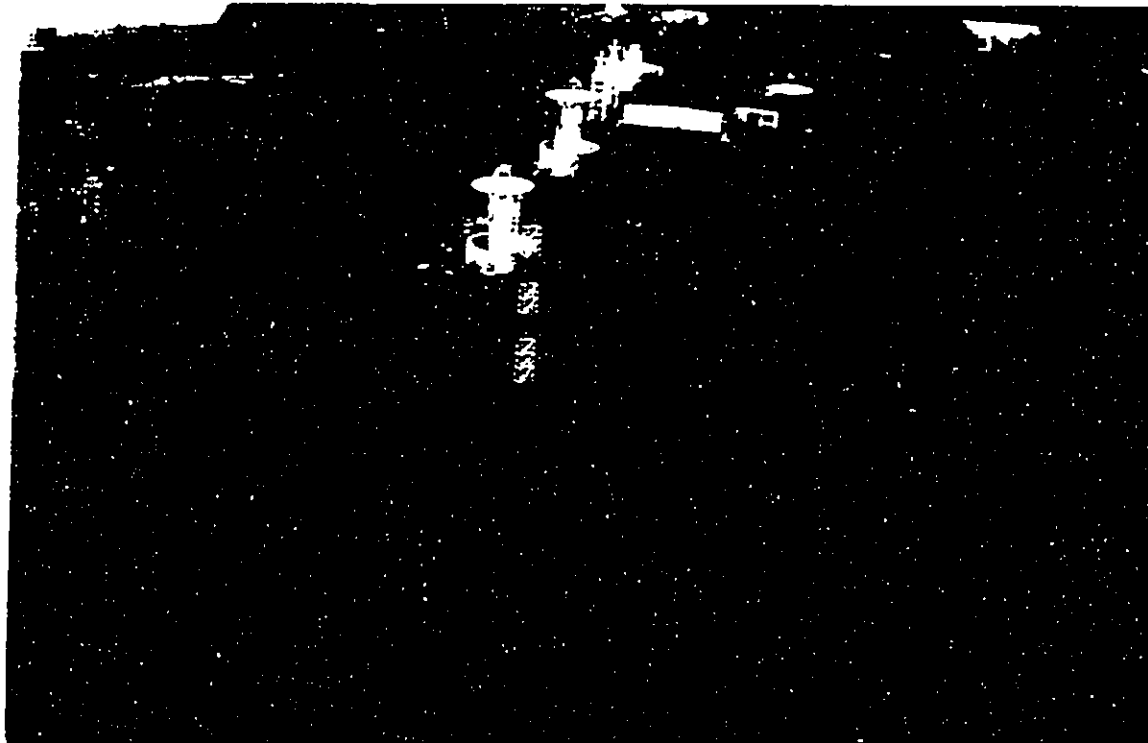


Figure 26. Makaha Ridge. No apparent damage to structures. Vegetation exhibits leaf loss and broken branches. Conifers show less damage.

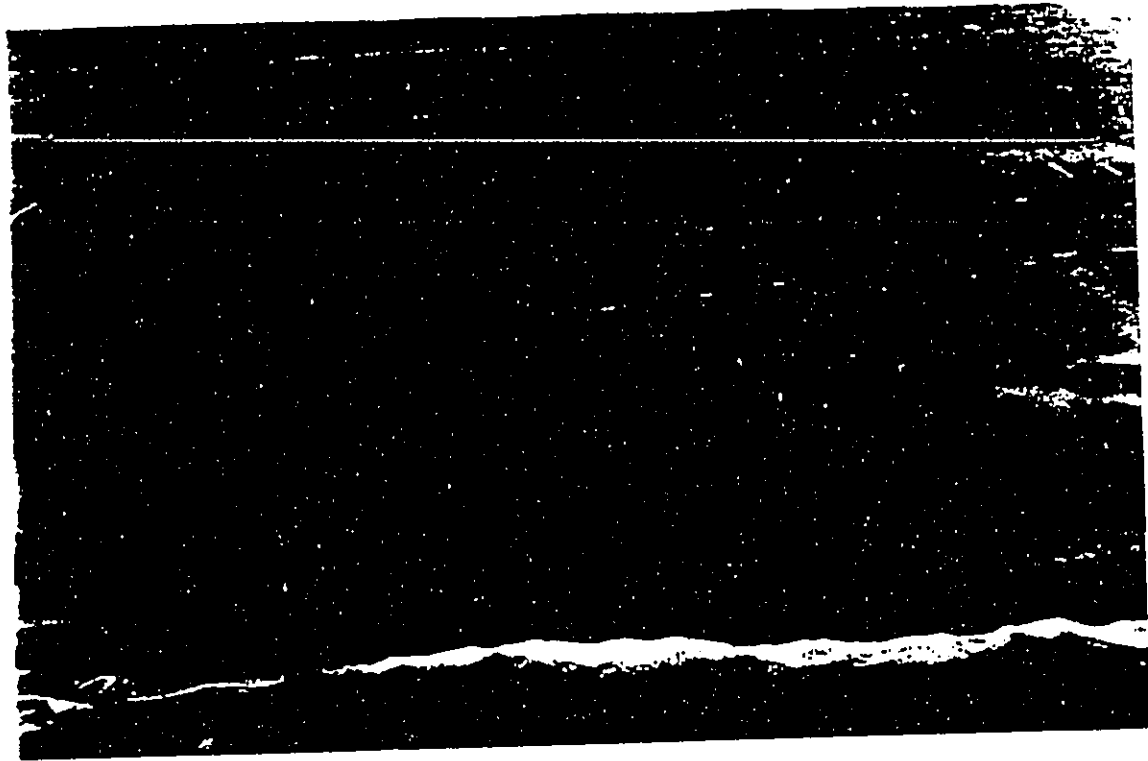


Figure 27. Tidal overwash into agricultural area between Kekaha and Waimea. Note leaf loss on vegetation near shoreline.



Figure 28. Kekaha. Area exhibits considerable damage to house structures due to high wind conditions. State Highway 50 overwashed by high surf conditions, which resulted in erosion of the road bed.



Figure 29. Home inland of Highway 50 in Kekaha demonstrates damage to lower story by high water and damage to roof due to high winds.

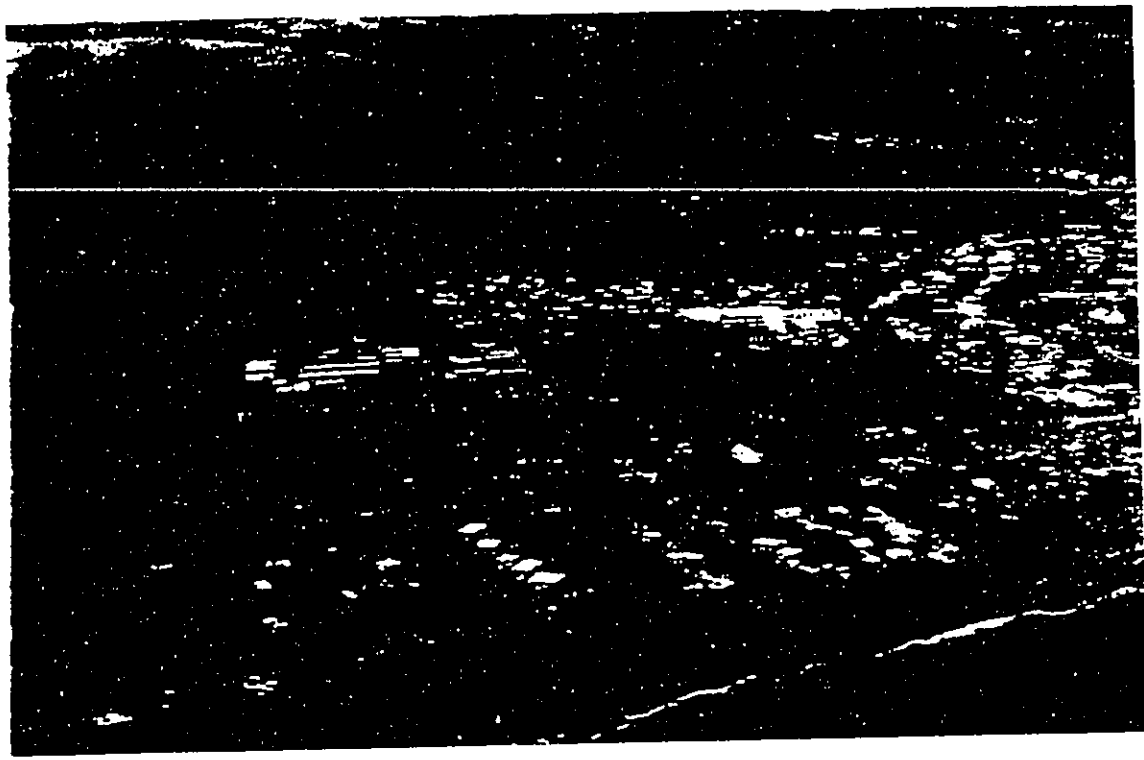


Figure 30. Northern Waimea buildings damaged by high winds. Considerable damage and coastal sand movement by high tide and surf.



Figure 31. Waimea. Considerable damage to buildings due to high winds, high surf, tidal overwash, and river flooding.

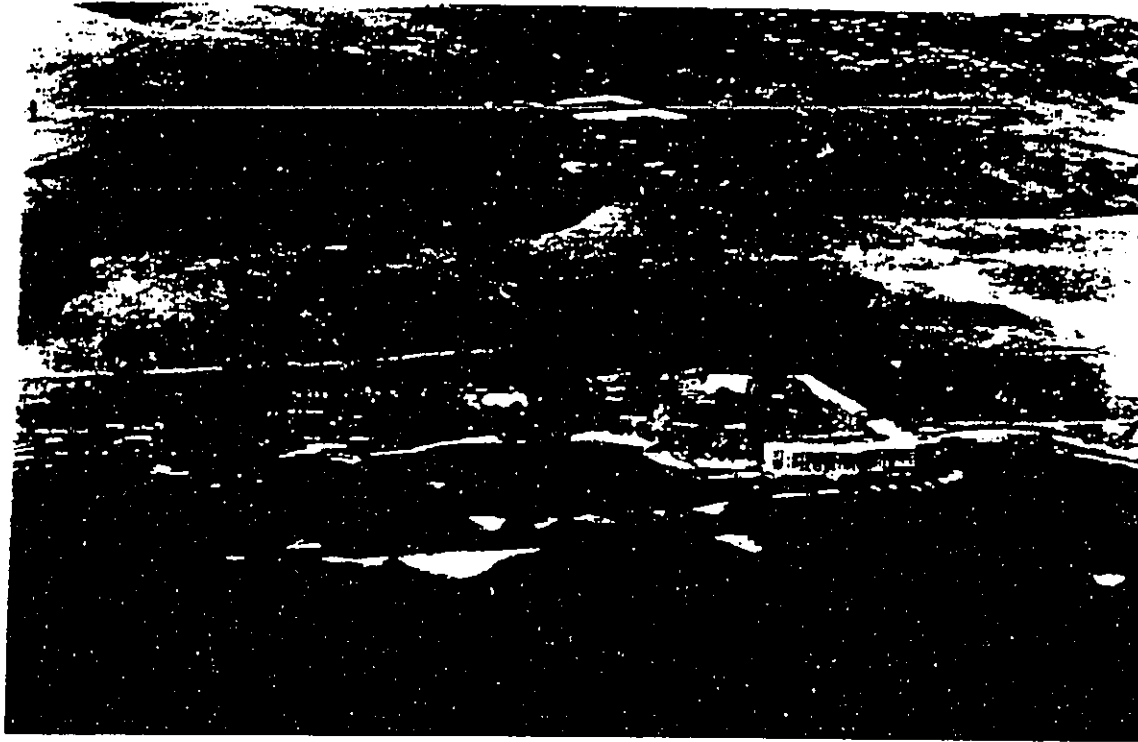


Figure 32. Poipu Beach along road to the Spouting Horn. Heavy damage to coastal condominiums and single-family homes. Many homes totally destroyed by high winds and surf.

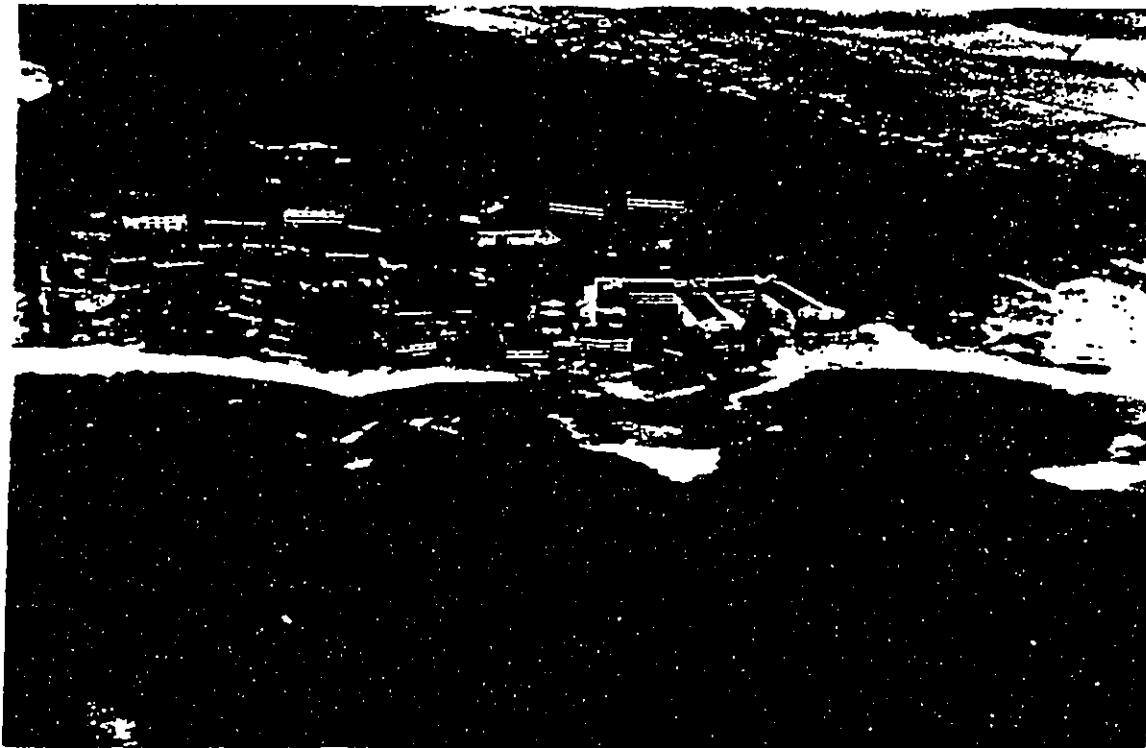


Figure 33. Poipu Beach Resort and Waiohai Hotel in center. Area exhibits considerable shoreline erosion and damage to buildings and their grounds due to high winds and surf.

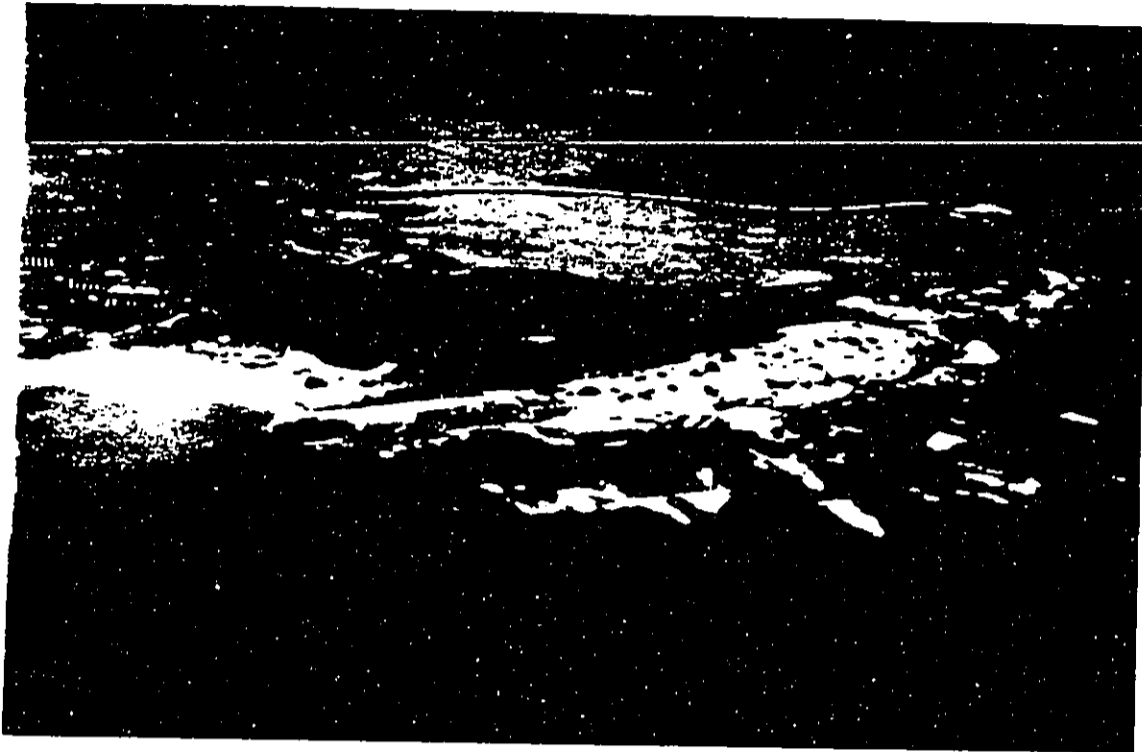


Figure 34. Poipu Beach Hyatt Regency Hotel in left middle distance. Shipwreck Point shows evidence of collapse as do sand dune areas to right. High surf overwash ponds behind Shipwreck Point.

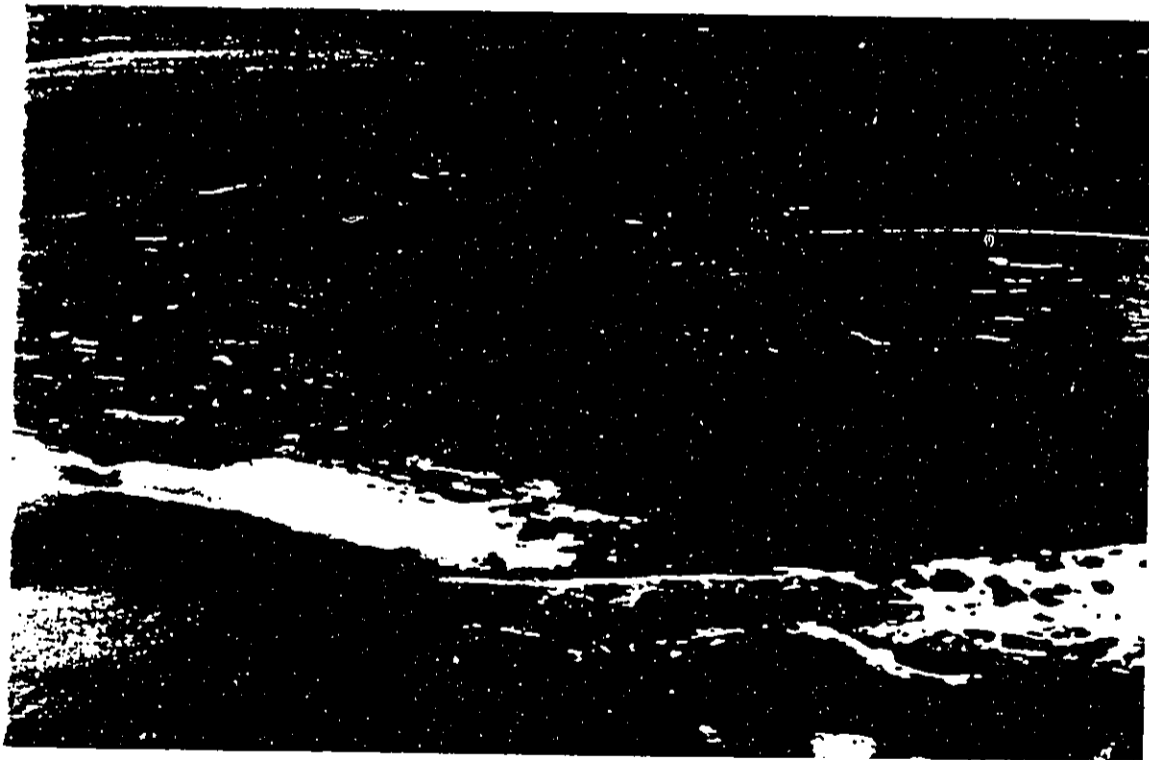


Figure 35. Poipu Beach Hyatt Regency Hotel damaged by high surf and wind. Shipwreck Point shows evidence of shoreline collapse due to high winds. High surf overwash ponds behind Shipwreck Point.

APPENDIX E
MEMORANDUM FROM E. SCHINDWOLF TO A. MANGUSO

Sandia National Laboratories

Albuquerque, New Mexico 87185

October 2, 1992
Ref. No. EJS92055

Lt. Col. A. C. Manguso
U.S. Army Strategic Defense Command
P.O. Box 1500
Huntsville, Alabama 35807-3801

Subject: Hurricane Iniki Damage Assessment

Dear Gus:

Per your request, this letter documents the SNL assessment of damage to STARS facilities, hardware and systems at KTF as a result of Hurricane Iniki. The assessment is based on first-hand investigation by technical experts familiar with the missile systems and support equipment.

SUMMARY

Damage to STARS facilities, systems, and hardware at KTF was minimal. As of this date, most of the items damaged have been either permanently or temporarily repaired. Details are outlined in the paragraphs below. It should be emphasized that the safety status of the missile was never in jeopardy.

Motor inspections and system state-of-health checks revealed that the missile is in a flightworthy condition and that the support systems at KTF are ready to launch STARS FTU-1 when a new launch date is set.

MISSILE ASSEMBLY BUILDING (MAB)

The roof over the southwest mezzanine of the MAB was peeled back by the wind during the storm. A 6 x 20 ft. area was open to the outside weather. In addition, the south hi-bay roll-up door was buckled out of its tracks as a result of the wind force. Both occurrences allowed water and sand to enter the floor area and resulted in a loss of temperature/humidity control of the MAB.

Both openings to the outside environment were temporarily repaired two days later, thus regaining control of the temperature/humidity environment inside the building. Permanent repairs are imminent. Water and sand had been cleared from the building floor within a few days. All other damage is cosmetic (ex.; exterior paint stripped in spots by windblown sand).

LAUNCH COMPLEX

The STARS launch complex suffered very minor damage. The flashing that covered the upper door track of the Missile Service Tower (MST) was ripped off by the force of the wind. The north fence line was bent approximately 10 to 15 degrees from vertical. Both items are easily repaired and have no impact on launch operations.

LAUNCH OPERATIONS BUILDING (LOB)

The LOB was not damaged at all in the storm. This is not surprising since its earth protected blockhouse construction is designed to withstand significant overpressures in the event of a launch accident. The LOB provided protection for numerous KTF personnel and their families during the hurricane.

GENERATOR BUILDING

KTF operates on its own generator power during launch operations to prevent public electrical service interruptions from impacting launch operations. The southwest section of the generator building roof was torn off by the storm, allowing the switching gear to get wet. Temporary repairs were implemented immediately after the storm ended (prior to nightfall), allowing limited generator operation that night. Full usage of the generator system was restored during the next few days. The roof has been repaired.

ROCKET MOTORS

The STARS FTU-1 rocket motors were stored in the MAB when the hurricane occurred. On September 22nd, all three motors were inspected by experts from the individual motor manufacturers and Sandia.

The first stage motor was completely undamaged. It was located on the north end of the transporter erector, away from the openings in the MAB roof and roll-up door. The erector also holds the motors at an elevation that is approximately eight (8) feet above the floor. The standard first stage motor inspection procedure was conducted jointly by Aerojet and Sandia personnel. There are no indications that the motor was exposed to water or sand. Ambient temperature remained within the storage specification (60° F to 100° F) during the entire time that the building's thermal control was inoperative.

The second stage motor was closer to the MAB openings. Its inspection, conducted jointly by personnel from Hercules and Sandia, revealed that the forward dome was exposed to some water spray. The forward dome area was cleaned per guidance from Hercules. It was also noticed that one FLSC clip had debonded from the dome. Hercules is evaluating whether this clip needs to be replaced at all, since the motor was designed with an excess number of clips. There are no indications of impact damage or sand exposure. As with the first stage motor, the temperature remained within storage specifications.

The third stage motor was located in the south end of the building, near the openings in the roof and south door. It was protected, however, by its wooden storage container. The container material did absorb some water, attracting a nest of termites, however, the motor itself was undamaged. The standard inspection was conducted jointly by UTC Chemical Systems Division and Sandia personnel. The temperature of this motor also remained within storage specifications.

All three motors had nozzle closures, protecting the motor interior and propellant from exposure to moisture and foreign particles. Each motor manufacturer has certified that their motor is ready for flight.

MISSILE AND GROUND SUPPORT SYSTEMS

The third stage structure, complete with its electronics suite, was located in the electronic lab in the MAB during the hurricane. Since this lab is in a separate room from the hi-bay, the electronics were protected by the lab's doors and ceiling. All missile systems and ground support systems were verified to be functional through the conduct of a standard state-of-health check. This comprehensive check follows established procedures developed during the previous STARS launch and GTM exercises, and establish the state-of-health for the following missile and ground systems:

Missile Systems

- Telemetry
- Arm & Fire (electronics only - no fire circuits)
- Flight Termination
- Guidance
- Thrust Vector Control (all three stages)
- Attitude Control
- Power & Signal Distribution

Ground Systems

- Umbilical Communications
- External Power
- Missile Interface Systems
- LOB Communications (to MAB and Launch Complex)
- FTS Transmitters (KTF only)
- Telemetry Receiving
- Booster Fire Control (electronic only - no fire circuits)
- Intercoms
- Antennas

The fire circuits to detonators and initiators were not checked at this time (except for flight termination, which was checked in its entirety). All firing circuits will be checked prior to missile final assembly in preparation for launch. All electronics controlling and monitoring the firing circuits, however, are exercised in the state-of-health checks.

INTER-RANGE COMMUNICATIONS

All communications between PMRF and KTF were fully functional shortly after the storm. The intercom communication link to the SNL Maui FTS site cannot be verified until the Kauai telephone system is restored and the PMRF patch is in place. The SNL/DOE H-Net radio communication system is not functional, due to loss of the antennas at the repeater station. The equipment has been brought down to KTF for repair. The radio nets should be functional in the next few weeks. One of these two links is required to provide Maui communications during a STARS launch. Inspection of Building 1010 revealed that the SNL Maui site was undamaged in the storm.

RECOMMENDATION

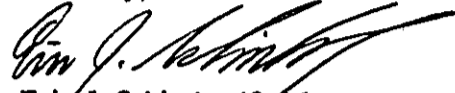
The STARS missile and ground support systems at KTF are ready to support the start of a launch operation. SNL recommends that the STARS FTU-1 system remain at KTF in preparation for a rescheduled launch attempt. The few outstanding items requiring resolution are short term problems that are expected to be resolved before the launch

October 2, 1992

window opens. PMRF systems status appears to be good, although the specifics of their state of readiness would need to be obtained from the Navy.

If there are any questions regarding this matter, please call me at 505/844-2026.

Sincerely,



Eric J. Schindwolf, Manager
Large Rocket Systems Department
Sandia National Laboratories

Copies to:

2700 R. A. David
2706 M. W. Sterk
2723 R. G. Hay
2725 E. J. Schindwolf
2852 R. R. Polosky
9101 A. C. Watts
9132 E. E. Creel
All 2723 Personnel
All 2725 Personnel

APPENDIX F

BUILDING SPECIFICATIONS FOR KTF

This information is from the
Sandia/Holmes and Narver Safety Analysis Report.

**SAFETY ASSESSMENT
FOR
MISSILE LAUNCH COMPLEX
AT
BARKING SANDS, KAUAI**

Prepared by

**Sandia National Laboratories
P.O. Box 5800
Albuquerque, New Mexico 87185**

**Holmes & Narver
6501 Americas Parkway Suite 700
Albuquerque, New Mexico 87110**

October 19, 1988

4.0 DESCRIPTION OF FACILITY

4.1 Introduction

This chapter describes: 1) The facility and its siting, 2) the safety features to withstand natural or man-made forces, 3) the primary design criteria and design basis and codes to which the facility was constructed. See Chapter 7 for complete listing of Codes and Standards.

4.2 Description of Facility

4.2.1 Location

The new facilities are located at the existing PMRF Pacific Area Site 97, Barking Sands, Kauai, Hawaii. (See Appendix B, Figures 1 and 2.)

4.2.2 Facility Layout/Building Layout

Spacing of Structures: Individual facilities are spaced to protect them from a possible accident that might occur on any of the launch pads.

The distances from the Launch Pad to the other new facilities were determined by the quantity-distance tables. The standard STARS configuration consists of two motors that are Class 1, Division 3 and one motor that is a Class 1, Division 1, per DOD Ammunition and Explosives Safety Standards (DOD 6055.9-STD, dated July 1984). The total propellant weight for the STARS is 30,162 pounds. The applicable distance requirements referenced in Tables 9-1, 9-3, and 9-10 therein are:

APPLICABLE QUANTITY DISTANCE TABLE

<u>Table</u>	<u>Class/ Division</u>	<u>Net Explosive Weight</u>	<u>Inhabited Building Distance</u>	<u>Public Traffic Route Distance</u>	<u>Intraline Distance</u>
9-1 - 9-3	1.1	30,000 to 35,000 lbs.	1250 ft.	785 ft.	590 ft.
9-10	1.3	30,000 to 40,000 lbs.	235 ft.	235 ft.	155 ft.

These quantity-distance requirements are met by the locations of the proposed new KTF facilities.

Proper restrictions will be placed on the use of the other launch pads at the KTF whenever any STARS motor is present, based on SNL Range SOP's.

4.2.3 LOB

The LOB has interior dimensions of 54 feet x 72 feet and a ceiling height of 10 feet. The structure is reinforced concrete and covered by earth embankment material on the west, north, and east sides, and the roof.

4.2.4 MAB

The MAB has exterior dimensions of 50 feet x 70 feet and an approximate eave height of 24 feet. The structure is a pre-engineered metal building capable of housing 20-ton and 10-ton bridge cranes with an 18-foot minimum hook height.

4.2.5 MLP

The MLP has exterior dimensions of 100 feet x 100 feet and capable of supporting the Vertical Access Tower, the transporter/erector trailer and missile, and a crane with an 18-ton capacity.

4.2.6 VAT

The VAT has floor plan dimensions of 16 feet x 16 feet and an overall height of 54 feet. The Tower has interior floor levels at 13'-6", 22'-10", and 31'-2" above the finish slab level. Also, to aid in missile and parts handling, a one ton monorail crane was designed.

4.2.7 AEB

The AEB has exterior dimensions of 11'-4" x 20 feet and a ceiling height of 9 feet, and constructed of reinforced masonry block.

4.2.8 Parking

Eighteen additional parking spaces will be provided at the MAB and the MLP.

4.2.9 Security

Security of the facilities will be provided by security fencing around the MLP and the LOB.

4.3 Principle Features

4.3.1 Foundation Characteristics

Foundations for all structures consist of reinforced concrete spread footings, founded at a minimum depth of 2 feet into existing on-site materials.

4.3.2 Blast Conditions

The LOB was designed for vertical and horizontal blast overpressure of 3 psi. In addition, the LOB has been analyzed for impact of fragment pieces weighing less than 500 pounds.

4.3.3 Permanency and Expediency of Construction

All structures are considered permanent additions to the existing facilities. Construction time was one year.

4.4 Type of Structural Systems

4.4.1 LOB

The LOB is a reinforced concrete structure whose main resistance to all dead and live loads is provided by vertical concrete ring beams spaced at 8'-0" on center and spanning the width of the structure.

4.4.2 MAB

The MAB is a prefabricated metal building with resistance to vertical and lateral loads provided by rigid bents at a maximum spacing of 25 feet.

4.4.3 VAT

The VAT is a structural steel framework and resists lateral loads with conventional cross-bracing.

4.4.4 MLP

The MLP makes use of a concrete mat foundation to support all vertical loads.

4.4.5 AEB

The AEB is a reinforced concrete masonry building supported on spread footings.

4.5 Structural Design Specifications

4.5.1 General

Wind Load: 80 mph basic wind speed
Seismic Load: Zone 2 per UBC

Seismic Protection: Reinforcement details for all concrete conform to special provisions of seismic design as outline in ACI 318-83.

Roof Live Load: 20 psf

4.5.2 LOB

Interior Floor Live Load:	100 psf
Lateral Earth Pressure:	45 pcf (active)
	60 pcf (at-rest)
	250 pcf (passive)
Vertical Earth Pressure:	95 pcf (dry)
	120 pcf (saturated)
Dynamic Blast Overpressure:	3 psi

4.5.3 MAB

Assembly Floor Live Load:

The concrete floor slab in the assembly bay of the MAB was designed to resist twice the wheel loads of the missile transporter/erector trailer. The concrete approach slabs at each end of the MAB were also designed for these wheel loads. In addition to resisting vertical and lateral live loads, the rigid frames of the MAB were designed to resist the effects of the interior 10-ton and 20-ton bridge cranes.

Office Floor Live Load:	100 psf
Mezzanine Live Load:	150 psf

4.5.4 VAT

Interior Floor Live Loads:	75 psf + 2000 pounds concentrated load
Roof Hoist Load:	2000 pounds

4.5.5 MLP

The MLP was designed to resist twice the wheel or point loads resulting from the VAT, a 50-ton track crane, the missile, and the missile transporter-erector trailer. Approximate values for the actual dead load plus live load of these equipment are:

VAT (DL+LL)	--- 180,000 lbs.
50-Ton Track Crane (GVW)	--- 100,000 lbs.
Missile and Launch Stand (DL)	--- 40,000 lbs.
Missile Transporter/Eractor Trailer (GVW)	--- 72,000 lbs.

4.5.6 Allowable Soil-Bearing Capacity

Allowable soil-bearing pressures as determined by the geotechnical consultant, Dames & Moore, are, reference 7.2.1.e:

1500 psf for foundations embedded a minimum of 2 feet, and

2500 psf for foundations embedded a minimum of 5 feet.

4.5.7 Dynamic Loads

The two types of dynamic loads used in the design were:

The blast overpressure of 3 psi, and

Seismic loading for UBC, Seismic Zone 2.

4.5.8 Allowable Design Stresses

Structural Steel:	A36
Reinforcing Steel:	Grade 60, Epoxy-Coated
Concrete Strength:	3000 psi & 4000 psi

4.5.9 Deflection

In accordance with current specifications of the American Institute of Steel Construction and the American Concrete Institute.

4.5.10 Fallout Protection

Primary fallout protection is provided by the 3 feet of embankment material and a 4 inch reinforced concrete slab covering the LOB.

4.5.11 Seismic Protection

Reinforcement details for all concrete conform to special provisions of seismic design as outlined in ACI 318-83.

4.6 Water Forces (Flooding)

Only those water forces resulting from natural rainfall at the site were considered to be a factor in design. Drainage provisions were made to the MLP and the roof of the LOB to minimize rainfall effects. Forces resulting from tsunami-induced waves were considered not to be a threat to new structures at the facility.

4.7 Equipment Loads

The only equipment loads of any significance on the LOB are those of the transmission towers and mechanical units on the roof. These loads are minimal and were accounted for in the structure design.

4.8 Combined Loadings

Possible dead, live, wind, and seismic load combinations were used in the design of all new structures in accordance with the provisions of applicable codes listed as references in the report.

4.9 Facility Mechanical Systems

4.9.1 MAB

The high bay assembly area and the mezzanine area are supplied with 100% outside air. The units are refrigerated air with electric reheat and air-cooled condensers. These units are located outside the building on the south side.

The air conditioning units for the office areas are heat pumps located on the north side of the building. There are four units, one each to serve the office and electrical lab, and two units to serve the guidance and instrument lab.

4.9.2 VAT

The VAT is a Class II, Division II, Hazard Area, which requires the mechanical equipment to be explosion-proof. This requirement was met by the location of the equipment, i.e., air handler, outside the tower, using 100% outside air.

The VAT is served by a 100% outside air unit with electric reheat designed to meet an indoor design temperature of 75°F and 60% RH, with 15 air changes per hour. The unit is located on the south side of the tower on the second level platform. This platform holds the air handler and condenser unit.

Ductwork is extended on the outside of the tower to supply air to all three levels. Counter-balanced dampers have been installed on all levels.

4.9.3 AEB

Due to the nature of the equipment in the building, air conditioning is provided year-round to the building area that houses the electronic equipment.

The mechanical portion of the building has ventilation, but no air conditioning.

Temperature and humidity conditions of 75°F and 50% RH are required in the electronic portion of the utility storage. These conditions were met with a roof-mounted air conditioner and a floor-mounted dehumidifier. The system is sized for three tons of cooling load and 100% outside air.

4.9.4 LOB

Mechanical Systems: Serving the non-electronic areas is a roof-mounted air conditioning unit with electric reheat. This unit will supply ventilation air to the electronic areas during non-operational periods.

Separate computer cooling units are located in a hallway room with roof-mounted condensers. Two 20-ton units cool the main operational area. An exhaust fan in the UPS room provides the ventilation and temperature requirements for this area. The bathroom has a separate exhaust fan that provides ten air changes per hour.

4.10 Gas and Compressed Air

4.10.1 MAB

Gases: Compressed air outlets are located in the guidance lab and the assembly area. Air is delivered at a maximum pressure of 150 psig. This air will be clean and dry. Lubricators were installed as needed. The compressor with a receiver is located inside the building. The compressor is 100 cfm, 150 psig and uses a 30 Hp motor.

4.10.2 VAT

Compressed air piping and outlets (2) are provided at all levels with quick disconnects. This supply will be connected to a portable air compressor supplied and located by Sandia National Laboratories (SNL).

Nitrogen piping and outlets are installed for service on all levels. These lines will be connected to SNL-provided nitrogen bottles.

4.11 Fire Protection

4.11.1 General Information

The following specifications and standards were used to design the fire protection system in the facility.

DOE 6430.1, December 12, 1983

National Fire Protection Association (NFPA) Standards, 1986

Factory Mutual System Publication, Approval Guide, Latest Edition.

American Insurance Association.

Fire Protection for Facilities, Engineering Design and Construction, DOD MIL-HDBK-1008.

The sprinkler system was designed as either 1) an ordinary hazard pipe schedule system or 2) as an ordinary hazard, Group 2, hydraulically designed system. The design area was the hydraulically most demanding 2000 sq. ft. "rectangular area" having a dimension parallel to the branch lines equal to 1.4 times the square root of the area of sprinkler operation. Maximum waterflow velocity will not exceed 20 feet per second in any sprinkler system piping of hydraulically designed systems.

The deluge systems, use .25 to .5 gpm per ft² per DOD MIL HDBK 1008.

See Paragraph 4.15.1 for fire alarm system.

4.11.2 MAB

An automatic wet pipe line sprinkler system is installed in the high bay, offices and lab areas to supply 0.25 gpm/sq. ft. This building is classified as ordinary hazard group 2.

4.11.3 VAT

Fire protection is provided by a deluge system, employing open sprinklers attached to a piping system connected to a water supply through a valve which is opened by the operation of a fire detection system or a panic button. When this valve is opened, water discharges from all sprinklers attached. Flow requirements are .5 gpm per ft².

Future operational needs may require the addition of a fire pump. Space for this has been provided in the AEB.

4.11.4 AEB

No fire protection, other than a smoke detector/alarm reporting to the LOB is provided for the utility building. Hand fire extinguisher will be provided for SML personnel use.

4.11.5 LOB

Fire Protection: An ordinary hazard wet sprinkler system is provided throughout the building. This building is classified as ordinary hazard.

DOE-0108, Standard for Fire Protection of DOE Electronic Computer/Data Processing systems was used in the design.

4.12 Electrical Service

4.12.1 Type of Occupancies

In accordance with Uniform Building Code descriptions, occupancy of the buildings is as follows:

Launch Operations Building: B2
Missile Assembly Building: H1
Vertical Access Tower: H1

4.12.2 Specialized Functions and Equipment

Two 300 KW diesel engine driven generators, each capable of supplying power to the entire site are provided.

Automatic Transfer Switchgear with peaking power controls designed to automatically start and transfer power to the auxiliary generators when the power demand reaches a predetermined demand level are provided.

A 100KVA solid state UPS serving the computers, command transmitters, and launch control systems is provided in the Launch Operations Building. A 20-minute battery power supply consisting of 10-year maintenance-free recombination type batteries is provided.

Dust-proof apparatus suitable for Class II, Division II, Group E & G, is provided in the Vertical Access Tower and in the high bay area of the Missile Assembly Building.

4.13 Water Supply

4.13.1 Base Water System

The Base water system is supplied from wells developed in the mountains during World War II and subsequently utilized and maintained by the Kekaha Sugar Co. The storage tanks and distribution systems were installed on the Base more than 20 years ago, and have been maintained by the Base Civil Engineer's Contractor.

4.13.2 Water Storage Tanks and Fire Pumps

The two storage tanks of 400,000 and 250,000 gallons, respectively, are at 14 feet above mean sea level (MSL), as is the fire pump. This pump, in a recent test, produced 1,000 gpm at 100 psi with one 2-1/2-inch orifice open, and 1,500 gpm at 77 psi with two 2-1/2-inch orifices open. The pump is located 1.9 miles from hydrant #36 on the Kauai Test Facility.

A new fire pump has been purchased by PMRF and is on-site. Installation is scheduled for FY 1988 - 1989. It is rated at 1,500 gpm at 100 psi.

4.13.3 Water Supply Calculations:

Design calculations were performed using the data without the new pump being installed. The summarized results are listed below:

<u>Location</u>	<u>Code-Required Flow</u>	<u>Provided</u>
VAT	692 gpm	680 gpm
MAB	900 gpm	850 gpm
LOB	700 gpm	800 gpm

4.13.4 New Facility Water Line

There is an existing eight-inch waterline that serves the existing site. This waterline was extended along the new road to the new facilities.

4.14 Sanitary Waste Treatment

4.14.1 On-Site Sanitary Waste Disposal System

The LOB and the MAB have septic tank, leach field systems for sanitary sewage treatment. Each system consists of a septic tank, distribution box, and leach field. All components were sized for maximum usage expected. Soil conditions at the site are excellent for this type of system. Provisions for periodic maintenance of the septic tank were provided by means of access lids. The leach field will need no maintenance. Septic tank sizes are: MAB 750 gallons, LOB 1200 gallons.

4.15 Protection Provided by Equipment, Instruments, and Access Control

4.15.1 Fire Alarm System

The fire alarm system consists of ionization, photo electric type detectors. Detectors are located in ceilings, and under the floor in computer areas. Pull stations are also located at exits from buildings.

All fire alarm devices, alarm and ring fire bells, fire alarm control panel (FACP) alarms telephone Panel TD1. TD1 is connected to the base fire department.

All alarm devices sound alarms and are zoned into Zones 1, 2, 3, 4, and 5. All zones are connected to the master control panel which alerts the base fire department through a telephone panel.

Ionization and photo electric detectors are located under the floor in the computer, operations, control, receiving, and recording areas of the LOB.

Overhead or ceiling photo electric and ionization detectors are located in LOB, MAB and AEB.

Panic switches are located in the VAT second, third, and fourth floors. Pull stations are located at exit of all buildings.

JOHN WA HEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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DEC -2 1992

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Dear Concerned Citizen:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,

A handwritten signature in cursive script, appearing to read "W. W. Paty".

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JOHN WAIHEE
GOVERNOR OF HAWAII



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DEC -2 1980

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Mr. Michael Jones
Physics Department
University of Hawaii
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Dear Mr. Jones:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

I believe that this draft is not adequate for the proposed MOA primarily because it does not contain any detailed evaluation of the adequacy of the size of the ground hazard area or of the predicted concentrations of hydrogen chloride and carbon monoxide at the boundary of the ground hazard area.

ANSWER

The predicted 1-hour concentration of carbon monoxide at 10,000 feet downwind distance is 0.220 ppm, 0.2 ppm of which is the assumed background concentration. The predicted 1-hour concentration of hydrogen chloride at 10,000 feet downwind distance is 0.010 ppm. These values are presented in Tables 4-3 and 4-5, respectively of the Army's Draft EIS.

As I indicated in my comments on the final Environmental Impact Statement for the STARS program (which I sent to you earlier), there are serious doubts that the proposed ground hazard area is large enough to contain debris from a launch failure like the

Mr. Michael Jones

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Aug. 20, 1991 Aries failure at Cape Canaveral. I believe a careful evaluation of this failure and a review of procedures proposed for STARS launches should be done before the MOA is approved.

ANSWER

The Army has extensively analyzed all possible missile failure modes and the procedure of the missile flight safety officer. Indeed, it was that analysis that led to the Army's decision to expand the Ground Hazard Area (GHA) to more safely support the Strategic Target System. The Missile Flight Safety Officer has from 2.18 seconds (when pitch over should occur) until 20 seconds after launch to terminate the flight, and keep the debris pattern within the GHA. Since safety is a major objective of the Strategic Target System, the Army has engineered the system, and flight paths with full consideration of potential failure modes. The computer checklist is prepared with painstaking care, and the system is checked, and double-checked to ensure accuracy and reliability.

As found in Volume I of the Army's Final EIS on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigriss mission and the size of its hazard area are not comparable to that of the Strategic Target System."

In addition, the presentation of the calculations of concentrations of hydrogen chloride and carbon monoxide resulting from STARS launches is so confused and inadequate that I believe an independent review is required.

ANSWER

Independent reviews of the air quality analyses of the Army's Draft EIS were conducted during the comment period for that document by the U.S. Environmental Protection Agency and the State of Hawaii Clean Air Branch, among numerous other reviewers. Neither of these two regulatory agencies found deficiencies in the presentations of the air quality calculations in the Army's Draft EIS.

It also seems prudent for the MOA to specify details of the air quality monitoring to be done and to require that the data from this monitoring be made public.

Mr. Michael Jones
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ANSWER

As part of the Record of Decision, air samples will be collected by the Army during the first demonstration launch to validate the accuracy of the models and to evaluate compliance with federal and state standards. The Clean Air Branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

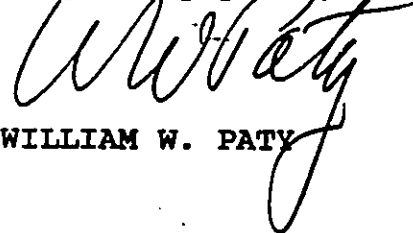
In conclusion, I urge you to amend the draft Environmental Assessment to include a detailed evaluation of these issues and/or to do an Environmental Impact Statement which includes these evaluations.

ANSWER

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

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Robert C. Aldridge
631 Kiely Boulevard
Santa Clara, CA 95051

Dear Mr. Aldridge,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments, as referenced to your original paragraph numbers.

4. My experience has made me aware of the potential for accidentally ignition of weapons by discharge of static electricity, lightning strikes, electromagnetic radiation such as radio and radar waves, and sharp blows caused by impact or slipping. I have also become aware of the hazards associated with launching missiles -- the failure of trajectory programming, the malfunction of nozzles, explosions caused by separation of propellant from the motor case liner, and loss of control due to motor case failure or burn-through.

ANSWER:

First of all, the Strategic Target system is not a weapon and does not carry any explosives other than those required for this launch vehicle to properly function (i.e. boosters used for propulsion, electro-explosive devices used to initiate these boosters, ordnance used for flight termination, etc.). Secondly, the Army is aware of the many hazards associated with the launching of missiles, The launch integrator, Sandia National Laboratories, has been at the forefront in determining the causes of some of the incidents noted in your

Mr. Robert C. Aldridge
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letter, such as the Pershing II motor accident in Germany. The Army's foremost task during a launch operation is safety, and as such, strict guidelines and procedures have been established and are rigidly followed.

The following describe how the concerns in your letter are being addressed:

- a. Static electricity - All ordnance (including boosters) are properly grounded at all times. Also, no static producing material is allowed near the ordnance.
- b. Lightning strikes - The Strategic Target System Launch Vehicle is assembled and tested in lightning protected buildings. The only time the vehicle is exposed is during transport to the launch pad and subsequent erection (a six hour task) and also during the actual launch operation when the missile service tower is rolled back to expose the missile. During both these activities (and in fact during the entire vehicle processing operation) the potential gradient is monitored. All vehicle operations cease when the potential gradient exceeds 2000 Volts per meter.
- c. Electromagnetic radiation - No mobile or portable communication radios are allowed in the missile assembly building or in the launch pad area. Furthermore, extensive testing was performed to measure the levels of radiation from all external sources (including the local radio station KVAI and all radar sources within PMRF) on the vehicle and were found to be minimal.
- d. Sharp blows - All the boosters are handled with cranes and specialized lifting equipment that has been rated for that load. Also, the propellant in all three boosters is not sensitive to impact (i.e. will not initiate under a sharp blow).
- e. Trajectory programming - There is only one version of the flight control code used throughout the testing and the launching of the Strategic Target System. This code is validated and "frozen" prior to each mission.
- f. Nozzle malfunction - The nozzles on each booster are inspected several times for cracks or deformations during booster buildup and again during vehicle processing. Leak checks are performed on the first and second stage boosters at least twice, the second one is just prior to final mating of the missile stages, to find any leak paths around the nozzle seals.

Mr. Robert C. Aldridge
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g. Motor case failure - All boosters are x-rayed as has been noted previously to look for potential causes of motor burn-through. Leak tests are performed on the first and second stage boosters to look for leaks around all the seals. The third stage motor case is hydrotested prior to propellant casting. Finally, all motors are visually inspected for damage from shipping and assembly.

5. ...In my opinion these documents make the program look too predictable and benign. The too-readily dismiss the health and accident hazards and the environment dangers....

ANSWER:

The Strategic Target System was specifically designed to be a low-risk, minimal impact launch vehicle that uses proven Polaris A3 flight components along with state-of-the-art upgrades in flight control electronics and guidance system. Although impacts to health and the environment were evaluated based on worst-case scenarios, it was still determined that impacts would be minimal. Wherever possible, mitigative measures have been implemented to further lessen these impacts.

6. I see no way that Polaris rocket motors can be refurbished to their original state. ...Old motors are much more sensitive to sharp blows which can be inflicted while removing a motor from its canister,... Or a motor can swing out of control while being handled with a crane,...

ANSWER:

The first and second stage Strategic Target System boosters were refurbished and recertified by the original motor manufacturers to the original Polaris specifications. Furthermore, the Army has continued consultation with Lockheed regarding the recertification of Polaris A3 assets used in the Strategic Target System. After refurbishment, these motors are placed on recently acquired motor trailers (not old canisters) as they are prepared for shipment. There is no scenario for "sticking" and "jerking" when these motors are removed from these motor trailers. Also, as has been previously noted, cranes with creep capabilities and specialized motor handling equipment is used such that the motors do not swing or sway during movement. Shock recorders are used to record the transportation environment seen by the motors.

7. Regarding the 97% reliability of the motor, that may be consistent with the claim that motors are refurbished to original condition. Even then, I doubt if the actual performance of the motors supported the 97% figure even when new. But to claim a functional 97% reliability for

these old motors is simply stretching the truth. And there is no way to establish this by testing only one motor of each stage -- a probability curve cannot be drawn with only one data point.

ANSWER:

The reliabilities for the first and second stage motor were derived from many static firings and actual launches during the development and operational stages of the Polaris A3. The static tests of refurbished motors were strictly to verify the predicted performance and did not contribute to the reliability figure of the motors.

8. Even if 97 percent reliability were possible, that means one out of every 32 motors will blow up from motor failure alone. How many launches are planned over the lifetime of the STARS program?

ANSWER:

The 97% reliability is a system reliability. Furthermore, a failure was defined not only as a catastrophic one, such as a motor failure, but also anything that prevented the mission from being a complete success. This could mean that if the payload or nose fairing did not properly deploy, or if the second or third stage retro motors failed to fire, or other like events, the mission would not be successful. Note that scenarios like these would have no impact on Kauai, yet are accounted for when determining the overall system reliability. As stated in the Executive Summary in the Draft EIS, there will be up to four launches per year for 10 years.

9. I recognize static electricity as a serious hazard around rocket motors. ...Field operations, such as on Kauai, are less formal. Also, the explosion of a Pershing-2 motor in Germany, killing three and seriously burning others, was blamed on static electricity.

ANSWER:

Field operations will be conducted in strict compliance with Sandia, DOE, Navy and Army safety regulations. The personnel involved in the missile buildup, testing, and launching operate under specific operating procedures and checklists with a responsible engineer and another person performing independent quality checks. There is no truth in the statement that the Kauai field operations are "less formal" than a manufacturing operation.

Protection against static electricity buildup was described in paragraph 4.a. above.

10. Lightning is another hazard. Sounding rockets at Wallops Island were accidentally ignited by lightning. An Atlas motor launched from a test base exploded shortly after lift off when struck by lightning.

ANSWER:

Lightning protection was described in paragraph 4.b. above.

11. Rocket motors use igniters which incorporate electromagnetic explosive devices (EEDs) to set them off. Other pyrotechnics on a missile use numerous EEDs. They are like the blasting cap which detonates a stick of dynamite. EEDs can be accidentally detonated by electromagnetic radiation such as radio and radar waves from ship, cars, aircraft, land facilities, and even Cbs. ...Electromagnetic radiation is a clear and present danger on Kauai.

ANSWER:

The EEDs used in the Strategic Target System cannot be initiated unless there is a 3.5 amp discharge in 10 milliseconds. All ordnance is properly grounded and is handled according to Sandia, DOE, Navy and Army safety requirements for explosives. Furthermore, as has been described in paragraph 4.c. above, the electromagnetic radiation levels have been measured around the missile launch pad and found not to pose a problem. However, portable radios are not allowed either in the launch pad area or the missile assembly building.

12. I only read in the DEIS about Polaris motor aging during storage, although separation of the propellant from the insulating liner and motor dome failure were discussed. Damage is also caused from handling and shipping. ...I feel that cracking of the propellant and separation from the liner would be a serious problem. Such damage provides additional exposed surface which causes more vigorous burning to exceed the allowed pressure, and thus causes the motor case to explode. It is not my opinion that X-ray, or even ultrasonic, inspection is fool-proof.

ANSWER:

When the first and second stage boosters were removed from storage and refurbished, they were X-rayed by the motor manufacturer to look for propellant cracking and debonds. These boosters were then carefully loaded onto a specially designed motor trailer for loading onboard a military aircraft for the trip to PMRF. Shock recorders are mounted on the motors to record the transportation environment. It is the Army's and the motor manufacturer's belief that these boosters are free of propellant cracks and debonds and are thus ready for flight.

13. Should a first stage failure occur, or should an early flight termination (destruct signal) be necessary, page 4-51 of the DEIS refers to it being "unlikely" that second stage propellant fragments would detonate when they hit the ground. That doesn't sound very positive and is far from reassuring. The propellant could be burning and rain on the area like incendiary bombs.

ANSWER:

If a flight termination event is required, the propellant may not necessarily be ejected from the motor case. To terminate a flight, two independent EEDs initiate a length of flexible linear shaped charge (FLSC) that is attached to the outside of a motor case. The FLSC cuts a large hole in one of the ends of the motor case which allows for rapid internal depressurization and not a large explosion. The motor case itself will stay intact keeping most of the propellant within it at ground impact. Since the propellant is not sensitive to detonation by shock, the statement was made in the DEIS that propellant fragments would not detonate at ground impact.

14. Regarding the 20-degree pitch maneuver to tip the missile seaward after launch, there is a roll maneuver prior to that to orient the missile so that it tips in the proper direction.

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All of these are pre-programmed in the missile's flight control package. Programming does go wrong. ...The three scenarios on pages 4-52 and 4-53 of the DEIS are admission that such pitch-over errors can still happen.

ANSWER:

It is possible for the launch vehicle to pitch over and fly inland if, for example, the first stage nozzles move to an improper location and get stuck. However, the flight termination system is designed to terminate the thrust of such a missile and keep the debris within the ground hazard area. Also note that the guidance and control system for this vehicle is state-of-the-art and is far more advanced than the early flight control systems on early Polaris missiles.

15. More recently, Trident-2 Development Test Missile #9 was destructed during third stage flight on 21 January 1988 because the flight control system went off course. ...Missiles do go off course and have to be destroyed. And these are only some of the failures we have been told about.

ANSWER:

The Strategic Target System is composed of proven boosters with state-of-the-art guidance and flight controls. Even though there have been launch failures of certain missiles under development, there have been a tremendous number of successful launches of different types of launch vehicles. Thus, the Strategic Target System which was designed as a low risk vehicle has a high mission reliability associated with it.

16. Page 2-25, Section 2.1.2.4, first paragraph of the DEIS - the end sentence states: "It should be noted that only flight termination during the first-stage powered flight of the Strategic Target System vehicle would have any effect on the island of Kauai and the surrounding vicinity." That may not always be true. ...It is my opinion that the second stage could also ignite after a first stage explosion, and that severe maneuvers could tumble the guidance system, thereby causing the second stage to fly about unpredictably. It would then be necessary to destruct the second stage which by that time might be over a populated area.

ANSWER:

If a launch vehicle has to be terminated during launch, the motors on the upper stages would also be cut open. For example, if during the first 60 seconds (which is the burn

Mr. Robert C. Aldridge
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time of the first stage booster) the vehicle's flight had to be terminated, the flight termination system (FTS) would be activated on all the stages. The ordnance of the FTS is designed to cut through the motor cases and relieve the internal pressure, thus it is not possible for the upper stages of the launch vehicle to fly about uncontrollably. The FTS is self-actuated in the case of a vehicle breakup and also in the case of premature upper stage booster ignition. Therefore, the statement made in the Draft EIS: "It should be noted that only flight termination during the first-stage powered flight of the Strategic Target System vehicle would have any effect on the island of Kauai and the surrounding vicinity." is true.

17. Regarding pages 2-11 (last paragraph) and 4-58 of the DEIS (1st paragraph) and the correction on page 2-20 of the EIS, Volume I, pertaining to hydrazine being in the third stage motor and being transported by truck through the community. There are currently lawsuits against Lockheed by hydrazine workers and their families for cancer caused by hydrazine at Lockheed's Santa Cruz Mountains Test Facility during the Polaris program.

ANSWER:

As described in the above references in the Draft and Final EIS, the Army has made every attempt to insure safety and reliability during transport and transfer operations. These measures are beyond the current requirements to protect the public's health and safety.

18. In summary, the health & safety hazards and environmental consequences of the STARS program to the island of Kauai have, in my opinion, been grossly understated, if not completely concealed. I recommend that a use permit for the hazard zone be rejected.

ANSWER:

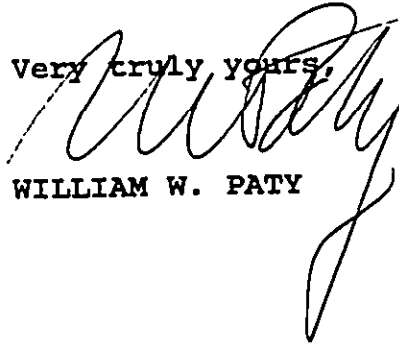
A careful and comprehensive review of the analyses contained in the Army's EIS and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Mr. Robert C. Aldridge
Page 9

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Based on ⁵⁰⁰this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Refer to KA-90:2107

Ms. Denise E. Antolini
Sierra Club Legal Defense Fund, Inc.
212 Merchant Street, Suite 202
Honolulu, Hawaii 96813

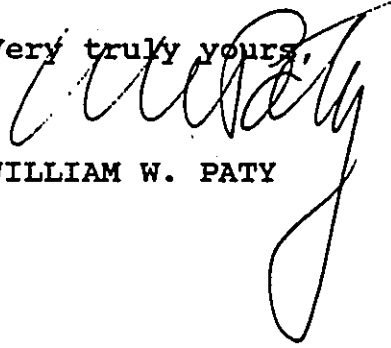
Dear Ms. Antolini:

This is in response to your supplemental comments received on September 18, 1992 on the environment assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U.S. government. The DLNR shares your concerns for the residents of Kauai in light of the recent hurricane which struck the island on September 11, 1992.

Accordingly, in the aftermath of Hurricane Iniki, we requested that the U.S. Army Strategic Defense Command provide us with an evaluation of any changes to the existing environment described in the Strategic Target System Environmental Impact Statement and of any damage to program related equipment and facilities due to Hurricane Iniki. The results of this evaluation are made a part of the Final Environmental Assessment.

Thank you for your supplemental comments.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Refer to:KA-90:2107

Ms. Denise E. Antolini
Sierra Club Legal Defense Fund, Inc.
212 Merchant Street, Suite 202
Honolulu, HI 96813

Dear Ms. Antolini:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

- I. **The State's Preparation of the DEA and the Notice Procedures Are Seriously Flawed and Violate HEPA.**

ANSWER:

Copies of the Draft EA and the Record of Decision were available to the public on August 7, 1992 at the DLNR, Division of Land Management, 1151 Punchbowl Street, Honolulu, Hawaii, Room 220. Also available for public viewing on the above date and location were three sets of the four volume Environmental Impact Statement (EIS). We received our first request for a copy of the Draft EA on August 10, 1992. The Lihue office of the DLNR was not designated as a location at which the Draft EA, the Record of Decision (ROD) and Final EIS would be available.

Upon receiving a request from Sierra Club Legal Defense Fund (SCLDF) on August 13, 1992, a copy of the Draft EA was sent to SCLDF on August 14, 1992.

Copies of the Administrative Record (AR) were available at Kauai libraries and Pacific Missile Range Facility (PMRF) on August 4, 1992. Other comments, as well as portions of your September 6, 1992 letter, would

indicate access and reference to the AR. DLNR has received, as of September 9, 1992, only one inquiry from persons on Oahu to review the EA, and this from the SCIDF. As litigation is ongoing in this matter between SCIDF and the State, the inquiry was referred to the Attorney General's Office.

The Federal government has applied to use State land in connection with a Federal project, and they have been consistently treated by DLNR as an "applicant". DLNR feels that the Federal government is thus also an applicant for purposes of HEPA. A copy of the application will be included in the Final EA.

II. **The Draft Environmental Assessment Is Inadequate And Fails To Comply HEPA.**

ANSWER:

Judge David A. Ezra found the original Federal EA prepared for the launch of STARS missiles from FMRF to be adequate, with the exception of two questions of adequacy of study done on air quality (State of Hawaii v. Richard Cheney, et. al., USDC Civil No. 90-0775 HMF (slip op. May 9, 1991). These questions were later resolved through a supplemental EA. The Federal EIS which was later prepared was not as a result of any judicial determination that the original EA was inadequate. As such the DLNR disagrees with your first point on the page under the above heading.

The DLNR feels it has complied with HEPA if one considers the entire history of this controversy. Similarly, DLNR feels it has complied with its obligation to review the environmental impacts upon the State land proposed to be used for a ground hazard area under the proposed MOA.

A. **The Reliability of The STARS Missile Has Been Grossly Exaggerated And Thus The Entire Environmental And Public Health Effects Analysis Is Fatally Flawed.**

ANSWER:

The reliability analysis provided in the Final EIS was performed by experts in the field (Sandia's Reliability Assessment Department) who had no vested interest in the Strategic Target System nor were instructed to publish a predetermined mission reliability figure. Each component and subsystem was evaluated to determine its reliability before the overall system reliability was found. The subsystems evaluated included established assets such as the refurbished Polaris A3 first stage rocket motor, the flight control system, and the guidance and control system. The document establishing the system reliability is referenced in the Draft EIS and is part of the administrative record. Therefore, this analysis is documented, is not contradictory, and is not overly optimistic.

It should be noted that the flight termination system has a much higher reliability than the missile itself. The purpose of the flight termination system is to rapidly depressurize the booster to minimize the thrust in the event of an anomalous flight.

1. **Polaris Reliability Data Is Highly Relevant, But Was Not Provided.**

ANSWER:

Extensive flight data exists on the reliability of the first and second stage Strategic Target System boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ these type of boosters as an element of their national defense. Even though the refurbished first and second stage boosters will perform as reliably as when new, it is not appropriate to compare the reliability of the Polaris A3 to the Strategic Target System. The Strategic Target System has new control electronics as well as a state of the art guidance and control system. Thus, only those subsystems taken from the Polaris A3 were used in the reliability evaluation for the Strategic Target System.

2. **Criticisms Of The Army's Reliability Figures Were Improperly Ignored Instead Of Addressed.**

ANSWER:

The Strategic Target System first and second stage boosters were not remanufactured. They have been refurbished to the original specifications and then x-rayed in all the critical areas by the original motor manufacturers. It is the recommendation by these manufacturers, as well as that of the missile integrator, that these boosters are highly reliable.

A Polaris first stage booster was considered for a Los Alamos National Laboratories neutral particle beam experiment in the 1980's. However, it was rejected for instabilities after burnout in favor of a smaller system, not due to any reliability issues.

Mr. Saucier's comments on the Final EIS regarding the concerns on using refurbished Polaris A3 first and second stage boosters were evaluated but were not considered valid by the original motor manufacturers and the missile integrator.

3. The Original Specifications For The Boosters Has Not Been Made Available.

ANSWER:

The original specifications for Polaris A3 first and second stage boosters along with test firing and dissections data from refurbished motors can be made available through the administrative record.

4. The Booster's Actual Performance Has Not Been Analyzed.

ANSWER:

The reliability of the first and second stage boosters was derived first analytically and then confirmed through actual flight tests of the Polaris A3. Static firings of refurbished boosters is meant to verify the refurbishment process and does not figure in the reliability analysis for the boosters. By a similar analysis, even though the third stage motor was successfully static fired six times and flown once, a motor reliability of 99.9665 percent was used to determine the overall system reliability rather than the 100 percent shown in a limited test program.

The number of successful operational A3 booster launches is classified. Of the launches that had a flight termination system, the flight could have been terminated had the range safety officer deemed it necessary to do so; however, there is no point in terminating a nominal flight. In these launches, as well as for the Strategic Target system launches, if events not associated with the boosters were not properly performed (such as the payload not deploying properly) then the launch could not be considered "successful". This is the definition of an overall mission reliability. A mission failure does not necessarily mean a catastrophic event. Rather, it means that not all of the mission's objectives were met.

5. The Army's Reliability Figures are Self-Contradictory.

ANSWER:

Even though the original design reliability goal of the Polaris SLEM were between 75% and 85% doesn't mean that the final version could not have had a significantly higher reliability or that this was the reliability of the boosters. An example of this is the Strategic Target System third stage booster. The design reliability goal was 98%; however, the manufacturer has delivered a booster with 99.9665% reliability. By the same token, the original design

reliability goal of the Strategic Target System (formerly IRBS) was 90%, yet 97% was obtained through careful design of the system. Also note that the reliability of the components will always be greater than the reliability of the overall system. Thus, the reliability of the boosters is greater than the reliability of the Strategic Target System.

6. Empirical Information On Loss Of Life And Property Due To Aborted Ballistic Missile Tests Is Vital, But Was Not Provided.

ANSWER:

As stated on page 2-19 of Volume I of the Final EIS, the flight termination action of a ballistic missile has never resulted in loss of life or serious damage to private property.

7. Overall Rocket Reliability Is Not Properly Analyzed.

ANSWER:

It has always been stated that the reliability of the Strategic Target System was derived analytically by evaluating all the components that make the launch vehicle. It is also true that the first flight of this configuration is scheduled to occur from the Pacific Missile Range Facility. However, the other launch systems mentioned (Trident-2, Midgetman, and MX) were in the early development phase with new boosters. The Strategic Target System uses proven first and second stage boosters in its configuration and should be evaluated in its own right rather than compared to other newly developed launch systems.

8. The Analysis Is Improperly Restricted To Only First-Stage Flight Termination.

ANSWER:

Analysis of flight termination during second stage burn is not as thoroughly discussed in the documentation simply because after a nominal first stage booster burn, the vehicle is 94,000 feet high and 13 miles downrange. Thus, a flight termination during second stage burn will have no impact on Kauai.

9. Critical Data On Polaris Flight Tests Has Not Been Made Available.

ANSWER:

Data from the Navy's launches of Polaris A3 is still classified and cannot be made available to the public. However, all Polaris components utilized in the Strategic Target System have been refurbished and recertified such that the original high component reliability has been reached.

- B. The adequacy of the Ground Hazard Area is highly questionable and thus the use of state lands is severely underestimated.

ANSWER:

Note that the 10,000 foot Ground Hazard Area (GHA) for the Strategic Target System is much larger than the GHA for other launch vehicles. See revised Figure 2-4 on page 2-2 and also the response to comment OR 80-1 on page 3-32 in the Final EIS, Volume I. If a flight is terminated, the first stage does not explode, as explained on page 2-25 and Appendix D of the Draft EIS.

- C. The State's analysis of the potential effects of hazardous materials and wastes in the GHA is woefully inadequate.

ANSWER:

No hazardous materials or wastes result from a normal launch. In the unlikely event of a flight termination, there would be chunks of solid propellant that would have to be treated as hazardous waste. During a flight termination, the liquid propellant would burn so minimal quantities, if any, would reach the ground, as described on page 2-25 of the Draft EIS.

- D. The impacts of fire on State lands have been underestimated.

ANSWER:

Page 4-29 of the Draft EIS clearly indicates the types of mitigation measures that may be employed to reduce any impacts to vegetation and the dunes due to a fire. In addition to the presence of base fire crews who will be ready at every launch, potential mitigation measures include the use of a portable blast deflector, the clearing of dead brush around the launch pad, spraying vegetation before launch, and when possible using a spray nozzle to avoid erosion and damage to the dunes.

- E. Impacts on air quality levels were not properly addressed.

ANSWER:

General air quality effects were considered in the U.S. Army's Strategic Target System EIS.

Air quality standards are used to assess effects on air quality. For six "criteria" pollutants, the USEPA has established primary ambient air quality standards to protect public health, allowing for an adequate margin of safety. In addition, the USEPA has set secondary standards to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutants in the ambient air. Effects on public welfare include effects on comfort, visibility, vegetation, animals, aesthetic values, and soiling and deterioration of materials. The six "criteria" pollutants are carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide, fine (respirable) particulate matter, and lead. The State of Hawaii also has set ambient air quality standards which are as strict or stricter than the national standards. (Refer to Table 3-3, page 3-13 of the U.S. Army Draft EIS.)

Neither the screening air dispersion model nor the rocket-launch specific model indicated that an exceedance of national or state primary or secondary ambient air quality standards will result beyond the ground hazard area from a normal launch or a flight termination of a Strategic Target System vehicle.

Relevant public exposure guidelines published by governmental agencies and professional organizations are used as indicators of significance for noncriteria pollutants. Neither the screening air dispersion model nor the rocket-launch specific model indicated that relevant public exposure guidelines for aluminum oxide and hydrogen chloride will be exceeded beyond the ground hazard area.

These public exposure guidelines apply to human health but not to plant and animal communities. To assess the effects of noncriteria pollutants on vegetation and wildlife, comparisons are made of pollutant concentrations predicted by air dispersion models with levels that result in adverse effects as documented by published scientific research. These comparisons indicated that no significant effects on plant and animal communities due to hydrogen chloride emissions from Strategic Target System activities will occur.

The sum of the air quality effects of the Strategic Target System and other missile programs were considered in the U.S. Army's Draft EIS for the Strategic Target System, Section 4.3.3 Cumulative Effects. Although a comprehensive emissions inventory of all emissions sources at FMRF and KTF has not been made, the point sources that are under a Permit to Operate from the State of Hawaii Department of Health were quantified. (See response to comment

WR9-5, Vol. I Final EIS.) The U.S. Army's EIS concluded that no cumulative air quality impacts are anticipated for the Strategic Target System in combination with other programs at PMRF and KTF.

The differences in hydrogen chloride concentrations predicted by the screening air dispersion model, TRPUF, and the rocket-launch specific model, REEDM, do not indicate a significant potential for error and miscalculation of risk. Screening models incorporate simplifying and conservative assumptions within their calculations with the intention of getting output results that are on the high side. Furthermore, screening models are typically applied to a variety of sources. If a screening model indicates a potential air pollution problem, then additional modeling, specifically designed for a particular application, is conducted. As models are improved and new versions released, they become increasingly accurate in their predictions. Even so, air dispersion models remain hypothetically ideal and still are predictive tools. Consequently, an air monitoring program is planned for the first Strategic Target System launch. Field measurements at Kennedy Space Center and Vandenberg Air Force Base have verified REEDM predictions as discussed in the references cited on page 4-10 of the U.S. Army's Draft EIS. (See also response to comment WR2-3, Vol. I Final EIS.)

- F. Potential impacts on public health and safety have been underestimated.

ANSWER:

Figure 2-13 on page 2-23 of the Draft EIS for the Strategic Target System shows the ground hazard area extending approximately 1,100 meters into the south part of Polihale State Park. Before a Strategic Target System launch takes place, this entire ground hazard area will be verified clear of the public and unauthorized personnel. The most reliable air dispersion modeling available to the U.S. Army indicated that beyond the ground hazard area concentration of hydrogen chloride produced by either a normal launch or an early flight termination will not exceed the relevant public exposure guideline. Therefore, persons remaining in the northern portion of Polihale State park are unlikely to be subjected to unsafe levels of hydrogen chloride.

Section 4.8.1 of the Draft EIS does present a discussion on the public proximity (just outside the 10,000' GHA) to the launch site. It discusses limits that have been set to prevent damage to human hearing, including a time-weighted average of 90 Db (A) for an 8 hour exposure, and the 15-minute (or less) exposure is 115 dB (A). There are no standards for single-event noise levels. As shown on Figure 4-4 of the Draft EIS, at the edge of the GHA, roughly 2 miles distance, the peak single event noise levels are 91 db (A), below

the 115 dB (A) limit and near the 90 db (A) limit. Since these are 15 minute and 8 hour limits, respectively, and the sound of the booster would only be audible for a few seconds, no significant impact to the public is expected.

- G. The State has failed to address the very serious impacts of its proposed action on precious State park lands.

ANSWER:

The Army has reviewed Strategic Target System activities on Kauai, including the proposed MOA, through the completion of an environmental assessment, a supplemental environmental assessment and a full EIS. Under provisions of the National Environmental Policy Act, the Strategic Target System project has been the subject of extensive public review, agency review as well as judicial review. Consultation were conducted with federal, state, and local experts in the various environmental resource areas. The State of Hawaii, in preparing its draft environmental assessment on the proposed MOA, has once again reviewed this extensive body of information. We have concluded through this review any impact would be of short duration because of the mitigations established and committed to by the Army.

- H. The DEA underestimates the environmentally sensitive nature and hazards of this area.

1. The DEA underestimates the risk of a tsunami.

ANSWER:

The 100-year tsunami flood zone on page 3-5 of the Draft EIS is based on specific information taken from the Federal Emergency Management Agency (FEMA) flood zone map for the island of Kauai. The information is the definitive data for insurance and other purposes and, as such, was used by the Army as the basis for their analysis in the Draft EIS.

2. Flooding hazard and hurricane risk is underestimated.

ANSWER:

As noted above the analysis was based on the FEMA 100-year flood zone map. During the recent devastation caused by Hurricane Iniki, the Strategic Target System program area was not inundated by flood waters.

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- I. The significant biological resources of these State lands has not been fully addressed.

ANSWER:

Potential impacts on biological resources were assessed in the context of local, state, national, and global distributions. In some cases if state level or wider distributions were to be presented the potential for impacts would be even less than those judged to be not significant in the Army's EIS (Section 4.4 of the Draft EIS).

1. Nohili dune

ANSWER:

The sensitivity of the Nohili Dune system and the potential impacts to the dunes as well as protective mitigation measures are discussed in the Army's EIS (Section 4.4 of the Draft EIS and pages 2-15 [Page 4-31, Section 4.5.1.2, para. 3], page 2-16 [Page 4-34, after para. 1] of the Final EIS).

2. Protected plant species

ANSWER:

Sesbonia tomentosa and Ophioglossum concinnum have been discussed in detail in the Army's EIS process as have mitigation measures for O. concinnum.

Panicum niuhauensis was found by the Nature Conservancy staff at the northern edge of the GHA. The potential impact on this species was evaluated and determined to not be significant.

Chamaesyce celastrioides - A small population of this species was found by Nature Conservancy staff in the Queens Pond area of Polihale State Park at the northern edge of the GHA. This population is a component of the strand vegetation and is not a well documented plant community. Potential impacts to their population due to the Strategic Target System are unlikely. Off road vehicles are a greater concern than impact due to an early flight termination. In the event of a fire, germination and seedling establishment is expected.

Myoporum sandwicense - This species is a component of the strand vegetation type. It is not a well documented vegetation community. The species currently has no federal sensitivity status. Potential impacts to this species are expected to be similar to those species discussed above and are not expected to be significant.

Lobelia niihauensis, Wilkesia hobbvi, Scheidea apokremnos, and Hedyotis stichniashus are all species of the NaPali cliffs. Cliff habitats, especially those of the NaPali coast are outside of the GFA and areas of potential impact due to emissions of Hcl and other emissions from the booster motors.

Capparis sandwichensis has historically occurred at the back of the beach in the area of Poipu and at the northern end of the park at Polihale. Potential impacts to this species are expected to be similar to those from S. tomentosa, P. niihauensis, and C. celastroides, and are not significant.

3. Protected bird species

ANSWER:

The endangered species of waterbirds: Hawaiian Duck (Anas wyvilliana), Hawaiian Coot (Fulica americana alai), Hawaiian gallinule (Gallinula chloropus sandvicensis) and the Hawaiiian stilt (Himantopus mexicanus knudseni) are addressed in detail in the Army's EIS, Sections 3.4 and 4.4 of the Draft EIS. The impacts on the agricultural drains and ponds currently used by these species will not be significantly impacted by implementation of the MOA. No significant impacts on the species are expected.

The noise monitoring program to be implemented as part of the Army's mitigation program is designed to determine the attenuation of noise levels with distance from the launch pad. The potential effects of noise on wildlife including water birds is addressed in the Army's EIS on page 4-26. Short duration single event noise may cause a startle effect but are not expected to significantly affect the water bird species.

The potential impacts of Hydrogen Chloride and other emissions are discussed in detail in the Army's EIS, Section 4.3 of the Draft EIS. The low levels of these emissions reaching water bird habitat would not affect food resources, breeding habitat, or egg hatchability. As discussed on page 4-26 of the Draft EIS, similar studies on representative birds and mammals indicate low level short-term exposure to hydrogen chloride would not significantly impact wildlife on Kauai.

The U.S. Army's analysis of potential impacts to endangered species is not predicated on limited dispersion of launch vehicle emissions. Although the air dispersion modeling

results indicate that emissions will disperse beyond the ground hazard area and the PMRF boundaries, the concentrations and duration of exposures is not sufficiently high to cause significant impacts to food sources, feeding habitat, and egg hatchability of endangered waterbirds.

4. Hawaiian monk seal and hoary bat

ANSWER:

Potential impacts on both of these species are discussed in the Army's EIS (Section 4.4.1.3 of the Draft EIS). Mitigations committed to be the Army are presented in the EIS and will reduce any potential impacts to the monk seal to non-significant levels.

5. Green sea turtle

ANSWER:

The Army has committed to surveys for green sea turtles prior to transport across the beach. This will mitigate potential impacts on this species to non-significant levels. The survey approach has been accepted by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service.

6. Humpback whales

ANSWER:

Potential impacts on humpback whales (*Megaptera novaeangliae*) have been addressed in the Army's EIS [Section 4.4.1.3 of the Draft EIS and pages 3-35 (response to comment OR100-1) and 3-42 (response to comment OR150-1) in Volume I of the Final EIS] and in a Biological Assessment prepared in compliance with Section 7 of the Endangered Species Act. The findings in the Biological Assessment of no affect on the humpback whale were concurred with by the National Marine Fisheries Service.

Upward directed light on land is the problem that causes shearwaters to crash into poles, wires, and buildings. The light from helicopters would be directed downward and any reflection from the water would be similar to natural moonlight reflections. Since this activity takes place over water there would be no chances of shearwaters crashing. There would be no significant impact.

Inshore lights are the potential problem with sea turtle hatchlings. The presence of light and reflections offshore should not confuse the hatchlings in their quest for the sea. Offshore lights are not expected to effect adult turtles in their nesting activities.

The National Marine Fisheries Service has reviewed the species addressed in the Army's EIS and in the Biological Assessment under Section 7 of the Endangered Species Act. Concurrence with the findings in these documents indicates that marine mammals potentially affected by the Strategic Target System had been evaluated adequately.

7. Laysan albatross and Nene.

ANSWER:

The Laysan Albatross is addressed in the Army's EIS (Section 3.4 and 4.4 of the Draft EIS) and in the Section 7 consultation Biological Assessment, and in the Army's EA prepared earlier. No significant impacts are expected from any of the Strategic Target System program activities.

Discussions with the Department of Wildlife and Forestry indicate the whole island of Kauai is considered potential habitat for the Nene. However, there have been only two unconfirmed sightings of the Nene in Polihale State Park. If the Nene were present in any consistent manner, the potential of a specific individual or grouped individuals being impacted by the Strategic Target System program activities would be similar to that of the other water birds and not significant.

J. The State has neglected its duty to address the serious potential impacts to cultural resources.

ANSWER:

The Army has reviewed Strategic Target System activities on Kauai, including the proposed MOA, through the completion of an environmental assessment, a supplemental environmental assessment and a full EIS. Under provisions of the National Environmental Policy Act, the Strategic Target System project has been the subject of extensive public review, agency review as well as judicial review. Consultation were conducted with federal, state, and local experts in the cultural resource area. The State of Hawaii, in preparing its draft environmental assessment on the proposed MOA, has once again reviewed this extensive body of information. We have concluded through this review any impact would be of short duration because of the mitigations established and committed to by the Army.

Ms. Denise E. Antolini
Page 14

7-2-1992

III. The State must prepare an independent EIS and fully comply with
HEPA....."segmentation"

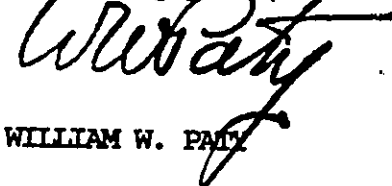
ANSWER:

The DINR does not believe that illegal "segmentation" is occurring here. This EA addresses environmental impacts upon the State land proposed to be used for a ground hazard area under the proposed MOA. Any use of State land in connection with the STARS project after 1993 would require compliance with all applicable environmental statutes. The proposed MOA is not so functionally interdependent with potential post-1993 uses so as to warrant a total consideration of environmental impacts at this time.

A careful and comprehensive review of the analyses contained in the Army's EIS and subsequent ROD has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PAINE

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

Refer to:KA-90:2107

Clifford I. Arinaga
Post Office Box 187
Koloa, HI 96756

Dear Mr. Arinaga:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. **The applicant in this Environmental Assessment is the Department of Land and Natural Resources and not the U.S. Army Strategic Defense Command.**

ANSWER:

The Federal government has applied to Department of Land and Natural Resources (DLNR) for permission to control access onto State land surrounding the Pacific Missile Range Facility (PMRF) at Barking Sands, Kauai. The Federal government's application was considered by the Board of Land and Natural Resources (BLNR) at its meeting of April 27, 1990. As such, DLNR is not the applicant for purposes of this EA. The U. S. Army Strategic Defense Command is as the representative of the Federal government.

2. **DLNR's Environmental Assessment does not meet the requirements of Section 11-200-10 and Section 11-200-12 of the Hawaii Administrative Rules.**

Mr. Clifford I. Arinaga
Page 2

ANSWER:

The DLNR recognizes that you may dispute the adequacy of DLNR's EA. However, given the history of this controversy and looking at the administrative record as a whole, DLNR feels that Chapter 343, Hawaii Revised Statutes (HRS) and implementing regulations have been complied with.

3. **The adequacy of DLNR's Environmental Assessment as well as the determination of significance or no significance should be made by independent third parties and not by DLNR.**

ANSWER:

The Army has reviewed Strategic Target System activities on Kauai, including the proposed Memorandum of Agreement (MOA), through the completion of an environmental assessment, a supplemental environmental assessment and a full Environmental Impact Statement (EIS). Under provisions of the National Environmental Policy Act, the Strategic Target System has been the subject of extensive public review, agency review as well as judicial review. Consultations were conducted with federal, state and local experts in every environmental resource area. The State of Hawaii, in preparing its draft environmental assessment on the proposed MOA, has once again reviewed this extensive body of information. Our analysis of the facts associated with this projects leads to the conclusion that producing a full EIS on the proposed MOA is not required. Furthermore, the DLNR is not aware of any legal requirement calling for these determinations to be made by an independent third party or parties.

4. **The safety of the Polaris A-3 boosters is in grave doubt.**

ANSWER:

The Strategic Target System uses refurbished Polaris A-3 boosters. Both the 1st and 2nd stage boosters are refurbished to original manufacturer's specification by the original booster manufacturer. In addition, multiple static firings have been performed, as well as non-destructive testing of key components, such as x-ray of the 1st and 2nd stage boosters. Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. The State of Hawaii has reviewed the analysis in the Army's EIS and found it to reasonably address all potential concerns.

Mr. Clifford I. Arinaga

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5. DLNR must look at the record of the Department of Defense's contamination of lands and its failure to restore contaminated lands to usefulness.

ANSWER:

The State lands which are the subject of the proposed MOA would be used solely as a ground hazard area. Nothing is proposed to be constructed on that State land, nor are any missiles going to be launched from that State land. The impacts on that State land from use as a ground hazard area are different from the impacts discussed in this section.

As to the material you requested, much, if not all of it falls within recognized privileges or exceptions to Chapter 92F, Hawaii Revised Statutes (HRS). The State has made available for review the materials detailed in its Draft EA.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

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HISTORIC PRESERVATION
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LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

Mr. John Beall
226 N. Murphy Ave
Sunnyvale, CA 94086

Dear Mr. Beall:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

"I can't believe that the State of Hawaii is proposing to allow Stars launches to occur without completing the environmental documents."

The National Environmental Policy Act (NEPA) was established to ensure that decision makers for major federal activities were aware of and considered the potential effects on the environment as a result of the proposed action. The Hawaii Environmental Policy Act (HEPA) was derived from NEPA to be applied to state activities in a similar manner. Similarly, the State is a participant in this environmental process.

The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment, and an Environmental Impact Statement. As part of these analyses, consultations were conducted with federal, state and local experts in every environmental resource area. The State of Hawaii has once again reviewed this extensive body of information in order to ascertain the potential effects of the state entering into agreement with the U.S. government for the purpose of conducting the Strategic Target

Mr. John Beall
Page 2

System activity. The State draft Environmental Assessment has incorporated portions of the Army's Final EIS by reference. It is the State's determination that the Army has fulfilled the environmental requirements through the Strategic Target System Final EIS and that a separate State EIS is not required.

"Closing Polihale Park Beach 19 times per year at undetermined times will anger locals and tourists who set up plans like child care or time off from work to spend time at the beach. Delays in launches because of problems in Kauai or Kwajalein will add to the time the Beach and Ocean area will be closed."

Closure of a portion of Polihale State Park is based on activation of a modified 10,000 ft radius Ground Hazard Area (GHA) and public safety. Due to the periodic nature of this program (four launches per year) and their short duration, Strategic Target System operations should not adversely impact users of Polihale State Park. It should be noted that the GHA does not affect the entire park nor does it encompass any existing camping areas. As stated in the proposed Memorandum of Agreement, vehicular traffic into and out of the park will be interrupted for only 20 minutes, a maximum of 19 times per year. It is expected that activities associated with this project will be virtually transparent to nearly all users of the park.

"The 27 year old Polaris Missile first and second stages are older than the Minuteman III third stage motors which were sent to UTC in 1984 to be remanufactured...If these aged third stage motors were too old to be part of an operational Minuteman III missile, then how can the first and second stages of the Polaris missile be used?"

Booster Reliability - Steps have been taken to ensure that the reliability of the boosters is maintained. This includes periodic static firings, non-destructive testing such as x-raying of all critical boosters areas and refurbishment to original specifications by the original booster manufacturers. It is the recommendation by these manufacturers, as well as that of the missile integrator that these boosters are highly reliable.

"The exhaust of the solid rocket motor fuel contains not only hydrochloric acid, and aluminum oxide, but also dioxin. Recent tests by Aerojet in Sacramento on an incinerator, and analysis of UTC's burn pit smoke indicates that dioxin is created as an exhaust byproduct of solid rocket motor fuel. What is the impact of this to the environment at Polihale Beach? Rare plants will be impacted by the exhaust. Have revegetation plans been tested and proven successful?"

Mr. John Beall
Page 3

No dioxins would be found in the exhaust emissions at the combustion temperatures produced the first stage booster.

The effects of exhaust emissions on the environment are discussed in the Strategic Target System Draft EIS, Section 4.4.1.2, pages 4-23 to 4-26 and 4.4.1.3, pages 4-26 to 4-30. There are potential impacts of hydrogen chloride emissions on the biological environment of the Kauai Test Facility and the adjacent region of influence. Predicted 20-minute average concentrations of hydrogen chloride for a Strategic Target System launch ranged from 5.0 ppm to 1.5 ppm for distances of 300 meters to 3,000 meters. Concentrations at which damage occurs varies depending on the species. Vegetation samplings in the area near active launches at KTF indicated no evidence that hydrogen chloride emissions from launches over the past 20 years had affected vegetation present in the KTF or adjacent areas. The occurrence of a substantial population of rare species such as the adder's tongue fern (*Ophioglossum concinnum*), near an active launch site provides an indication that long-term adverse effects are not expected. Successful transplantation of adder's tongue ferns have been conducted.

The effects of hydrogen chloride emissions on some small animal species has been documented. Although no specific studies have been conducted on species within the region of influence or elsewhere on Kauai, the studies on representative birds and mammals indicate low level short-term exposure to hydrogen chloride would not be significantly affect wildlife on Kauai.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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Helen Behrmans
Post Office Box 483
Naalehu, HI 96772

Dear Ms. Behrmans:

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ANSWER

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Ms. Helen Behrmans
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ANSWER

Page 2-2 of Vol. I of the Army's FEIS adds a table which lists the radius of GHAs used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet. Also, on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigress mission and the size of its hazard area are not comparable to that of the Strategic Target System."

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The lease held by Kekaha Sugar on Hawaiian ceded land adjacent to the PMRF ends in late 1993. This area is a possible site for Hawaiian Homelands. Should the State of Hawaii compromise or restrict this land before Hawaiian rights are addressed?

ANSWER

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ANSWER

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5. AIR QUALITY

Experts have criticized the computer calculations of concentrations of hydrogen chloride and carbon monoxide that will be produced by STARS launches. Public health risks appear to be woefully underestimated.

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. This data has been received by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentration of combustion products at various distances from the launch site. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects. Even though our

Ms. Helen Behrmans
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experts have determined the analysis to be adequate the Army has decided to monitor these constituents during the first launch to confirm their results. The clean air branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Mr. David Breen
Post Office Box 794
Hanalei, HI, 96714

Dear Mr. Breen:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

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Mr. Chuck Brinkman
145 Kaholalele Road
Kapaa, HI, 96746

Dear Mr. Brinkman:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) Military Stewardship of Hawaii's Lands--"Historically the military has been a terrible steward for Hawaii's lands. No one intended that Kaho'olawe would become unfit for human habitation or recreation--but that's what happened, and now the military says that the cost of a cleanup would be prohibitive. The same seems to be true of Lualualei and a number of other lands on O'ahu. The military has always promised to clean up after itself and return lands which have been turned over to it, but the record indicates that it has done a lousy job."

Answer: The military is not asking for stewardship of the State Lands affected by the proposed Memorandum of Agreement. The situation at Kaho'olawe is not a good analogy, as one of the reasons it was turned over for use as a target area was that previous attempts at human habitation and commercial ranching proved unsuccessful.

2) Use of Park Lands--"Now the military wants to use our park lands at least 19 days each year for the next ten years. This will only be afoot in the door. 19 days will grow to 20 and then to 30 and

Mr. Chuck Brinkman
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the hours will be extended, little by little. Ultimately we will lose control of these lands just as we have other lands before them--and all for a program, STARS, that is itself unneeded, probably unworkable, and a tremendous waste of tax-payer's money. Don't let the military get its foot any further in the door.

Answer: The military does not intend to "use" State park lands in any different way than it has for the past 30 years. The land in question is part of the Ground Hazard Area, and clearance of the area is for the purposes of public safety. State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur.

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Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Ms. Becky Burns-Gordon
6074 Lokomaikai Place
Kapaa, HI, 96746

Dear Ms. Burns-Gordon;

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) **REQUIREMENT FOR A FULL EIS:** "I understand that the State has not provided a full EIS as yet and I insist that that be done."

Answer: The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army has determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

Ms. Becky Burns-Gordon

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2) CONCERNS: "I am not in favor of the missile launching because I am concerned about the health and safety of people in the area or debris left behind. I also understand that the Park can be closed (partially with minimal notice. That does not look good for our already suffering tourist industry."

ON HEALTH: Extensive analysis has occurred with respect to STARS program activities potential effect on Kauai, including air quality, fauna and flora, public health and safety and socioeconomics. This information and analysis has been thoroughly reviewed and scrutinized by State of Hawaii agencies prior to any determination being reached. However, our analysis of the facts associated with STARS Program also leads to the conclusion that no significant effect would result.

ON SAFETY: Regarding rocket safety, as stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for National Security reasons--allies continue to employ the same boosters as an element of their national defense. However, extensive steps have been taken to ensure that the reliability of the boosters is maintained. This has included multiple static firings, non-destructive testing such as x-ray of the 1st and 2nd stage boosters and refurbishment to original specifications by the original booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (page 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

ON DEBRIS LEFT BEHIND: In accordance with the draft EIS, any debris resulting from the launches will be cleaned up to the maximum extent practicable.

ON PARK CLOSURE: The State will be notified seven days in advance for each closure event. State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur.

Ms. Becky Burns-Gordon
Page 3

ON THE ADVERSE IMPACT ON TOURISM: The project is not expected to have any effect on tourism as addressed in the Army's Final EIS (page 3-21) and in the Draft EIS (paragraph 4.12).

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STATE OF HAWAII
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Mr. Andrew F. Bushnell
6510 Oloheua Road
Kapaa, HI, 96746

Dear Mr. Bushnell:

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Mr. Marcus Castainey
Post Office Box 483
Naalehu, HI 96772

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Experts have criticized the computer calculations of concentrations of hydrogen chloride and carbon monoxide that will be produced by STARS launches. Public health risks appear to be woefully underestimated.

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. This data has been received by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentration of combustion products at various distances from the launch site. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to

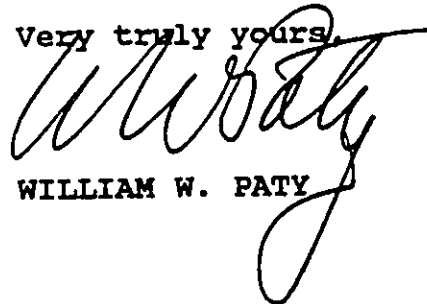
Mr. Marcus Castainey
Page 4

produce long-term detrimental effects. Even though our experts have determined the analysis to be adequate the Army has decided to monitor these constituents during the first launch to confirm their results. The clean air branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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Michelle Carroll
Post Office Box 93
Kilauea, HI 96754

Dear Ms. Carroll,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. **Rocket safety - there is none.**

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

Ms. Michelle Carroll
Page 2

2. Hazard Arc - how can debris possibly be contained

ANSWER

Page 2-2 of Vol. I of the Army's FEIS adds a table which lists the radius of GHAs used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet. Also, on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigress mission and the size of its hazard area are not comparable to that of the Strategic Target System."

3. HAWAIIAN HOMELANDS - give the land to the rightful owners - people who love peace. Dont use this land for negative war-like activities.

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands is unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

4. PARK CLOSURE - close the park? In one breath we talk about how to bring more tourists to the island. In the next breath we very easily say we will just ask them to leave one of the more beautiful beaches. I'm sure they will love this. It will really make more tourists want to come here - they love a war atmosphere!

ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation

Ms. Michelle Carroll
Page 3

requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

5. **AIR QUALITY - it is ridiculous - the air is so sick already, how and why does/can this madness continue. For how much longer.**

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. This data has been received by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentration of combustion products at various distances from the launch site. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects. Even though our experts have determined the analysis to be adequate the Army has decided to monitor these constituents during the first launch to confirm their results. The clean air branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Refer to:KA-90:2107

Carl C. Christensen
Staff Attorney
Native Hawaiian Legal Corporation
1270 Queen Emma Street, Suite 1004
Honolulu, HI 96813

Dear Mr. Christensen,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

As a general matter, although DLNR understands many of the concerns raised in your letter, DLNR does not feel they would properly be within the scope of this document, which is examining the environmental impacts upon State land, pursuant to Chapter 343, Hawaii Revised Statutes (H.R.S.) and implementing regulations from entering into a proposed Memorandum of Agreement (MOA) with the Federal government. Please find below our response to your specific comments.

As to your Comment No. 1, DLNR does not agree that the lands at Pacific Missile Range Facility (PMRF) now under Federal control are "public lands" within the definition of section 171-2, H.R.S.

As to your Comments No. 2 and 6, the question of compliance with State law by the Federal government was addressed in the earlier Federal litigation you cite. You may refer to Judge Ezra's decision for the disclosure and adequate explanation you mention. As to your Comment No.5, DLNR does not believe that there is any violation of the statutes cited.

Mr. Carl C. Christensen
Page 2

As to your Comment No. 7, it is not clear to DLNR that the roads you mentioned are County of Kauai roads.

As to your Comment No. 9 and 10, the DLNR does not believe that illegal "segmentation" is occurring here. This EA addresses environmental impacts upon the State land proposed to be used for a ground hazard area under the proposed MOA. Any use of State land in connection with the Strategic Target System project after 1993 would require compliance with all applicable environmental statutes. The proposed MOA is not so functionally interdependent with potential post-1993 uses so as to warrant a total consideration of environmental impacts at this time.

As to your Comment No. 11, impacts of the Vandal launches were discussed on page 3-45 and in the discussion of cumulative impact in Section 4.6.3 of the Draft EIS and in the Strategic Target System Program Environmental Assessment.

As to your Comment No. 12, copies of the Draft EA and the Record of Decision (ROD) were available to the public on August 7, 1992 at the Department of Land and Natural Resources, Division of Land Management, 1151 Punchbowl Street, Honolulu, Hawaii, Room 220. Also available for public viewing on the above date and location were three sets of the four volume Final Environmental Impact Statement (EIS). We received our first request for a copy of the Draft EA on August 10, 1992. The Lihue office of the DLNR was not designated as a location at which the Draft EA, ROD and Final EIS would be available.

Copies of the Administrative Record (AR) were available at Kauai libraries and PMRF on August 4, 1992. Other comments, as well as portions of your September 7, 1992 letter, would indicate access and reference to the AR. DLNR has received, as of September 18, 1992, only one inquiry from persons on Oahu to review the EA, and this from the Sierra Club Legal Defense Fund (SCLDF). As litigation is ongoing in this matter between SCLDF and the State, the inquiry was referred to the Attorney General's office.

A careful and comprehensive review of the analyses contained in the Army's EIS and subsequent ROD has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Mr. Carl C. Christensen
Page 3

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Mr. Raymond L. Chuan, PhD
COALITION AGAINST STAR-WARS ON KAUAI
P.O. Box 1183
Hanalei, HI 96714

Dear Dr. Chuan:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. The DEA does not comply with the requirements of Administrative Rules, Title 11, Chapter 200, Subchapter 6, 11-200-9(a).

ANSWER:

This is an applicant action, not an agency action, so Hawaii Administrative Rules (HAR) Sec. 11-200-9(b) applies, not Sec. 11-200-9(a).

Agencies listed as consulted in the DEA were in fact consulted with by DLNR. The other agencies listed, as well as "citizen groups and individuals," are not required to be consulted with for an applicant action.

DLNR feels there was sufficient information in the DEA, i.e. inclusion of a draft Memorandum of Agreement (MOA), the title of the DEA clearly indicating an intent "to establish a ground

hazard area on State lands adjacent to the Pacific Missile Range Facility, Kauai, Hawaii to alert a reader to satisfy the requirement of HAR 11-200-10(5) imposes a "summary description of the affected environment (emphasis added)."

2. The DEA fails to recognize that the primary and immediate impact of the proposed MOA is the denial of use and enjoyment of Polihale State Park by the public. It thus fails to comply with HAR 11-200-12(b)...

ANSWER:

DLNR does not feel that the potential impacts of the proposed MOA and the limited use of State land addressed therein arise to the level of significance set out in HAR 11-200-12(b) so as to have a significant effect on the environment.

3. HAR 11-200-13(c) states, "Agencies shall not, without considerable preexamination and comparison, use past determinations and previous EIS's to apply to the action at hand. The action for which a determination is sought shall be thoroughly reviewed prior to the use of previous determinations and previously accepted EIS's...."

ANSWER:

The quoted section of HAR 11-200-13(c) speaks for itself. On May 9, 1991, Judge David A. Ezra ruled in State of Hawaii v. Richard Cheney, et al., USDC Civil No. 90-0775 HMF; that contrary to DLNR's earlier position, the Federal government did not have to obtain a CDUA. The Office of State Planning has determined that the action for which the Federal government is applying to use State land would be consistent with the State's CZM program subject to conditions which were documented in the Final EIS and committed to in the Record of Decision (ROD) by the Federal Government. See Final EIS, Volume I, pp. 4-18 to 4-21, and ROD.

The other comments to the Draft EIS listed in this section were all responded to in the Final EIS.

4. The DLNR has not realistically assessed the consequences of the closing of Polihale Park as prescribed in the proposed MOA. It is quite impossible to clear the part of the Polihale Park within the so-called Ground Hazard Area in twenty minutes. It requires much longer than twenty minutes for a normal person, without motorized vehicles, to go from the beach near Nohili Point, for example, over the sand dunes back to where his car is parked. Likewise, it would take a

security personnel on foot much longer than twenty minutes to look for persons on the beach; and it would require many such personnel to cover the affected area. Assuming that the launch hour is definitely set (which is highly unlikely given the nature of missile launches) it would probably take at least two hours prior to the launch to close the access to the park and look for and evacuate people. Even this is not a likely scenario, since the Navy has said that it would not directly notify the public of a planned launch, but that the public would have to call the DLNR for such information, if any, on a daily basis if necessary. All this places the public in an untenable situation in trying to plan for a visit to Polihale Park. The process of notification as currently explained to the public in effect closes the Park for a month at a time for all but those who live very near Polihale Park.

ANSWER:

The Army has clearly explained how range clearing operations would occur on page 2-5 of Volume I of the FEIS as a change to the DEIS page 2-25. This includes entering the area to begin notifying people that they must leave in sufficient time to ensure the ground hazard area is clear at t-20 minutes. The Army also stated that adequate personnel will be available to allow posting guards with people moving from the area to verify their clearance at t-20 minutes. The FEIS then explains the all other activities required to ensure that the area is clear at t-20 minutes.

Permit issuance for camping purposes is not a factor in clearance of the GHA. The area affected by the GHA is south of the designated camping area for which permits are issued. There will be no disruption to campsites located in the area for which permits are issued, only the possibility in a 20 minute delay either entering or exiting the park by vehicle.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Mr. Raymond L. Chuan
Page 4

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



W. W. Paty
WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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Refer to:KA-90:2107

Sally Chase Clark
Post Office Box 1996
Lihue, HI 96766

Dear Ms. Clark,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. HAWAIIAN HOMELANDS

the use of native Hawaiian lands for purposes opposed to the federally and state mandated uses of those (stolen) lands

the continued removal of Hawaiian ceded lands from use for Hawaiian Homelands

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands is unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

JOHN WAIHEE
GOVERNOR OF HAWAII



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Evelyn de Buhr
Post Office Box 158
Hanalei, HI 96714

Dear Ms. de Buhr,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. Issues that need to be addressed are those of the effects of highly volatile and toxic chemicals of this magnitude unleashed in the air, the ocean, and possibly on land in the case of accidents. (Then missiles are designed for death and destruction, after all, so why should they be considered benign for these launches all of a sudden? Murphy's law should definitely be taken into consideration.)

ANSWER:

The Strategic Target System is not a weapon. As stated on page 2-1 of the Army's DEIS, these boosters would fly non-nuclear experiment payloads to re-enter near the U.S. Army Kwajalein Atoll (USAKA) in the Republic of the Marshall Islands. Here, existing sensors will collect data on the payloads.

Ms. Evelyn de Buhr

Page 2

Additionally, the Army assessed the potential for significant impact due to emission from STARS launches for both normal and early terminated flights (Section 3.3 and 4.3 of DEIS). This assessment has been reviewed by the Hawaii Department of Health Clean Air Branch, and found adequately assess the potential for significant impact. The Clean Air Branch concurs with the determination of no significant impact to public health and safety of the environment as a result of the emissions form these launches.

2. The fact that adjacent lands are the sites of possible Hawaiian Homelands needs to be seriously considered. As in the case of all the Hawaiian Homelands, we have a chance to make right old wrongs and misdoings, thereby changing the course of history and begin an era of new faith and trust. The closing state land is unwise and must not happen.

ANSWER:

The subject MOA is consistent with long-term plans for the affected area -- the preservation of open spaces. Public access will be denied for every short durations and only to a portion of total state lands in area (Section 3.6 DEIS and page 3-19 response to ORI-5, DEIS, Vol. I)

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Alison L. Dunn
Post Office Box 930
Hanalei, HI 96714

Dear Ms. Dunn:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

One of the main issues which is not adequately addressed is protection of our air quality. Experts have criticized the computer calculations of hydrogen chloride and carbon monoxide that will be produced by Stars launches. We need to be certain of the health risks to the public.

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. This data has been reviewed by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentrations of combustion products at various distances from the launch site. The predicted concentrations were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects. Even though our

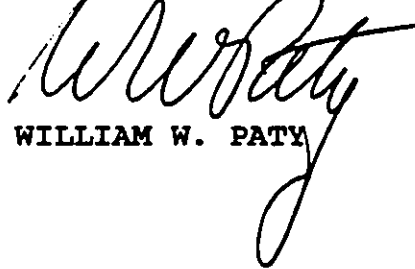
Ms. Alison L. Dunn
Page 2

experts have determined the analysis to be adequate, the Army had decided to monitor these constituents during the first launch to confirm their results. The Clean Air Branch will continue to work with the Army and require whatever is necessary to ensure public health and safety.

A complete and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Ms. Mary Eiser
4332 Anonui Street
Lihue, Hawaii, 96766

Dear Ms Eiser:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) REQUIREMENT FOR AN EIS-"I am writing regarding the proposed STARS missile testing on Kauai. I am writing to oppose the State's decision to start testing after doing only a perfunctory State Environmental Assessment study. In a project where the potential for environmental damage is so great, an independent State Environmental Impact Statement is necessary." (Additional inputs refer to performing the State EA in only six days, copying the less-than-satisfactory Federal EIS)

Answer: Regarding the first part of this concern, the STARS missile is not being tested on Kauai. It is a target vehicle which is being utilized in the Testing and Evaluation process. Regarding the comment about the State's decision to start testing, it should be pointed out that the Strategic Defense Initiative Organization, part of the Department of Defense is the agency which is conducting the program. The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts

Ms. Mary Eiser
Page 2

in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army have determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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Ms. Nanette Gettier
General Delivery
Anahola, HI 96703

Dear Ms. Gettier:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

There have been no flight tests of these 'refurbished' missiles, thus, the Army's environmental and public health impact estimates rely on grossly inadequate data.

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

Ms. Nanette Gettier
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2. HAZARD ARC

As the 1991 Aries launch failure at Cape Canaveral has proven, the proposed hazard arc inadequately addresses public health and safety.

ANSWER

Page 2-2 of Vol. I of the Army's FEIS adds a table which lists the radius of GHAs used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet. Also, on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigress mission and the size of its hazard area are not comparable to that of the Strategic Target System."

3. HAWAIIAN HOMELANDS

Hawaiian rights have yet to be addressed concerning the land adjacent to the PMRF as a possible site for Hawaiian Homelands.

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands is unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

4. PARK CLOSURE

The Army's plan to close half of Polihale State Park at least 19 times a year with only minimal notice sets a dangerous precedent for additional park closures and other restrictions at the military's discretion.

Ms. Nanette Gettier
Page 3

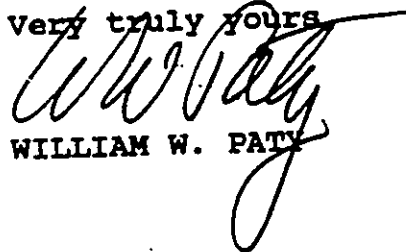
ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours



WILLIAM W. PATY

JOHN WAIMEE
GOVERNOR OF HAWAII



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Refer to: KA-90:2107

Mr. Ernest Goitein
167 Almondal Avenue
Atherton, CA 94027

Dear Mr. Goitein:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. The Polaris rockets are solid fueled. The fuel consists of Ammonium Perchlorate and Aluminum powder as well as other constituents held together by a rubber like binder. The Products of combustion include large amounts of Hydrochloric acid from the Perchlorate and Aluminum Oxide from the aluminum powder and Dioxin's from the precursor elements created in the burning of the binder in combination with the Chlorine released by the Ammonium Perchlorate. To permit the release these chemicals over the Polihale State Park and adjacent to private land is to cause irreversible damage. For what? Don't we have enough missiles and other weapons of mass destruction?

ANSWER:

The total combustion emission products from a launch of the Strategic Target System from Kauai Test Facility on Pacific Missile Range Facility are detailed in Table 4-1 of the Army's

Draft Environmental Impact Statement (EIS). The first stage emission products are of interest since approximately 15 seconds of emission would occur over or near the island of Kauai. While you correctly state that quantities of hydrogen chloride, aluminum oxide and chlorine would be released, no measurable quantities of dioxin would be present during first stage emission. Furthermore, the Army performed analysis (Section 4.3.1.2 of the Draft EIS), to predict the concentration of aluminum oxide, hydrogen chloride and other constituents. This modeling has been reviewed by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentrations of combustion products at various distances from the launch site. The predicted concentrations were then compared to Short-term Public Emergency Guidance levels (SPEGL) which take into consideration more venerable members of the public as well as the American Conference of Governmental Industrial Hygienist (ACGIH) Threshold Limit Values (TLV). These criteria were used to determine the potential for a significant impact to public health and safety. Also, literature searches were conducted to determine levels which could adversely affect various flora and fauna that could potentially be exposed to these emissions. The Clean Air Branch also reviewed these analysis and have concluded that there would be no significant impact to public health and safety or the environment from related emission. The Clean Air Branch will however, monitor the results of sampling from the first launch to confirm these conclusions.

It should be noted that the Strategic Target System, as described in Chapter 1 and 2 of the Army's Draft EIS, is not a weapon. It is merely a delivery system used to transport non-nuclear experimental payloads to the broad ocean near Kwajalein. These payloads are used in various research and development activities.

2. The Navy states that it will reimburse individuals, be responsible for cleanup, etc. Don't be fooled by these promises. We have a large Naval air base nearby, Moffett Field. The groundwater has been contaminated. The Navy is so sorry. In the meantime, millions of dollars of taxpayers money is being spent, and the ground water will be contaminated for decades to come. Do you need that in Hawaii?

ANSWER:

National Defense Priorities are established by the President and Congress. Likewise, the National Environmental Policy Act (NEPA) was established to ensure that decision makers for major federal activities were aware of and considered the potential for effect to the environment as a result of these actions. The Army has fully evaluated the potential for detrimental impact to public health and safety and the environment from the Strategic Target System consistent with NEPA. The Hawaii Environmental Policy Act (HEPA) was derived from NEPA to be applied to state activities. The purpose of this analysis is to ascertain the potential effects of the state entering into an agreement with the U.S. government for the purpose of conducting the Strategic Target System activities. The Army's analysis, as well as our review of that analysis has not indicated that contamination of ground water or impact to any other environmental resources is likely.

3. The Aluminum Oxide fall out consists of particulates less than 10 microns. These particulates lodge in the lungs and cannot be dislodged. The 10-PM criteria of air quality will require an EPA PSD review for PM-10. It is essential that a full EIS be prepared so that these issues are addressed before the irretrievable damage is done.

ANSWER:

Sections 3.3 and 4.3 of the Army's Draft EIS, addresses air quality with respect to Strategic Target System launches from PMRF. Aluminum oxide as particulate was modeled by the Army and the results were reviewed by the Hawaii Department of Health, Clean Air Branch. Consistent with the Army's determination, the Clean Air Branch concluded there was no potential for significant impact to public health and safety from particulate as a result of a Strategic Target System launch. Prevention of Significant Deterioration (PSD) requirements are inappropriate for rocket launches. These regulations apply to stationary sources, not to missile launches which are discrete event, mobile sources.

4. I have visited Kauai, and love, its beaches and wonderful climate. To think that your agency would consent to destroy this paradise with this foolishness boggles the mind.

ANSWER:

The Army has reviewed Strategic Target System activities on Kauai by analyses that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As a part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information and, consistent with the Army have determined that no significant impact would result from Strategic Target System activities. This interface has occurred over a period in excess of two years. Related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest.

5. Apparently no flight tests have been performed on the missiles to be tested, and only one static test. Statistically, this is in totally inadequate to assure public health and safety.

ANSWER:

The Strategic Target System is derived from systems which have had extensive flight testing. None-the-less, several static firings have occurred in addition to refurbishment by original motor manufactures and extensive non-destructive testing such as X-Ray. For more detailed explanation of the total refurbishment, monitoring, and test activities being conducted, see section 2.1.1.2 of the Strategic Target System Draft EIS.

6. As you can gather from my comments, I would urge you in the strongest terms to require a full blown EIS before any action is taken that would jeopardize the air quality, fauna and flora, and public health. The effect on the economy, particularly in Tourism, should also be considered. It certainly will not go to Kauai if a missile test program is located on the island. Please put me on the mailing list for future review of permit documents.

ANSWER:

We agree with your position that the potential effect of these activities should be thoroughly analyzed prior to allowing it to continue. However, as stated in response to your previous comment, extensive analysis has occurred with respect to STARS program activities potential effect on Kauai, including air

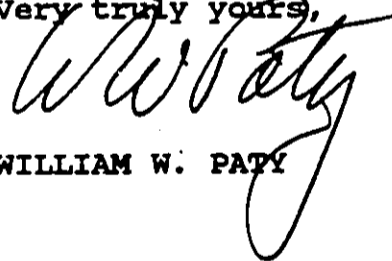
Mr. Ernest Goitein
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quality, fauna and flora, public health and safety and socioeconomics. This information and analysis has been thoroughly reviewed and scrutinized by State of Hawaii agencies prior to any determination being reached. However, our analysis of the facts associated with STARS Program also leads to the conclusion that no significant effect would result. It should also be noted that, as stated on page 2-1 of Vol I of the STARS Final EIS, over 300 rocket test launches have occurred from Kauai since the facility was first established in 1962. There has been no detrimental effect on tourism documented as result of these launches and we do not anticipate an effect from 4 additional launches per year over a period of 10 years. Your name has been added to the OEQC Bulletin mailing list.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Refer to:KA-90:2107

Khiyani Hill
Post Office Box 794
Hanalei, HI 96714

Dear Khiyani Hill:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

The scientific community is VERY divided about the safety of these particular rockets and whether the entire STAR WARS program is feasible to pul off in the first place.

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

2. HAWAIIAN HOMELANDS

Your office should do what is best for the land and the welfare of all living upon the land. The Hawaiian Homelands issue is a big mess - I think everyone on all sides would agree to that. They should have LAND - not promises and waiting. The Hawaiian Homelands issue needs to be resolved first before you go and lease out THEIR land once again. On this issue alone, there is enough information to stop from signing the MOA. So why do you agree to it?

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands is unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

3. PARK CLOSURE

And how can you agree that is OK for the Army to close down Polihale when they desire, possibly 4 times a year for the STARS launches and 15 times a year for the VANDALS launches? It seems to me that is possible grounds for a lawsuit. You are supposed to protect our land and assure that we all can go to the land designated as State Park. I am aghast that you think it is appropriate for this to occur! What should we let the Army do next - close down the Na Pali Coast State Park when they desire? Closing down a State Park for 1 second is going way too far!

ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short

duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available area (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

4. AIR QUALITY

And I don't know how you can think that the freon released from these launches could be appropriate! It is very damaging to the plants, people, animals and ozone. That is FACT. What is debatable is just how damaging, but people, fellow humans, DAMAGE IS DAMAGE. If our world were in perfect shape, we would all debate and discuss whether or not it would be OK to do some damage. But our world is DAMAGED and we have to carefully assess each step we take, or it possible that our children's children will not have a habitable planet to live on.

ANSWER

The Army's analysis of freon released is described in section 4.3 of the draft EIS. This data has been received by the Hawaii Department of Health, Clean Air Branch. The predicted concentrations were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects.

5. ROCKET SAFETY

There is also the issue of how safe are these old, refurbished Polaris missiles. Since they have never been truly fired, it is a good question. So, whose figures are right - 50% safety or should we say 50% failure, or 97% safety and 3% failure? Do you want to live next door to the launch when a missile launch fails? If you do not, then think about it, please.

ANSWER:

Extensive flight data exists on the reliability of the 1st and 2nd stage Strategic Target System boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the 1st and 2nd stage boosters as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static

Khiyani Hill
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firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours,


WILLIAM W. PATE

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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7-1-1982

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Honorable Senator McCartney
The Sixteenth Legislature
State Office Tower
235 S. Beretania Street
Honolulu, Hawaii 96813

Honorable Senator ^{Mucke} McCartney:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. The responses refers to an addition to pages 4-53 of the DEIS which is on page 2-20. this addition states that "The reliability of key flight components is far greater than 97 percent." The key flight components are those that would have to fail in order to flight termination to be required. The reliability of the flight termination system is stated to be 99.9 percent but no comparable number is given for the reliability of the key flight components. This number is critical to estimate the probability of a launch failure the probability of 40 launches without a single termination is this number raised to the 40th power. The EIS should state what the reliability of the key flight components is and give the corresponding probability of 40 successful launches. Note that a reliability of 97% corresponds to only a 30% probability of 40 successful launches: 99% reliability corresponds to a 67% probability of 40 launches in which is none has to be terminated.

ANSWER:

The Army is unable to cite the actual reliability of key flight components for national security reasons -- allied nations continue to employ the Strategic Target System Booster as an element of their national defense. We note, however, that your statistical analysis is based on the polynomial distribution factor, which requires that each trial event be independent of previous events. Fortunately, the launches are highly dependent events -- should a flight anomaly occur during one launch the out of tolerance value would be reported by telemetry and exhaustive analyses and adjustments to the flight vehicle would occur prior to the next launch. This discrepancy only serves to increase the probability of success of the next launch. More importantly, the more pertinent statistic is that should a flight anomaly occur which requires flight termination, there is only one chance in one-thousand that the termination would not be successful. ,

2. The response is not relevant to the scenario where the missile pitches back over the island. The responses to OR80-1 and WR496-16 are relevant because they address the Aug. 20, 1991 ARIES launch failure at Cape Canaveral. In the response to OR80-1. It is stated that the flight termination 23 seconds into the flight "still allowed all debris to fall within the debris impact area." The launch danger area for the ARIES launch is stated to be 2,600 feet. These statements seem to be contradicted by press accounts which stated that burning debris hit the ground "a few miles from the launch pad" and reported that Air Force official said that the rocket was 1.7 miles downrange from the launch pad when it was blown up. This ARIES launch failure also serves as an important reminder that failures are possible even when all the hardware components function as intended. The failure in this case resulted because the wrong program was loaded into the ARIES guidance system computer.

ANSWER:

The Army has extensively analyzed all possible missile failure modes and the procedure of the missile flight safety officer. Indeed, it was that analysis that led to the Army's decision to expand the Ground Hazard Area (GHA) to more safely support the Strategic Target System. The Missile Flight Safety Officer has from 2.18 seconds (when pitch over should occur) until 20 seconds after launch to terminate the flight, and keep the debris pattern within the GHA. Since safety is a major objective of the Strategic Target System, the Army has

engineered the system, and flight paths with full consideration of potential failure modes. The computer checklist is prepared with painstaking care, and the system is checked, and double-checked to ensure accuracy and reliability.

3. The additional details provided in the response are an important addition to the EIS. It is interesting to note that more details about the TRPUF and REEDM simulations were also requested (See WR151) by the U.S. Army Environmental Hygiene Agency. Unfortunately, the additional information does not bolster ones confidence in the REEDM predictions. One of the comments cited from the (Schmalzer et al 1986) reference is (Chloride deposition in one order of magnitude higher than REEDM predicted. The inconsistency in the hydrogen chloride concentration predicted by REEDM in the Supplement to the Environmental Assessment and in the DEIS is attributed to the use of REEDM version 7.02 for the DEIS whereas REEDM version 1.02 was use for the Supplement. It is surprising that these different versions can give concentrations that differ by a fact of 9! The size of this difference make it all the more important to compare the REEDM predictions with those of TRPUF for the same wind speed and to give more details from the references which are claimed to verify the REEDM predictions. This response also raises the question which version of REEDM was actually used because Tables 4-3 and 4-5 of the DEIS refer to REEDM, V. 7.03. Finally, the response indicates that an air monitoring program for the first launch is a "possible mitigation measure, which will be determined by the decision maker in the Record of Decision." The response to OR55-2, however, gives the impression that air monitoring during the first launch would be used to determine whether the concentrations of any of the pollutants emitted by the STARS booster exceed air quality standards. Given all the confusion and uncertainty in the air quality impacts an extensive air monitoring program should be required.

ANSWER

As pointed out in the excerpt from the Schmalzer reference, the exception to the general qualitative agreement was the near-field deposition area. Here the amount of deluge water exceeds the amount that can be vaporized by the exhaust heat. The water that is vaporized mixes with the exhaust and results in quite heavy deposition near the launch pad. Only in the near-field deposition area surrounding Space Shuttle launch did the model not agree with ground observations. The Strategic Target System will not have deluge water which will not cause the heavy near-field deposition as seen with Space Shuttle launches.

Honorable Senator McCartney

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As part of the Record of Decision, air samples will be collected by the Army during the first demonstration launch to validate the accuracy of the models and to evaluate compliance with federal and state standards.

- 4-5. The response to WR2-4 refers to halon release, not to the fuel vent experiments which are briefly described on page 4-64 of the DEIS. The effects of the release of 114 liters of hydrazine into the exoatmosphere are stated to be "temporary ozone depletion" and production of a suspected carcinogen." No details are given, but the impacts of such a release are asserted to be not significant based on a 1987 U.S. Air Force Environmental Assessment Chemical Release Experiment. Because of the potentially serious impacts on these experiments and the risks involved in transporting and storing hydrazines. One might have expected a more detailed discussion in the STARS EIS. The response to WR326-15 mentions that the 1987 Air Force EA is included in the Administrative Record for the Final EIS and refers to page 2-26 of the DEIS for reasons for the two planned fuel vent experiments. These reasons are given in a single sentence. It also pointed out that "Similar experiments have been previously conducted by the U.S. Air Force for other programs." This raises the questions why more experiments are needed and whether observations of the environmental impacts of the previous experiments agreed with the expectations in the EA for them. Neither of these questions are addressed in the DEIS or responses to comments on it. Also, if similar experiments have been launched from other locations in the past, why is it necessary that new experiments be launched from Hawaii."

ANSWER:

The transport and storage of hydrazines for the fuel vent experiment by the Army is included in the hydrazines shipments of a maximum 55 gallons at a time and other mandated measures taken to insure the public's health and safety. The experiments are uniquely associated with a newly developed sensor and prior experiments have not provided the data required by the Army.

6. The response to OR2-1 to which one is referred, only states that the Council on Environmental Quality regulations require consideration of cumulative impacts. It is hard to imagine a less informative response unless it were ubiquitous "Thank you for commenting on the Draft EIS." The only cumulative impacts of the STARS, EDX, and Vandal launch programs considered seem to be those involving land use. The relevant additions are the section on range clearing operations (page 2-5) and the responses to WR30-1, WR33-14, WRI94-1, WR209-1, and WR231-3.

Honorable Senator McCartney

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No change was made to the misleading statements (page 4-36 of DEIS and page 2-17 of Chap 2, Vol I) dealing with the off-base ground hazard area. "These area would be verified clear for a total of approximately 80 minutes per year for 10 years, with the potential for an additional 80 minutes per year to accommodate weather, maintenance, and technical delays. This statement is misleading because the times given include only the 20 minutes before each STARS launch that the ground hazard area is required to be clear. The more relevant issues are those indicated in the section on range clearing operations where it is stated that range personnel will notify people within the area that they must leave three hours before launch and will escort people from the area 1.5 hours before launch. This is clarified somewhat in the response to WR194-1 and seems to be sufficiently important to clarify within the text of the EIS. For the proposed easement (Appendix C of the DEIS) which would cover STARS, EDX, and Vandall launches, this range clearance procedure could happen as many as 30 times per year, which would mean a disruption of normal activities within this area for as many as 90 hours per year and forced evacuation for as many as 45 hours per year.

ANSWER:

The cumulative impacts of the different launch programs were analyzed by the Army in each of the resource areas. As stated on page 2-17 of the Final EIS, PMRF personnel may enter the area up to three hours before a launch to post signs and give notice to any one present of their need to leave. This does not mean visitors will be required to leave the park, only move to another part of the park that is not in the modified 10,000-foot ground hazard area for a short duration. The areas of the park affected by the closure is not a heavily used area that would cause disruption of activities.

- 7-8. The additions to pages 4-20 and 4-21 (see pages 2-12 and 2-13 of Chap. 2, Vol. D are welcome but the context of the evaluation of the significance of the ozone depletion is still judged relative to the current amounts of ozone-depleting chemicals rather than the international goals, represented by the Montreal Protocol, to phase out use of such chemicals. Judged by these international goals, the ozone depletion that would result from STARS launches is much more significant. It is self-serving to 13 suggest that, because the ozone-depleting chemicals that would be released by STARS launches are a small fraction of the total released worldwide, their effect is not significant. Any single source of such chemicals contributes a small fraction of the total. What is

important is the goal to reduce the total which will require reductions or elimination of many different sources. The Hawaii State Legislature has decided that reducing release of ozone-depleting chemicals was so important that it passed laws prohibit deliberate release of CFC's and ban use of halons in fire extinguishers. In Hawaii, deliberate release of one kilogram of freon from an auto air conditioner is significant enough to subject the auto servicer to a fine. In this context, the release of 90 kilograms of halon 2402 which has greater ozone-depleting potential, by the STARS booster would seem to be very significant.

ANSWER:

The Montreal Protocol seeks to phase out the consumption of freon by not procuring systems which cause the production of new freon. The Army's EIS states that the Strategic Target System will not cause the reproduction of new freon, therefore, meeting the goal of the Montreal Protocol. Since the Strategic Target System would not contribute significantly to the depletion of stratospheric ozone and would not threaten to violate the Hawaii Ozone Protection Statute since the Record of Decision states no halon substitute will be used. However the Army will continue to monitor investigation into alternative fluids to Freon 114B2 (halon 2402) and the Strategic Target System will comply with the Clean Air Act and all implementing regulations.

9. The response to ORI-4 dealing with the closure of parts of recreation area 1 and Figure 4-1A on page 2-18 deal only with closures resulting from STARS launches. It should also be stated that EDX launches would require closure of part of recreation area 1 for 90 days per year. If closure of any of the recreational areas is required for Vandal launches, it should also be included as part of the evaluation of the cumulative impact of all these launch activities.

ANSWER:

As stated in the Army's Draft EIS on page 4-28, the analysis of the beach closure in part of Recreation Area 1 included the Strategic Target System, the Exoatmospheric Discrimination Experiment (EDX) and other KTF program activities.

10. The information on START restrictions is useful and relevant to the consideration of alternatives to STARS. What is still unclear, however, is how many of the 40 planned launches require "multiple RV test objects." From the information

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given in the response, it would appear that my experiments that require only a single RV test object could be launched using Minuteman I and Minuteman II boosters from Vandenberg Air Force Base.

ANSWER:

The Army's EIS states that the short supply of Minuteman I boosters led to the development of the Strategic Target System. Minuteman II boosters cannot be used until the entire system is no longer deployed as an operational intercontinental ballistic missile. Once Minuteman II boosters are available, a decision could be made by the Army to make use of them within existing treaty restrictions and additional environmental documentation will analyze that proposed action.

11. The response to WR90-1 indicates that Minuteman III boosters are allowed by START to carry three RV's test objects? The fact that the Minuteman II is currently an operational, deployed system does not necessarily mean that none would be available during the ten years of launches proposed for the STARS system. The response to WR326-9 mentions only that START prohibits transmission of encrypted telemetry data from payloads launched by Minuteman III booster but has no such restrictions for the STARS booster. There is no explanation why the telemetry data needs to be encrypted or how difficult it would be to transmit this data in a treaty-compliant manner.

ANSWER:

Payloads have not yet been assigned by the Army to all 40 Strategic Target System launches. Therefore, the number of launches requiring three or fewer RV's is not known. Because Minuteman III is an operational system, it is not available for Research & Development (R&D) launches. Once Minuteman III boosters are available, a decision could be made by the Army to make use of them within existing treaty restrictions and additional environmental documentation by the Army will analyze that proposed action.

In summary, I consider the responses to my comments on the DEIS to be disappointing and inadequate. In the case of air quality issues related to the TRPUF and REEDM predictions, the response raises even more questions. From the information available in the Final EIS, I conclude that:

1. Alternatives involving launches of Minuteman boosters from Vandenberg Air Force Base have not been given adequate consideration.

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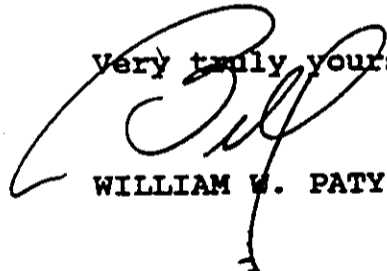
ANSWER:

Because Minuteman II and III boosters are not currently available by the Army for R&D launches, this alternative will not meet the overall program schedule to support the development of the system required to meet the objectives of the Missile Defense Act 1991.

Answers to Mr. Jones letter of March 7, 1992 may be found in volume I of the Army's Final EIS. A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 521
HONOLULU, HAWAII 96809

DEC - 1

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Ms. Nanette Gettier
General Delivery
Anahola, HI 96703

Dear Ms. Gettier:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

There have been no flight tests of these 'refurbished' missiles, thus, the Army's environmental and public health impact estimates rely on grossly inadequate data.

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

Ms. Nanette Gettier
Page 2

2. HAZARD ARC

As the 1991 Aries launch failure at Cape Canaveral has proven, the proposed hazard arc inadequately addresses public health and safety.

ANSWER

Page 2-2 of Vol. I of the Army's FEIS adds a table which lists the radius of GHAs used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet. Also, on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigress mission and the size of its hazard area are not comparable to that of the Strategic Target System."

3. HAWAIIAN HOMELANDS

Hawaiian rights have yet to be addressed concerning the land adjacent to the PMRF as a possible site for Hawaiian Homelands.

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands in unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

4. PARK CLOSURE

The Army's plan to close half of Polihale State Park at least 19 times a year with only minimal notice sets a dangerous precedent for additional park closures and other restrictions at the military's discretion.

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ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Refer to:KA-90:2107

Mr. Ernest Goitein
167 Almendral Avenue
Atherton, CA 94027

Dear Mr. Goitein:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. The Polaris rockets are solid fueled. The fuel consists of Ammonium Perchlorate and Aluminum powder as well as other constituents held together by a rubber like binder. The products of combustion include large amounts of Hydrochloric acid from the Perchlorate and Aluminum Oxide from the aluminum powder and Dioxin's from the precursor elements created in the burning of the binder in combination with the Chlorine released by the Ammonium Perchlorate. To permit the release these chemicals over the Polihale State Park and adjacent to private land is to cause irreversible damage. For what? Don't we have enough missiles and other weapons of mass destruction?

ANSWER:

The total combustion emission products from a launch of the Strategic Target System from Kauai Test Facility on Pacific Missile Range Facility are detailed in Table 4-1 of the Army's

Mr. Ernest Goitein
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Draft Environmental Impact Statement (EIS). The first stage emission products are of interest since approximately 15 seconds of emission would occur over or near the island of Kauai. While you correctly state that quantities of hydrogen chloride, aluminum oxide and chlorine would be released, no measurable quantities of dioxin would be present during first stage emission. Furthermore, the Army performed analysis (Section 4.3.1.2 of the Draft EIS), to predict the concentration of aluminum oxide, hydrogen chloride and other constituents. This modeling has been reviewed by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentrations of combustion products at various distances from the launch site. The predicted concentrations were then compared to Short-term Public Emergency Guidance levels (SPEGL) which take into consideration more venerable members of the public as well as the American Conference of Governmental Industrial Hygienist (ACGIH) Threshold Limit Values (TLV). These criteria were used to determine the potential for a significant impact to public health and safety. Also, literature searches were conducted to determine levels which could adversely affect various flora and fauna that could potentially be exposed to these emissions. The Clean Air Branch also reviewed these analysis and have concluded that there would be no significant impact to public health and safety or the environment from related emission. The Clean Air Branch will however, monitor the results of sampling from the first launch to confirm these conclusions.

It should be noted that the Strategic Target System, as described in Chapter 1 and 2 of the Army's Draft EIS, is not a weapon. It is merely a delivery system used to transport non-nuclear experimental payloads to the broad ocean near Kwajalein. These payloads are used in various research and development activities.

2. The Navy states that it will reimburse individuals, be responsible for cleanup, etc. Don't be fooled by these promises. We have a large Naval air base nearby, Moffett Field. The groundwater has been contaminated. The Navy is so sorry. In the meantime, millions of dollars of taxpayers money is being spent, and the ground water will be contaminated for decades to come. Do you need that in Hawaii?

ANSWER:

National Defense Priorities are established by the President and Congress. Likewise, the National Environmental Policy Act (NEPA) was established to ensure that decision makers for major federal activities were aware of and considered the potential for effect to the environment as a result of these actions. The Army has fully evaluated the potential for detrimental impact to public health and safety and the environment from the Strategic Target System consistent with NEPA. The Hawaii Environmental Policy Act (HEPA) was derived from NEPA to be applied to state activities. The purpose of this analysis is to ascertain the potential effects of the state entering into an agreement with the U.S. government for the purpose of conducting the Strategic Target System activities. The Army's analysis, as well as our review of that analysis has not indicated that contamination of ground water or impact to any other environmental resources is likely.

3. The Aluminum Oxide fall out consists of particulates less than 10 microns. These particulates lodge in the lungs and cannot be dislodged. The 10-PM criteria of air quality will require an EPA PSD review for PM-10. It is essential that a full EIS be prepared so that these issues are addressed before the irretrievable damage is done.

ANSWER:

Sections 3.3 and 4.3 of the Army's Draft EIS, addresses air quality with respect to Strategic Target System launches from PMRF. Aluminum oxide as particulate was modeled by the Army and the results were reviewed by the Hawaii Department of Health, Clean Air Branch. Consistent with the Army's determination, the Clean Air Branch concluded there was no potential for significant impact to public health and safety from particulate as a result of a Strategic Target System launch. Prevention of Significant Deterioration (PSD) requirements are inappropriate for rocket launches. These regulations apply to stationary sources, not to missile launches which are discrete event, mobile sources.

4. I have visited Kauai, and love, its beaches and wonderful climate. To think that your agency would consent to destroy this paradise with this foolishness boggles the mind.

ANSWER:

The Army has reviewed Strategic Target System activities on Kauai by analyses that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As a part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information and, consistent with the Army have determined that no significant impact would result from Strategic Target System activities. This interface has occurred over a period in excess of two years. Related conclusions and decisions are far from hasty. The well-being of the citizens and environment of Hawaii are of foremost interest.

5. Apparently no flight tests have been performed on the missiles to be tested, and only one static test. Statistically, this is in totally inadequate to assure public health and safety.

ANSWER:

The Strategic Target System is derived from systems which have had extensive flight testing. None-the-less, several static firings have occurred in addition to refurbishment by original motor manufactures and extensive non-destructive testing such as X-Ray. For more detailed explanation of the total refurbishment, monitoring, and test activities being conducted, see section 2.1.1.2 of the Strategic Target System Draft EIS.

6. As you can gather from my comments, I would urge you in the strongest terms to require a full blown EIS before any action is taken that would jeopardize the air quality, fauna and flora, and public health. The effect on the economy, particularly in Tourism, should also be considered. It certainly will not go to Kauai if a missile test program is located on the island. Please put me on the mailing list for future review of permit documents.

ANSWER:

We agree with your position that the potential effect of these activities should be thoroughly analyzed prior to allowing it to continue. However, as stated in response to your previous comment, extensive analysis has occurred with respect to STARS program activities potential effect on Kauai, including air

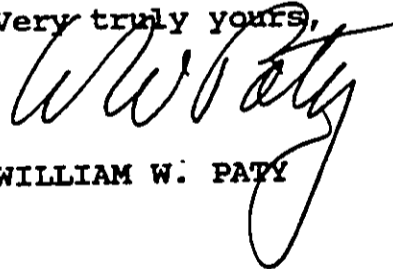
Mr. Ernest Goitein
Page 5

quality, fauna and flora, public health and safety and socioeconomics. This information and analysis has been thoroughly reviewed and scrutinized by State of Hawaii agencies prior to any determination being reached. However, our analysis of the facts associated with STARS Program also leads to the conclusion that no significant effect would result. It should also be noted that, as stated on page 2-1 of Vol I of the STARS Final EIS, over 300 rocket test launches have occurred from Kauai since the facility was first established in 1962. There has been no detrimental effect on tourism documented as result of these launches and we do not anticipate an effect from 4 additional launches per year over a period of 10 years. Your name has been added to the OEQC Bulletin mailing list.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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WATER AND LAND DEVELOPMENT

Refer to:KA-90:2107

Khiyani Hill
Post Office Box 794
Hanalei, HI 96714

Dear Khiyani Hill:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

The scientific community is VERY divided about the safety of these particular rockets and whether the entire STAR WARS program is feasible to pull off in the first place.

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

2. HAWAIIAN HOMELANDS

Your office should do what is best for the land and the welfare of all living upon the land. The Hawaiian Homelands issue is a big mess - I think everyone on all sides would agree to that. They should have LAND - not promises and waiting. The Hawaiian Homelands issue needs to be resolved first before you go and lease out THEIR land once again. On this issue alone, there is enough information to stop from signing the MOA. So why do you agree to it?

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands in unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

3. PARK CLOSURE

And how can you agree that is OK for the Army to close down Polihale when they desire, possibly 4 times a year for the STARS launches and 15 times a year for the VANDALS launches? It seems to me that is possible grounds for a lawsuit. You are supposed to protect our land and assure that we all can go to the land designated as State Park. I am aghast that you think it is appropriate for this to occur! What should we let the Army do next - close down the Na Pali Coast State Park when they desire? Closing down a State Park for 1 second is going way too far!

ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short

duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

4. AIR QUALITY

And I don't know how you can think that the freon released from these launches could be appropriate! It is very damaging to the plants, people, animals and ozone. That is FACT. What is debatable is just how damaging, but people, fellow humans, DAMAGE IS DAMAGE. If our word were in perfect shape, we would all debate and discuss whether or not it would be OK to do some damage. But our world is DAMAGED and we have to carefully assess each step we take, or it possible that our children's children will not have a habitable planet to live on.

ANSWER

The Army's analysis of freon released is described in section 4.3 of the draft EIS. This data has been received by the Hawaii Department of Health, Clean Air Branch. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects.

5. ROCKET SAFETY

There is also the issue of how safe are these old, refurbished Polaris missiles. Since they have never been truly fired, it is a good question. So, whose figures are right - 50% safety or should we say 50% failure, or 97% safety and 3% failure? Do you want to live next door to the launch when a missile launch fails? If you do not, then think about it, please.

ANSWER:

Extensive flight data exists on the reliability of the 1st and 2nd stage Strategic Target System boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the 1st and 2nd stage boosters as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static

Khiyani Hill

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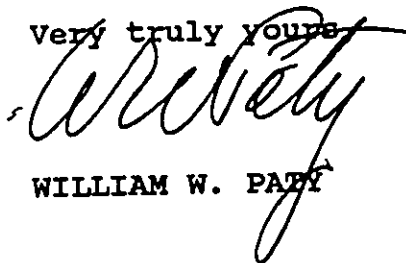
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firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours



WILLIAM W. PATE

JOHN WAIHEE
GOVERNOR OF HAWAII



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STATE PARKS
WATER AND LAND DEVELOPMENT

Honorable Senator McCartney
The Sixteenth Legislature
State Office Tower
235 S. Beretania Street
Honolulu, Hawaii 96813

Honorable Senator *McCartney* McCartney:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. The responses refers to an addition to pages 4-53 of the DEIS which is on page 2-20. this addition states that "The reliability of key flight components is far greater than 97 percent." The key flight components are those that would have to fail in order to flight termination to be required. The reliability of the flight termination system is stated to be 99.9 percent but no comparable number is given for the reliability of the key flight components. This number is critical to estimate the probability of a launch failure the probability of 40 launches without a single termination is this number raised to the 40th power. The EIS should state what the reliability of the key flight components is and give the corresponding probability of 40 successful launches. Note that a reliability of 97% corresponds to only a 30% probability of 40 successful launches: 99% reliability corresponds to a 67% probability of 40 launches in which is none has to be terminated.

Honorable Senator McCartney

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ANSWER:

The Army is unable to cite the actual reliability of key flight components for national security reasons -- allied nations continue to employ the Strategic Target System Booster as an element of their national defense. We note, however, that your statistical analysis is based on the polynomial distribution factor, which requires that each trial event be independent of previous events. Fortunately, the launches are highly dependent events -- should a flight anomaly occur during one launch the out of tolerance value would be reported by telemetry and exhaustive analyses and adjustments to the flight vehicle would occur prior to the next launch. This discrepancy only serves to increase the probability of success of the next launch. More importantly, the more pertinent statistic is that should a flight anomaly occur which requires flight termination, there is only one chance in one-thousand that the termination would not be successful. j

2. The response is not relevant to the scenario where the missile pitches back over the island. The responses to OR80-1 and WR496-16 are relevant because they address the Aug. 20, 1991 ARIES launch failure at Cape Canaveral. In the response to OR80-1. It is stated that the flight termination 23 seconds into the flight "still allowed all debris to fall within the debris impact area." The launch danger area for the ARIES launch is stated to be 2,600 feet. These statements seem to be contradicted by press accounts which stated that burning debris hit the ground "a few miles from the launch pad" and reported that Air Force official said that the rocket was 1.7 miles downrange from the launch pad when it was blown up. This ARIES launch failure also serves as an important reminder that failures are possible even when all the hardware components function as intended. The failure in this case resulted because the wrong program was loaded into the ARIES guidance system computer.

ANSWER:

The Army has extensively analyzed all possible missile failure modes and the procedure of the missile flight safety officer. Indeed, it was that analysis that led to the Army's decision to expand the Ground Hazard Area (GHA) to more safely support the Strategic Target System. The Missile Flight Safety Officer has from 2.18 seconds (when pitch over should occur) until 20 seconds after launch to terminate the flight, and keep the debris pattern within the GHA. Since safety is a major objective of the Strategic Target System, the Army has

engineered the system, and flight paths with full consideration of potential failure modes. The computer checklist is prepared with painstaking care, and the system is checked, and double-checked to ensure accuracy and reliability.

3. The additional details provided in the response are an important addition to the EIS. It is interesting to note that more details about the TRPUF and REEDM simulations were also requested (See WR151) by the U.S. Army Environmental Hygiene Agency. Unfortunately, the additional information does not bolster ones confidence in the REEDM predictions. One of the comments cited from the (Schmalzer et al 1986) reference is (Chloride deposition in one order of magnitude higher than REEDM predicted. The inconsistency in the hydrogen chloride concentration predicted by REEDM in the Supplement to the Environmental Assessment and in the DEIS is attributed to the use of REEDM version 7.02 for the DEIS whereas REEDM version 1.02 was used for the Supplement. It is surprising that these different versions can give concentrations that differ by a factor of 9! The size of this difference makes it all the more important to compare the REEDM predictions with those of TRPUF for the same wind speed and to give more details from the references which are claimed to verify the REEDM predictions. This response also raises the question which version of REEDM was actually used because Tables 4-3 and 4-5 of the DEIS refer to REEDM, V. 7.03. Finally, the response indicates that an air monitoring program for the first launch is a "possible mitigation measure, which will be determined by the decision maker in the Record of Decision." The response to OR55-2, however, gives the impression that air monitoring during the first launch would be used to determine whether the concentrations of any of the pollutants emitted by the STARS booster exceed air quality standards. Given all the confusion and uncertainty in the air quality impacts an extensive air monitoring program should be required.

ANSWER

As pointed out in the excerpt from the Schmalzer reference, the exception to the general qualitative agreement was the near-field deposition area. Here the amount of deluge water exceeds the amount that can be vaporized by the exhaust heat. The water that is vaporized mixes with the exhaust and results in quite heavy deposition near the launch pad. Only in the near-field deposition area surrounding Space Shuttle launch did the model not agree with ground observations. The Strategic Target System will not have deluge water which will not cause the heavy near-field deposition as seen with Space Shuttle launches.

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As part of the Record of Decision, air samples will be collected by the Army during the first demonstration launch to validate the accuracy of the models and to evaluate compliance with federal and state standards.

- 4-5. The response to WR2-4 refers to halon release, not to the fuel vent experiments which are briefly described on page 4-64 of the DEIS. The effects of the release of 114 liters of hydrazine into the exoatmosphere are stated to be "temporary ozone depletion" and production of a suspected carcinogen." No details are given, but the impacts of such a release are asserted to be not significant based on a 1987 U.S. Air Force Environmental Assessment Chemical Release Experiment. Because of the potentially serious impacts on these experiments and the risks involved in transporting and storing hydrazines. One might have expected a more detailed discussion in the STARS EIS. The response to WR326-15 mentions that the 1987 Air Force EA is included in the Administrative Record for the Final EIS and refers to page 2-26 of the DEIS for reasons for the two planned fuel vent experiments. These reasons are given in a single sentence. It also pointed out that "Similar experiments have been previously conducted by the U.S. Air Force for other programs." This raises the questions why more experiments are needed and whether observations of the environmental impacts of the previous experiments agreed with the expectations in the EA for them. Neither of these questions are addressed in the DEIS or responses to comments on it. Also, if similar experiments have been launched from other locations in the past, why is it necessary that new experiments be launched from Hawaii."

ANSWER:

The transport and storage of hydrazines for the fuel vent experiment by the Army is included in the hydrazines shipments of a maximum 55 gallons at a time and other mandated measures taken to insure the public's health and safety. The experiments are uniquely associated with a newly developed sensor and prior experiments have not provided the data required by the Army.

6. The response to OR2-1 to which one is referred, only states that the Council on Environmental Quality regulations require consideration of cumulative impacts. It is hard to imagine a less informative response unless it were ubiquitous "Thank you for commenting on the Draft EIS." The only cumulative impacts of the STARS, EDX, and Vandal launch programs considered seem to be those involving land use. The relevant additions are the section on range clearing operations (page 2-5) and the responses to WR30-1, WR33-14, WRI94-1, WR209-1, and WR231-3.

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No change was made to the misleading statements (page 4-36 of DEIS and page 2-17 of Chap 2, Vol I) dealing with the off-base ground hazard area. "These area would be verified clear for a total of approximately 80 minutes per year for 10 years, with the potential for an additional 80 minutes per year to accommodate weather, maintenance, and technical delays. This statement is misleading because the times given include only the 20 minutes before each STARS launch that the ground hazard area is required to be clear. The more relevant issues are those indicated in the section on range clearing operations where it is stated that range personnel will notify people within the area that they must leave three hours before launch and will escort people from the area 1.5 hours before launch. This is clarified somewhat in the response to WR194-1 and seems to be sufficiently important to clarify within the text of the EIS. For the proposed easement (Appendix C of the DEIS) which would cover STARS, EDX, and Vandal launches, this range clearance procedure could happen as many as 30 times per year, which would mean a disruption of normal activities within this area for as many as 90 hours per year and forced evacuation for as many as 45 hours per year.

ANSWER:

The cumulative impacts of the different launch programs were analyzed by the Army in each of the resource areas. As stated on page 2-17 of the Final EIS, PMRF personnel may enter the area up to three hours before a launch to post signs and give notice to any one present of their need to leave. This does not mean visitors will be required to leave the park, only move to another part of the park that is not in the modified 10,000-foot ground hazard area for a short duration. The areas of the park affected by the closure is not a heavily used area that would cause disruption of activities.

- 7-8. The additions to pages 4-20 and 4-21 (see pages 2-12 and 2-13 of Chap. 2, Vol. D are welcome but the context of the evaluation of the significance of the ozone depletion is still judged relative to the current amounts of ozone-depleting chemicals rather than the international goals, represented by the Montreal Protocol, to phase out use of such chemicals. Judged by these international goals, the ozone depletion that would result from STARS launches is much more significant. It is self-serving to suggest that, because the ozone-depleting chemicals that would be released by STARS launches are a small fraction of the total released worldwide, their effect is not significant. Any single source of such chemicals contributes a small fraction of the total. What is

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important is the goal to reduce the total which will require reductions or elimination of many different sources. The Hawaii State Legislature has decided that reducing release of ozone-depleting chemicals was so important that it passed laws prohibit deliberate release of CFC's and ban use of halons in fire extinguishers. In Hawaii, deliberate release of one kilogram of freon from an auto air conditioner is significant enough to subject the auto servicer to a fine. In this context, the release of 90 kilograms of halon 2402 which has greater ozone-depleting potential, by the STARS booster would seem to be very significant.

ANSWER:

The Montreal Protocol seeks to phase out the consumption of freon by not procuring systems which cause the production of new freon. The Army's EIS states that the Strategic Target System will not cause the reproduction of new freon, therefore, meeting the goal of the Montreal Protocol. Since the Strategic Target System would not contribute significantly to the depletion of stratospheric ozone and would not threaten to violate the Hawaii Ozone Protection Statute since the Record of Decision states no halon substitute will be used. However the Army will continue to monitor investigation into alternative fluids to Freon 114B2 (halon 2402) and the Strategic Target System will comply with the Clean Air Act and all implementing regulations.

9. The response to ORI-4 dealing with the closure of parts of recreation area 1 and Figure 4-1A on page 2-18 deal only with closures resulting from STARS launches. It should also be stated that EDX launches would require closure of part of recreation area 1 for 90 days per year. If closure of any of the recreational areas is required for Vandal launches, it should also be included as part of the evaluation of the cumulative impact of all these launch activities.

ANSWER:

As stated in the Army's Draft EIS on page 4-28, the analysis of the beach closure in part of Recreation Area 1 included the Strategic Target System, the Exoatmospheric Discrimination Experiment (EDX) and other KTF program activities.

10. The information on START restrictions is useful and relevant to the consideration of alternatives to STARS. What is still unclear, however, is how many of the 40 planned launches require "multiple RV test objects." From the information

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given in the response, it would appear that my experiments that require only a single RV test object could be launched using Minuteman I and Minuteman II boosters from Vandenberg Air Force Base.

ANSWER:

The Army's EIS states that the short supply of Minuteman I boosters led to the development of the Strategic Target System. Minuteman II boosters cannot be used until the entire system is no longer deployed as an operational intercontinental ballistic missile. Once Minuteman II boosters are available, a decision could be made by the Army to make use of them within existing treaty restrictions and additional environmental documentation will analyze that proposed action.

11. The response to WR90-1 indicates that Minuteman III boosters are allowed by START to carry three RV's test objects? The fact that the Minuteman II is currently an operational, deployed system does not necessarily mean that none would be available during the ten years of launches proposed for the STARS system. The response to WR326-9 mentions only that START prohibits transmission of encrypted telemetry data from payloads launched by Minuteman III booster but has no such restrictions for the STARS booster. There is no explanation why the telemetry data needs to be encrypted or how difficult it would be to transmit this data in a treaty-compliant manner.

ANSWER:

Payloads have not yet been assigned by the Army to all 40 Strategic Target System launches. Therefore, the number of launches requiring three or fewer RV's is not known. Because Minuteman III is an operational system, it is not available for Research & Development (R&D) launches. Once Minuteman III boosters are available, a decision could be made by the Army to make use of them within existing treaty restrictions and additional environmental documentation by the Army will analyze that proposed action.

In summary, I consider the responses to my comments on the DEIS to be disappointing and inadequate. In the case of air quality issues related to the TRPUF and REEDM predictions, the response raises even more questions. From the information available in the Final EIS, I conclude that:

1. Alternatives involving launches of Minuteman boosters from Vandenberg Air Force Base have not been given adequate consideration.

Honorable Senator McCartney
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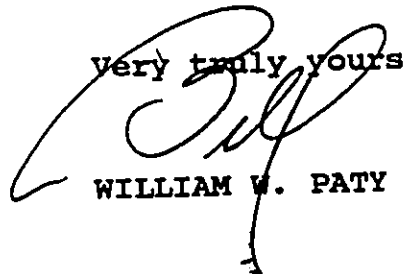
ANSWER:

Because Minuteman II and III boosters are not currently available by the Army for R&D launches, this alternative will not meet the overall program schedule to support the development of the system required to meet the objectives of the Missile Defense Act 1991.

Answers to Mr. Jones letter of March 7, 1992 may be found in volume I of the Army's Final EIS. A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

Mr. Chuck Brinkman
Page 2

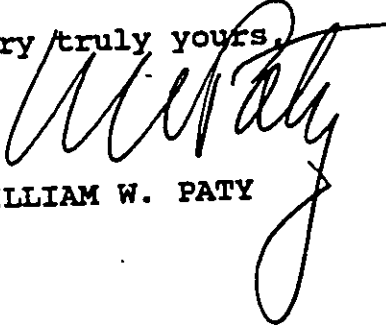
the hours will be extended, little by little. Ultimately we will lose control of these lands just as we have other lands before them--and all for a program, STARS, that is itself unneeded, probably unworkable, and a tremendous waste of tax-payer's money. Don't let the military get its foot any further in the door.

Answer: The military does not intend to "use" State park lands in any different way than it has for the past 30 years. The land in question is part of the Ground Hazard Area, and clearance of the area is for the purposes of public safety. State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Ms. Becky Burns-Gordon
6074 Lokomaikai Place
Kapaa, HI, 96746

Dear Ms. Burns-Gordon;

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) **REQUIREMENT FOR A FULL EIS:** "I understand that the State has not provided a full EIS as yet and I insist that that be done."

Answer: The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army has determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

Ms. Becky Burns-Gordon
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2) **CONCERNS:** "I am not in favor of the missile launching because I am concerned about the health and safety of people in the area or debris left behind. I also understand that the Park can be closed (partially with minimal notice. That does not look good for our already suffering tourist industry."

ON HEALTH: Extensive analysis has occurred with respect to STARS program activities potential effect on Kauai, including air quality, fauna and flora, public health and safety and socioeconomics. This information and analysis has been thoroughly reviewed and scrutinized by State of Hawaii agencies prior to any determination being reached. However, our analysis of the facts associated with STARS Program also leads to the conclusion that no significant effect would result.

ON SAFETY: Regarding rocket safety, as stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for National Security reasons--allies continue to employ the same boosters as an element of their national defense. However, extensive steps have been taken to ensure that the reliability of the boosters is maintained. This has included multiple static firings, non-destructive testing such as x-ray of the 1st and 2nd stage boosters and refurbishment to original specifications by the original booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (page 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

ON DEBRIS LEFT BEHIND: In accordance with the draft EIS, any debris resulting from the launches will be cleaned up to the maximum extent practicable.

ON PARK CLOSURE: The State will be notified seven days in advance for each closure event. State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur.

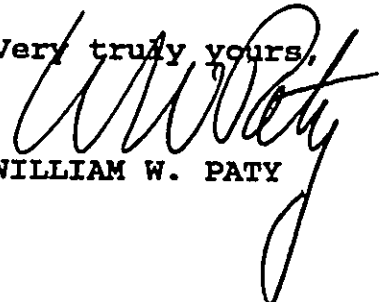
Ms. Becky Burns-Gordon
Page 3

ON THE ADVERSE IMPACT ON TOURISM: The project is not expected to have any effect on tourism as addressed in the Army's Final EIS (page 3-21) and in the Draft EIS (paragraph 4.12).

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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STATE PARKS
WATER AND LAND DEVELOPMENT

Mr. Andrew F. Bushnell
6510 Olohena Road
Kapaa, HI, 96746

Dear Mr. Bushnell:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) **Military Stewardship of Hawaii's Lands--"Historically the military has been a terrible steward for Hawai'i's lands. No one intended that Kaho'olawe would become unfit for human habitation or recreation--but that's what happened, and now the military says that the cost of a cleanup would be prohibitive. The same seems to be true of Lualualei and a number of other lands on O'ahu. The military has always promised to clean up after itself and return lands which have been turned over to it, but the record indicates that it has done a lousy job."**

Answer: The military is not asking for stewardship of the State Lands affected by the proposed Memorandum of Agreement. The situation at Kaho'olawe is not a good analogy, as one of the reasons it was turned over for use as a target area was that previous attempts at human habitation and commercial ranching proved unsuccessful.

2) **Use of Park Lands--"Now the military wants to use our park lands at least 19 days each year for the next ten years. This will only be afoot in the door. 19 days will grow to 20 and then to 30 and**

Mr. Andrew F. Bushnell
Page 2

the hours will be extended, little by little. Ultimately we will lose control of these lands just as we have other lands before them--and all for a program, STARS, that is itself unneeded, probably unworkable, and a tremendous waste of tax-payer's money. Don't let the military get its foot any further in the door.

Answer: The military does not intend to "use" State park lands in any different way than it has for the past 30 years. The land in question is part of the Ground Hazard Area, and clearance of the area is for the purposes of public safety. State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur.

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Very truly yours,


WILLIAM W. PATY

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STATE PARKS
WATER AND LAND DEVELOPMENT

Mr. Marcus Castainey
Post Office Box 483
Naalehu, HI 96772

Dear Mr. Castainey:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

Experts disagree on the reliability of the 27-year old boosters used in STARS missiles. Many believe that the Army's projection of 97% system reliability's is a deliberately misleading statement. There has been NO FLIGHT TESTS of these "refurbished" missiles - only 1 static firing of the 1st and 2nd stage. **THUS, THE ARMY'S ENVIRONMENTAL AND PUBLIC HEALTH IMPACT ESTIMATES RELY ON GROSSLY INADEQUATE TEST DATA!!!**

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and

Mr. Marcus Castainey
Page 2

refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

2. HAZARD ARC

Many experts feel it is impossible to contain debris, from an early flight termination or launch area explosion within a 10,000 foot hazard arc. With a residential community only 5-8 miles from the launch site and significant recreational use of the adjacent area, the hazard arc inadequately addresses public health and safety. The 1991 Aries launch failure at Cape Canaveral rained flaming propellant 8 miles from the launch pad!

ANSWER

Page 2-2 of Vol. I of the Army's FEIS adds a table which lists the radius of GHAs used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet. Also, on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigris mission and the size of its hazard area are not comparable to that of the Strategic Target System."

3. HAWAIIAN HOMELANDS

The lease held by Kekaha Sugar on Hawaiian ceded land adjacent to the PMRF ends in late 1993. This area is a possible site for Hawaiian Homelands. Should the State of Hawaii compromise or restrict this land before Hawaiian rights are addressed?

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands is unencumbered except for 105 hours per year (see page 3-60,

FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

4. PARK CLOSURE

Polihale Park, the target white sand beach in the State, receives 1/2 million visitors a year - residents and tourists alike. The Army's plan will close half of Polihale State Park at least 19 times a year for STARS and VANDALS launches with only minimal notice. Not only is this unacceptable, it sets a dangerous precedent for additional park closures and other restrictions on access at the military's discretion.

ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

5. AIR QUALITY

Experts have criticized the computer calculations of concentrations of hydrogen chloride and carbon monoxide that will be produced by STARS launches. Public health risks appear to be woefully underestimated.

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. This data has been received by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentration of combustion products at various distances from the launch site. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to

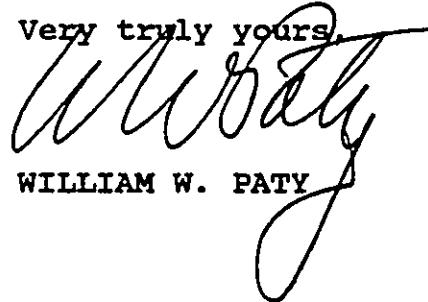
Mr. Marcus Castainey
Page 4

produce long-term detrimental effects. Even though our experts have determined the analysis to be adequate the Army has decided to monitor these constituents during the first launch to confirm their results. The clean air branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours,

A handwritten signature in cursive script, appearing to read 'W. W. Paty', written in dark ink.

WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Michelle Carroll
Post Office Box 93
Kilauea, HI 96754

Dear Ms. Carroll,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. **Rocket Safety - there is none.**

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

Ms. Michelle Carroll
Page 2

2. Hazard Arc - how can debris possibly be contained

ANSWER

Page 2-2 of Vol. I of the Army's FEIS adds a table which lists the radius of GHAs used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet. Also, on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigress mission and the size of its hazard area are not comparable to that of the Strategic Target System."

3. HAWAIIAN HOMELANDS - give the land to the rightful owners - people who love peace. Dont use this land for negative war-like activities.

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands is unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

4. PARK CLOSURE - close the park? In one breath we talk about how to bring more tourists to the island. In the next breath we very easily say we will just ask them to leave one of the more beautiful beaches. I'm sure they will love this. It will really make more tourists want to come here - they love a war atmosphere!

ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation

Ms. Michelle Carroll
Page 3

requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

5. **AIR QUALITY - it is ridiculous - the air is so sick already, how and why does/can this madness continue. For how much longer.**

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. this data has been received by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentration of combustion products at various distances from the launch site. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects. Even though our experts have determined the analysis to be adequate the Army has decided to monitor these constituents during the first launch to confirm their results. The clean air branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Refer to: KA-90:2107

Carl C. Christensen
Staff Attorney
Native Hawaiian Legal Corporation
1270 Queen Emma Street, Suite 1004
Honolulu, HI 96813

Dear Mr. Christensen,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

As a general matter, although DLNR understands many of the concerns raised in your letter, DLNR does not feel they would properly be within the scope of this document, which is examining the environmental impacts upon State land, pursuant to Chapter 343, Hawaii Revised Statutes (H.R.S.) and implementing regulations from entering into a proposed Memorandum of Agreement (MOA) with the Federal government. Please find below our response to your specific comments.

As to your Comment No. 1, DLNR does not agree that the lands at Pacific Missile Range Facility (PMRF) now under Federal control are "public lands" within the definition of section 171-2, H.R.S.

As to your Comments No. 2 and 6, the question of compliance with State law by the Federal government was addressed in the earlier Federal litigation you cite. You may refer to Judge Ezra's decision for the disclosure and adequate explanation you mention. As to your Comment No.5, DLNR does not believe that there is any violation of the statutes cited.

Mr. Carl C. Christensen
Page 2

As to your Comment No. 7, it is not clear to DLNR that the roads you mentioned are County of Kauai roads.

As to your Comment No. 9 and 10, the DLNR does not believe that illegal "segmentation" is occurring here. This EA addresses environmental impacts upon the State land proposed to be used for a ground hazard area under the proposed MOA. Any use of State land in connection with the Strategic Target System project after 1993 would require compliance with all applicable environmental statutes. The proposed MOA is not so functionally interdependent with potential post-1993 uses so as to warrant a total consideration of environmental impacts at this time.

As to your Comment No. 11, impacts of the Vandal launches were discussed on page 3-45 and in the discussion of cumulative impact in Section 4.6.3 of the Draft EIS and in the Strategic Target System Program Environmental Assessment.

As to your Comment No. 12, copies of the Draft EA and the Record of Decision (ROD) were available to the public on August 7, 1992 at the Department of Land and Natural Resources, Division of Land Management, 1151 Punchbowl Street, Honolulu, Hawaii, Room 220. Also available for public viewing on the above date and location were three sets of the four volume Final Environmental Impact Statement (EIS). We received our first request for a copy of the Draft EA on August 10, 1992. The Lihue office of the DLNR was not designated as a location at which the Draft EA, ROD and Final EIS would be available.

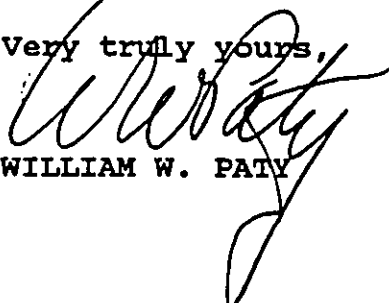
Copies of the Administrative Record (AR) were available at Kauai libraries and PMRF on August 4, 1992. Other comments, as well as portions of your September 7, 1992 letter, would indicate access and reference to the AR. DLNR has received, as of September 18, 1992, only one inquiry from persons on Oahu to review the EA, and this from the Sierra Club Legal Defense Fund (SCLDF). As litigation is ongoing in this matter between SCLDF and the State, the inquiry was referred to the Attorney General's office.

A careful and comprehensive review of the analyses contained in the Army's EIS and subsequent ROD has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Mr. Carl C. Christensen
Page 3

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Mr. Raymond L. Chuan, PhD
COALITION AGAINST STAR-WARS ON KAUAI
P.O. Box 1183
Hanalei, HI 96714

Dear Dr. Chuan:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. The DEA does not comply with the requirements of Administrative Rules, Title 11, Chapter 200, Subchapter 6, 11-200-9(a).

ANSWER:

This is an applicant action, not an agency action, so Hawaii Administrative Rules (HAR) Sec. 11-200-9(b) applies, not Sec. 11-200-9(a).

Agencies listed as consulted in the DEA were in fact consulted with by DLNR. The other agencies listed, as well as "citizen groups and individuals," are not required to be consulted with for an applicant action.

DLNR feels there was sufficient information in the DEA, i.e. inclusion of a draft Memorandum of Agreement (MOA), the title of the DEA clearly indicating an intent "to establish a ground.

Mr. Raymond L. Chuan
Page 2

hazard area on State lands adjacent to the Pacific Missile Range Facility, Kauai, Hawaii to alert a reader to satisfy the requirement of HAR 11-200-10(5) imposes a "summary description of the affected environment (emphasis added)."

2. The DEA fails to recognize that the primary and immediate impact of the proposed MOA is the denial of use and enjoyment of Polihale State Park by the public. It thus fails to comply with HAR 11-200-12(b)...

ANSWER:

DLNR does not feel that the potential impacts of the proposed MOA and the limited use of State land addressed therein arise to the level of significance set out in HAR 11-200-12(b) so as to have a significant effect on the environment.

3. HAR 11-200-13(c) states, "Agencies shall not, without considerable preexamination and comparison, use past determinations and previous EIS's to apply to the action at hand. The action for which a determination is sought shall be thoroughly reviewed prior to the use of previous determinations and previously accepted EIS's...."

ANSWER:

The quoted section of HAR 11-200-13(c) speaks for itself. On May 9, 1991, Judge David A. Ezra ruled in State of Hawaii v. Richard Cheney, et al., USDC Civil No. 90-0775 HMF, that contrary to DLNR's earlier position, the Federal government did not have to obtain a CDUA. The Office of State Planning has determined that the action for which the Federal government is applying to use State land would be consistent with the State's CZM program subject to conditions which were documented in the Final EIS and committed to in the Record of Decision (ROD) by the Federal Government. See Final EIS, Volume I, pp. 4-18 to 4-21, and ROD.

The other comments to the Draft EIS listed in this section were all responded to in the Final EIS.

4. The DLNR has not realistically assessed the consequences of the closing of Polihale Park as prescribed in the proposed MOA. It is quite impossible to clear the part of the Polihale Park within the so-called Ground Hazard Area in twenty minutes. It requires much longer than twenty minutes for a normal person, without motorized vehicles, to go from the beach near Nohili Point, for example, over the sand dunes back to where his car is parked. Likewise, it would take a

security personnel on foot much longer than twenty minutes to look for persons on the beach; and it would require many such personnel to cover the affected area. Assuming that the launch hour is definitely set (which is highly unlikely given the nature of missile launches) it would probably take at least two hours prior to the launch to close the access to the park and look for and evacuate people. Even this is not a likely scenario, since the Navy has said that it would not directly notify the public of a planned launch, but that the public would have to call the DLNR for such information, if any, on a daily basis if necessary. All this places the public in an untenable situation in trying to plan for a visit to Polihale Park. The process of notification as currently explained to the public in effect closes the Park for a month at a time for all but those who live very near Polihale Park.

ANSWER:

The Army has clearly explained how range clearing operations would occur on page 2-5 of Volume I of the FEIS as a change to the DEIS page 2-25. This includes entering the area to begin notifying people that they must leave in sufficient time to ensure the ground hazard area is clear at t-20 minutes. The Army also stated that adequate personnel will be available to allow posting guards with people moving from the area to verify their clearance at t-20 minutes. The FEIS then explains the all other activities required to ensure that the area is clear at t-20 minutes.

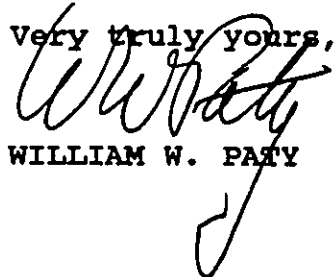
Permit issuance for camping purposes is not a factor in clearance of the GHA. The area affected by the GHA is south of the designated camping area for which permits are issued. There will be no disruption to campsites located in the area for which permits are issued, only the possibility in a 20 minute delay either entering or exiting the park by vehicle.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Mr. Raymond L. Chuan
Page 4

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Refer to:KA-90:2107

Sally Chase Clark
Post Office Box 1996
Lihue, HI 96766

Dear Ms. Clark,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. HAWAIIAN HOMELANDS

the use of native Hawaiian lands for purposes opposed to the federally and state mandated uses of those (stolen) lands

the continued removal of Hawaiian ceded lands from use for Hawaiian Homelands

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands in unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

JOHN WAIHEE
GOVERNOR OF HAWAII



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Evelyn de Buhr
Post Office Box 158
Hanalei, HI 96714

Dear Ms. de Buhr,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. Issues that need to be addressed are those of the effects of highly volatile and toxic chemicals of this magnitude unleashed in the air, the ocean, and possibly on land in the case of accidents. (Then missiles are designed for death and destruction, after all, so why should they be considered benign for these launches all of a sudden? Murphy's law should definitely be taken into consideration.)

ANSWER:

The Strategic Target System is not a weapon. As stated on page 2-1 of the Army's DEIS, these boosters would fly non-nuclear experiment payloads to re-enter near the U.S. Army Kwajalein Atoll (USAKA) in the Republic of the Marshall Islands. Here, existing sensors will collect data on the payloads.

Ms. Evelyn de Buhr
Page 2

Additionally, the Army assessed the potential for significant impact due to emission from STARS launches for both normal and early terminated flights (Section 3.3 and 4.3 of DEIS). This assessment has been reviewed by the Hawaii Department of Health Clean Air Branch, and found adequately assess the potential for significant impact. The Clean Air Branch concurs with the determination of no significant impact to public health and safety of the environment as a result of the emissions form these launches.

2. The fact that adjacent lands are the sites of possible Hawaiian Homelands needs to be seriously considered. As in the case of all the Hawaiian Homelands, we have a chance to make right old wrongs and misdoings, thereby changing the course of history and begin an era of new faith and trust. The closing state land is unwise and must not happen.

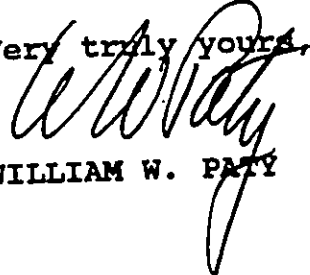
ANSWER:

The subject MOA is consistent with long-term plans for the affected area -- the preservation of open spaces. Public access will be denied for every short durations and only to a portion of total state lands in area (Section 3.6 DEIS and page 3-19 response to ORI-6, DEIS, Vol. I)

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Alison L. Dunn
Post Office Box 930
Hanalei, HI 96714

Dear Ms. Dunn:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

One of the main issues which is not adequately addressed is protection of our air quality. Experts have criticized the computer calculations of hydrogen chloride and carbon monoxide that will be produced by Stars launches. We need to be certain of the health risks to the public.

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. This data has been reviewed by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentrations of combustion products at various distances from the launch site. The predicted concentrations were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects. Even though our

Ms. Alison L. Dunn
Page 2

experts have determined the analysis to be adequate, the Army had decided to monitor these constituents during the first launch to confirm their results. The Clean Air Branch will continue to work with the Army and require whatever is necessary to ensure public health and safety.

A complete and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Ms. Mary Eiser
4332 Anonui Street
Lihue, Hawaii, 96766

Dear Ms Eiser:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) REQUIREMENT FOR AN EIS--"I am writing regarding the proposed STARS missile testing on Kauai. I am writing to oppose the State's decision to start testing after doing only a perfunctory State Environmental Assessment study. In a project where the potential for environmental damage is so great, an independent State Environmental Impact Statement is necessary." (Additional inputs refer to performing the State EA in only six days, copying the less-than-satisfactory Federal EIS)

Answer: Regarding the first part of this concern, the STARS missile is not being tested on Kauai. It is a target vehicle which is being utilized in the Testing and Evaluation process. Regarding the comment about the State's decision to start testing, it should be pointed out that the Strategic Defense Initiative Organization, part of the Department of Defense is the agency which is conducting the program. The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts

Ms. Mary Eiser
Page 2

in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army have determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours


WILLIAM W. PATY

JOHN WAIMEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Ms. Helen Mehl
555 Bryant Street, #128
Palo Alto, CA, 94301

Dear Ms. Mehl;

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) **REQUIREMENT FOR AN INDEPENDENT EIS: "...I insist that the State of Hawaii conduct an independent environmental impact statement before the Army launches any Polaris missiles from Barking Sands."**

Answer: The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army has determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of

Ms. Helen Mehl

Page 2

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foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

2) ROCKET SAFETY: "The Polaris missiles are 27 years old and there is a strong probability that one of the missiles will misfire during the proposed 40 launches,..."

Answer: As stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for National Security reasons--allies continue to employ the same boosters as an element of their national defense. However, extensive steps have been taken to ensure that the reliability of the boosters is maintained. This has included multiple static firings, non-destructive testing such as x-ray of the 1st and 2nd stage boosters and refurbishment to original specifications by the original booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (page 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 521
HONOLULU, HAWAII 96809

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Robert J. Merger
Post Office Box 17
Naalehu, HI 96772

Dear Mr. Merger,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

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Experts disagree on the reliability of the 27-year old boosters used in STARS missiles. Many believe that the Army's projection of 97% system reliability's is a deliberately misleading statement. There has been NO FLIGHT TESTS of these "refurbished" missiles - only 1 static firing of the 1st and 2nd stage. **THUS, THE ARMY'S ENVIRONMENTAL AND PUBLIC HEALTH IMPACT ESTIMATES RELY ON GROSSLY INADEQUATE TEST DATA!!!**

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and

Mr. Robert J. Merger
Page 2

refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

2. HAZARD ARC

Many experts feel it is impossible to contain debris, from an early flight termination or launch area explosion within a 10,000 foot hazard arc. With a residential community only 5-8 miles from the launch site and significant recreational use of the adjacent area, the hazard arc inadequately addresses public health and safety. The 1991 Aries launch failure at Cape Canaveral rained flaming propellant 8 miles from the launch pad!

ANSWER

Page 2-2 of Vol. I of the Army's FEIS adds a table which lists the radius of GHAs used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet. Also, on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigress mission and the size of its hazard area are not comparable to that of the Strategic Target System."

3. HAWAIIAN HOMELANDS

The lease held by Kekaha Sugar on Hawaiian ceded land adjacent to the PMRF ends in late 1993. This area is a possible site for Hawaiian Homelands. Should the State of Hawaii compromise or restrict this land before Hawaiian rights are addressed?

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands is unencumbered except for 105 hours per year (see page 3-60,

Mr. Robert J. Merger

Page 3

FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

4. PARK CLOSURE

Polihale Park, the target white sand beach in the State, receives 1/2 million visitors a year - residents and tourists alike. The Army's plan will close half of Polihale State Park at least 19 times a year for STARS and VANDALS launches with only minimal notice. Not only is this unacceptable, it sets a dangerous precedent for additional park closures and other restrictions on access at the military's discretion.

ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available area (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

5. AIR QUALITY

Experts have criticized the computer calculations of concentrations of hydrogen chloride and carbon monoxide that will be produced by STARS launches. Public health risks appear to be woefully underestimated.

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. This data has been received by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentration of combustion products at various distances from the launch site. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were

Mr. Robert J. Merger

Page 4

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also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects. Even though our experts have determined the analysis to be adequate the Army has decided to monitor these constituents during the first launch to confirm their results. The clean air branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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Mr. Robert Meyer
1870 Hoone Road, #827
Koloa, HI, 96756

Dear Mr. Meyer:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) **CONCERNS:** "...my concerns remain about safety, environmental damage to the ozone layer, the air, land, and sea, the adverse impact on tourism, and speaking as a Hawaiian not in blood, but in spirit, the total disregard for the kanaka maoli and the Hawaiian Homelands.

ON SAFETY: Regarding rocket safety, as stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for National Security reasons--allies continue to employ the same boosters as an element of their national defense. However, extensive steps have been taken to ensure that the reliability of the boosters is maintained. This has included multiple static firings, non-destructive testing such as x-ray of the 1st and 2nd stage boosters and refurbishment to original specifications by the original booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (page 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

Mr. Robert Meyer

Page 2

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ON ENVIRONMENTAL DAMAGE TO THE OZONE LAYER, THE AIR, LAND, AND SEA:
See response provided in 2) below.

ON THE ADVERSE IMPACT ON TOURISM: The project is not expected to have any effect on tourism as addressed in the Army's Final EIS (page 3-21) and in the Draft EIS (paragraph 4.12).

ON HAWAIIAN HOME LANDS: Neither the GHA nor the MOA being proposed to allow verification of clearance of the GHA extend onto Hawaiian Homelands. This action is not inconsistent with long range plans for this area and, in fact, may help ensure that these areas remain "open spaces". The MOA restricts access for the area to be verified clear for a period of 20 minutes no more than 19 times per year. The remainder of the park and sugar cane lands are still available for use even during this time.

2) REQUIREMENT FOR AN INDEPENDENT EIS: "I therefore request that the State do a full independent, unbiased Environmental Impact Statement before even considering allowing the military to close off State lands for these launches."

Answer: The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army has determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

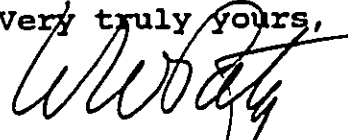
Mr. Robert Meyer

Page 3

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Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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Conrad Melkarewicz
P.O. Box 192
Kilauea, HI 96754

Dear Mr. Melkarewicz:

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1) I find your EA rubber stamp of of the Army EIS disgusting. Please reconsider your findings...and conduct your own EIS.

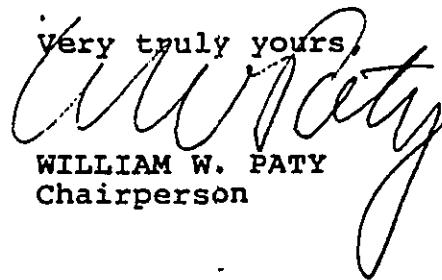
ANSWER: After reviewing the Army's Environmental Impact Statement (EIS), the state has determined that the document complies with the the National Environmental Policy Act (NEPA). Under NEPA, the proponant of the action, in this case the Army, is the agency required to prepare the EIS. The law contains provisions to ensure accountability such as public review, agency review as well as the option of judicial review. It is the state's determination that the Army has fulfilled these requirements.

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Mr. Conrad Melkarewicz
Page 2

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WILLIAM W. PATY
Chairperson

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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HONOLULU, HAWAII 96809

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WATER AND LAND DEVELOPMENT

Duane Millers
Post Office Box 709
Naalehu, HI 96772

Dear Mr. Millers,

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Mr. Duane Millers

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ANSWER

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Mr. Duane Millers
Page 3

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ANSWER

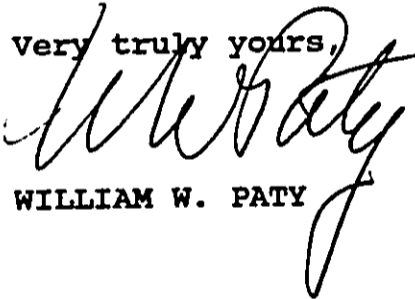
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Mr. Duane Millers
Page 4

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Very truly yours,

WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 821
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Ms. Ilima Morrison
5085 Laipo Road
Kapaa, HI, 96746

Dear Ms. Morrison:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) Military Stewardship of Hawaii's Lands--"Historically the military has been a terrible steward for Hawai'i's lands. No one intended that Kaho'olawe would become unfit for human habitation or recreation--but that's what happened, and now the military says that the cost of a cleanup would be prohibitive. The same seems to be true of Lualualei and a number of other lands on O'ahu. The military has always promised to clean up after itself and return lands which have been turned over to it, but the record indicates that it has done a lousy job."

Answer: The military is not asking for stewardship of the State Lands affected by the proposed Memorandum of Agreement. The situation at Kahooolawe is not a good analogy, as one of the reasons it was turned over for use as a target area was that previous attempts at human habitation and commercial ranching proved unsuccessful.

Ms. Ilima Morrison

Page 2

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2) Use of Park Lands--"Now the military wants to use our park lands at least 19 days each year for the next ten years. This will only be afoot in the door. 19 days will grow to 20 and then to 30 and the hours will be extended, little by little. Ultimately we will lose control of these lands just as we have other lands before them--and all for a program, STARS, that is itself unneeded, probably unworkable, and a tremendous waste of tax-payer's money. Don't let the military get its foot any further in the door.

Answer: The military does not intend to "use" State park lands in any different way than it has for the past 30 years. The land in question is part of the Ground Hazard Area, and clearance of the area is for the purposes of public safety. State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
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WILLIAM W. PATY, CHAIRPERSON
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WATER AND LAND DEVELOPMENT

Ms. Debbie Mullen
3310 Poipu Road
Koloa, HI, 96756

Dear Ms. Mullen:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) **REQUIREMENT FOR AN EIS--"I feel that a full EIS is required before STARS launching is permitted. There are too many gray areas in which 'experts' disagree, including area in which debris could land, rocket safety and air quality."**

Answer: The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army have determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of

Ms. Debbie Mullen
Page 2

foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

On the Ground Hazard Area (GHA), relative information concerning the Red Tigress mission which resulted in a launch termination of an Ariès booster at Cape Canaveral during the summer of 1991 can be found on page 3-32 of the Army's Final EIS. Also, information concerning relative GHAs for a broad range of launch vehicles can be found as an addition to the Draft EIS on page 2-2 of the Final EIS, Volume I. The size of the GHA is dependent on many factors including the type of booster and the area around the launch pad that can be cleared of people. The State of Hawaii has reviewed this analysis and determined that, based on the information therein, the establishment of the GHA for STARS is consistent with or more conservative than that normally established for similar activities. Therefore, the State of Hawaii's determination is that no significant impact to Public Health and Safety is likely.

Regarding rocket safety, as stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for National Security reasons--allies continue to employ the same boosters as an element of their national defense. However, extensive steps have been taken to ensure that the reliability of the boosters is maintained. This has included multiple static firings, non-destructive testing such as x-ray of the 1st and 2nd stage boosters and refurbishment to original specifications by the original booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (page 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

2) On closing of Polihale Park: "...closing of Polihale Park for launches on short notice could be dangerous and bad for tourism."

Answer: State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur. The

Ms. Debbie Mullen

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DATE: 7-2-1994

reasons for closure of the area in question is to remove the element of possible danger to personnel. The project is not expected to have any effect on tourism as addressed in the Army's Final EIS (page 3-21) and in the Draft EIS (paragraph 4.12)

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 521
HONOLULU, HAWAII 96809

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Ms. Lisa Nansel
Post Office Box 493
Kilauea, HI 96754

Dear Ms. Nansel:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

The issue of the rocket's inherent safety is foremost. There have been no tests of these refurbished missiles up to this point.

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

2. HAWAIIAN HOMELANDS

The PMRF is on an area of land being considered as Hawaiian Homelands. Lets not jepardize these lands until we can decide if they will be once again in Hawaiian Hands.

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands in unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

4. PARK CLOSURE

I am opposed to the closure of Polihale Park for launch times. This is our park, it should not be restricted because of military use.

ANSWER

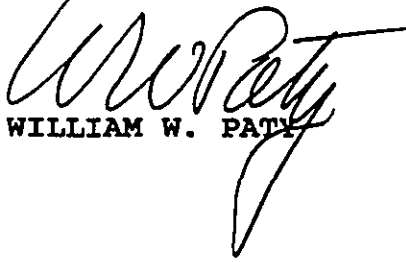
These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Ms. Lisa Nansel
Page 3

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Refer to:KA-90:2107

The Nohili Coalition
c/o Reverend Kaleo Patterson
Post Office Box 113
Kapaa, HI 96746

Dear Reverend ^{Kaleo}Patterson:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. NATIVE HAWAIIAN RIGHTS

ANSWER

As was stated in the Army's Final EIS on page 3-21 of Volume I, PMRF rests on ceded lands, which have either been conveyed to the United States for military use or are leased by the military from the state. Members of the Hawaiian sovereignty movement claim ceded lands for the Hawaiian people. This issue is outside the scope of this EA. Strategic Target System activities will not involve the use of the lands designated as Hawaiian Home Lands.

2. NATIVE HAWAIIAN SUBSISTENCE FISHING

Reverend Kaleo Patterson

Page 2

ANSWER

As described in the Army's Final EIS on page 3-39 of Volume I, the potential for restricted access (up to 56 days per year) for beach fishing would be limited to a small portion (1.6 acres) of Recreation Area 1. Access to beach fishing would still be available on the remaining 8.4 acres of Recreation Area 1 as well as other beaches on the west side of the island. restricted access, therefore, would not significantly affect subsistence fishing or the traditional lifestyle of fishermen. Since the over-water safety zone is of limited size, would only be in effect up to 105 hours per year, and fishermen working in the area would receive ample notification to use other waters, impact to commercial fishermen would be minimal.

3. IMPACTS ON CULTURAL SITES AND USE AREAS

ANSWER

As described in the Army's Final EIS on page 3-83 of Volume I, concurrence with the Army's determination of no adverse effects has been made by the State Historic Preservation Office with conditions that the Strategic Defense Command take into account traditional properties as per NPS Bulletin #38. No trails were identified during the cultural resources study. In addition on page 3-39, it was pointed out the maps are not included in the EIS in order to protect known sites.

4. BURIALS TREATMENT PLAN IS REQUIRED

ANSWER

As described in the Army's Final EIS on page 3-35 of Volume I, if burial remains are found during any project activity, the procedures established by the Native American Graves Protection and Repatriation Act will be followed. Further discussion is found on page 4-33 of the Draft EIS.

5. LAND USE

ANSWER

All Strategic Target System activities occur outside the area of Hawaiian Homelands. As described in the Army's Final EIS on pages 3-21 and 3-63 of Volume 1, the issue of ceded lands is beyond the scope of this EA. Future proposed land transactions are also not within the scope of this EA and impacts cannot be assessed until this becomes an actual situation.

Reverend Kaleo Patterson

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6. FAILURE TO ASSESS IMPACT UNDER DIFFERENT SCENARIOS

ANSWER

Future unknown actions are not within the scope of this EA and impacts cannot be assessed until these become actual situations.

7. PROCEDURE TO DESIGNATE A BLAST ZONE

ANSWER

Section 2.1.2.2 of the Draft EIS describes how the ground hazard area is designated.

8. FAILURE TO CONDUCT SOCIAL IMPACT ASSESSMENT

ANSWER

As described on page 3-25 of Volume I of the Army's Final EIS and presented in Section 3.12 of the Draft EIS, PMRF and KTF are major employers of skilled labor on the west side of Kauai. Based on operational hours, approximately 75 percent of PMRF's mission supports Fleet training. The remaining 25 percent of the PMRF mission supports research and development activities, the majority of which is in support of SDI-related programs. Almost all of the KTF mission supports research and development programs.

PMRF has 16 full-time government and contractor personnel working on the program. In addition, Sandia National Laboratories at KTF, which operates the Strategic Target System launch pad and launch operations building, employs 17 full-time personnel to keep the facility in operational condition. This represents 24 jobs at PMRF and KTF that are directly related to the Strategic Target System program.

Section 4.12 of the Draft EIS discusses the personnel required for Strategic Target System launches. Additional 45 program personnel would be on temporary (one month per launch) duty, thus creating minimal impact on both the island's economy and environment.

The Army elicited concerns through their public availability sessions, use of citizen reviewers, public hearings, and the comment period.

9. WATER RESOURCES

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ANSWER

As stated on page 4-72 of the Draft EIS, water consumption for the Strategic Target System program would be approximately 2,000 gallons a day, less than 1 percent of the current available water supply. As stated on page 3-38 of Volume I of the Final EIS, water would be supplied through the Kekaha Sugar Company Mana Well, Kauai Board of Water Supply, and the State of Hawaii.

10. NATIVE PLANT SPECIES

ANSWER

- A. The EIS has been reviewed by the federal, state, and local resource agencies whose concerns include the protection of near-shore marine environments and the endangered, threatened, and other sensitive species. Their review includes those sections that describe the expected impacts and mitigations for those impacts. No resource agency has indicated that the assessment of impacts nor the mitigations incorporated in the EIS are inadequate.
- B. Native plant use is discussed in the ethnographic study. No impacts are expected to seaweed. Other than during launches, there will be no change in current accessibility of the area.
- C. As stated above, the EIS has been reviewed by the federal, state, and local resource agencies whose concerns include the protection of near-shore marine environments and the endangered, threatened, and other sensitive species. In addition, the U.S. Fish and Wildlife Service concurred with the finding of no adverse effects to sensitive plant species as addressed in the Biological Assessment.

11. NATIVE FAUNA

ANSWER

The affected biological environment and consequences from the proposed action to the biological environment are described in the EIS. No potential impacts to fish populations from the proposed action have been identified. Therefore, neither fish

:2

populations or subsistence fishing are addressed in the EA. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service concurred with the finding of no adverse effects to sensitive plant species as addressed in the Biological Assessment.

12. FAILURE TO ASSESS IMPACT ON NIIHAU, KAULA, AND LEHUA

ANSWER

These areas are not part of the MOA and therefore, are outside the scope of this EA.

13. NATURAL DISASTER AREA

ANSWER

The map of the 100-year tsunami flood zone on page 3-5 of the Draft EIS is based on specific information taken from the Federal Emergency Management Agency flood zone map for the Island of Kauai. The information is the definitive data for insurance and other purposes and, as such, was used as the basis for the analysis in the EIS.

The effects of Hurricane Iniki have been considered by DLNR. Based on reports from Kauai and information available to DLNR, it does not appear that the affected environment has been significantly or substantially altered so that the environmental review and analysis examining the impacts of the proposed use of State land need to be reassessed. Also a factor in this determination is DLNR's understanding that no actual use of State land by the Federal government for the purposes set out in the proposed MOA will take place before November 1, 1992. This delay should allow the infrastructure supporting the required mitigations to be restored.

14. RAINFORESTS

ANSWER

These areas are not part of the MOA and therefore, are outside the scope of this EA.

15. HAWAIIAN LANGUAGE

Reverend Kaleo Patterson
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ANSWER

Translation of the EA in Hawaiian is not legally required.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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Ms. Pamela J. Palmer
Post Office Box 238
Kapaa, HI, 96746

Dear Ms. Palmer:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) **Military Stewardship of Hawaii's Lands--"Historically the military has been a terrible steward for Hawai'i's lands. No one intended that Kaho'olawe would become unfit for human habitation or recreation--but that's what happened, and now the military says that the cost of a cleanup would be prohibitive. The same seems to be true of Lualualei and a number of other lands on O'ahu. The military has always promised to clean up after itself and return lands which have been turned over to it, but the record indicates that it has done a lousy job."**

Answer: The military is not asking for stewardship of the State Lands affected by the proposed Memorandum of Agreement. The situation at Kaho'olawe is not a good analogy, as one of the reasons it was turned over for use as a target area was that previous attempts at human habitation and commercial ranching proved unsuccessful.

Ms. Pamela J. Palmer
Page 2

2) Use of Park Lands--"Now the military wants to use our park lands at least 19 days each year for the next ten years. This will only be afoot in the door. 19 days will grow to 20 and then to 30 and the hours will be extended, little by little. Ultimately we will lose control of these lands just as we have other lands before them--and all for a program, STARS, that is itself unneeded, probably unworkable, and a tremendous waste of tax-payer's money. Don't let the military get its foot any further in the door.

Answer: The military does not intend to "use" State park lands in any different way than it has for the past 30 years. The land in question is part of the Ground Hazard Area, and clearance of the area is for the purposes of public safety. State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

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WATER AND LAND DEVELOPMENT

Ms. Judith B. Parsons
Post Office Box 2
Makaweli, Kauai, HI 96769

Dear Ms. Parsons:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

"Please do an honest Environmental Assessment and if you find that there is any chance of damage to this land or its people, then your choice is simple."

The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment, and an Environmental Impact Statement. As part of these analyses, consultations were conducted with federal, state and local experts in every environmental resource area. The State of Hawaii has once again reviewed this extensive body of information in the preparation of the draft Environmental Assessment. The well being of the Citizens and environment of Hawaii are of foremost interest.

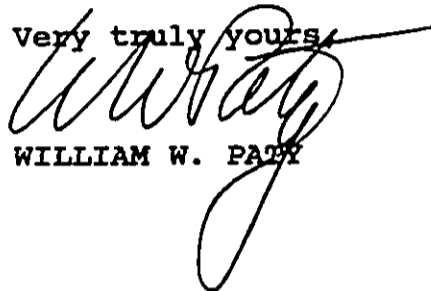
A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Ms. Judith B. Parsons
Page 2

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Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'W. W. Pate', with a long horizontal flourish extending to the right.

WILLIAM W. PATE

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Mr. Louis A. Perrotta, Jr.
Post Office Box 1705
Lihue, HI 96766

Dear Mr. Perrotta:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) Rocket Safety - Experts disagree on the reliability of the 27 year old Polaris boosters used in STARS missiles. Many believe that the Army's projection of "97% system reliability" is a deliberately misleading statement. There have been no flight tests of these "refurbished" missiles - only 1 static firing of the 1st and 2nd stage. Thus the Army's environmental and public health impact estimates rely on grossly inadequate test data!

ANSWER: As stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage Strategic Target System boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons. However, extensive steps have been taken to ensure that the reliability of the boosters is maintained. This has included multiple static firings, non-destructive testing such as x-ray of the 1st and 2nd stage boosters, and refurbishment to original

Louis A. Perrotta, Jr

Page 2

specifications by the original booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (page 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

2) Hazard Arc - Many experts feel it is impossible to contain debris from an early flight termination or launch area explosion within a 10,000 foot hazard arc. With a residential community only 5-8 miles from the launch site and significant recreational use of the adjacent area, the hazard arc inadequately addresses public health and safety. The 1991 Aries launch failure at Cape Canaveral rained flaming propellant 8 miles from the launch pad!

ANSWER: Relative information concerning the Red Tigress mission which resulted in a launch termination of an Aries booster at Cape Canaveral during the summer of 1991 can be found on page 3-32 of the Army's Final EIS. Also, information concerning relative Ground Hazard Areas (GHA) for a broad range of launch vehicles can be found as an addition to the Draft EIS on page 2-2 of the Final EIS, Volume I. The size of the GHA is dependent on many factors, including the type of booster and the area around the launch pad that can be cleared of people. The State of Hawaii has reviewed this analysis and determined that, based on the information therein, the establishment of the GHA for STARS is consistent with or more conservative than that normally established for similar activities. Therefore, the State of Hawaii's determination is that no significant impact to Public Health and Safety is likely.

3) Hawaiian Homelands - The lease held by Kekaha Sugar on Hawaiian ceded lands adjacent to the PMRF ends in late 1993. This area is a possible site for Hawaiian Homelands. Should the State of Hawaii compromise or restrict this land before Hawaiian rights are addressed?

ANSWER: Neither the GHA nor the MOA being proposed to allow verification of clearance of the GHA extend onto Hawaiian Homelands. This action is not inconsistent with long range plans for this area and, in fact, may help ensure that these areas remain "open spaces". The MOA restricts access for the area to be verified clear for a period of 20 minutes no more than 19 times per year. The remainder of the park and sugar cane lands are still available for use even during this time.

4) Park Closure - Polihale Park, the longest white sand beach in the state, receives 1/2 million visitors a year - residents and tourists alike. The Army's plan will close half of Polihale State Park at least 19 times a year for STARS and Vandal launches with only minimal notice. Not only is this unacceptable, it sets a dangerous precedence for additional park closures and other restrictions on access at the military's discretion.

Louis A. Perrotta, Jr
Page 3.

ANSWER: These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and limit access only to a portion of the state parks (pages 2-5 and 3-19 in the Army's Final EIS). Therefore, no significant restriction of access by the public to state recreational lands will occur.

5) Air Quality - Experts have criticized the computer calculations of concentrations of hydrogen chloride and carbon monoxide that will be produced by STARS launches. Public health risks appear to be woefully underestimated.

ANSWER: The Army's modeling of contaminants released as a result of STARS launches is described in section 4.3 of the Draft EIS. This data has been reviewed by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentrations of combustion products at various distances from the launch site. The predicted concentration was then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed levels known to produce long-term detrimental effects. Even though our experts have determined the analysis to be adequate, the Army has decided to monitor these constituents during the first launch to confirm their results. The Clean Air Branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PEPPY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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Ms. Lee Rovers
P.O. Box 723
Kilauea, HI, 96754

Dear Ms. Rovers;

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) **REQUIREMENT FOR AN INDEPENDENT EIS: "It seems very important that the state prepare an INDEPENDENT EIS. Not a 6 page paraphrasing of the Army's Federal EIS."**

Answer: The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army has determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

Ms. Lee Rovers

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2) **ROCKET SAFETY:** "I am not convinced of the safety of these boosters which are very old and as yet untested."

Answer: As stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for National Security reasons--allies continue to employ the same boosters as an element of their national defense. However, extensive steps have been taken to ensure that the reliability of the boosters is maintained. This has included multiple static firings, non-destructive testing such as x-ray of the 1st and 2nd stage boosters and refurbishment to original specifications by the original booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (page 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

3) **GROUND HAZARD AREA:** "I am also not so sure that any debris from these launchings can be contained in the area specified as a 'hazard arc'."

Answer: On the Ground Hazard Area (GHA), relative information concerning the Red Tigress mission which resulted in a launch termination of an Aries booster at Cape Canaveral during the summer of 1991 can be found on page 3-32 of the Army's Final EIS. Also, information concerning relative GHAs for a broad range of launch vehicles can be found as an addition to the Draft EIS on page 2-2 of the Final EIS, Volume I. The size of the GHA is dependent on many factors including the type of booster and the area around the launch pad that can be cleared of people. The State of Hawaii has reviewed this analysis and determined that, based on the information therein, the establishment of the GHA for STARS is consistent with or more conservative than that normally established for similar activities. Therefore, the State of Hawaii's determination is that no significant impact to Public Health and Safety is likely.

4) **HAWAIIAN HOMELANDS:** "I am not satisfied that the issue of our Native Hawaiian Homelands usage has been fully examined."

Answer: Neither the GHA nor the MOA being proposed to allow verification of clearance of the GHA extend onto Hawaiian Homelands. This action is not inconsistent with long range plans

Ms. Lee Rovers
Page 3

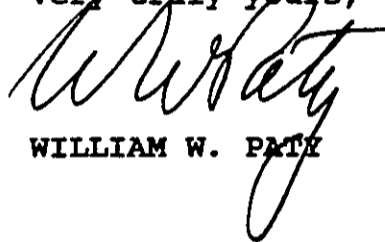
- 2 1992

for this area and, in fact, may help ensure that these areas remain "open spaces". The MOA restricts access for the area to be verified clear for a period of 20 minutes no more than 19 times per year. The remainder of the park and sugar cane lands are still available for use even during this time.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATE

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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WILLIAM W. PATY, CHAIRPERSON
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Geetal Sussman
Post Office Box 407
Anahola, HI 96703

Dear Ms. Sussman:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,

A handwritten signature in cursive script, appearing to read "W. Paty".

WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

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Mr. Joseph Thomson
P.O. Box 3236
Princeville, HI, 96722

Dear Mr. Thomson:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) CEDED LANDS: "The lease held by Kekaha Sugar on Hawaiian ceded land adjacent to PMRF ends in late 1993. This area is a potential site for Hawaiian Homelands. The State should not compromise or restrict this land before addressing the Hawaiian rights."

Answer: Neither the GHA nor the MOA being proposed to allow verification of clearance of the GHA extend onto Hawaiian Homelands. This action is not inconsistent with long range plans for this area and, in fact, may help ensure that these areas remain "open spaces". The MOA restricts access for the area to be verified clear for a period of 20 minutes no more than 19 times per year. The remainder of the park and sugar cane lands are still available for use even during this time.

REQUIREMENT FOR AN EIS-"The State should prepare a full Environmental Impact Statement prior to signing the Memorandum of Agreement concerning Stars Missile launches."

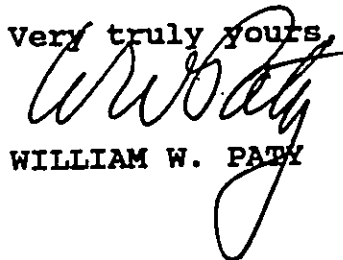
Mr. Joseph Thomson
Page 2

Answer: The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army have determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense. ;

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809
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Refer to:KA-90:2107

Mr. Van Ness
Post Office Box 1105
Volcano, HI 96785

Dear Mr. Van Ness:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

Experts disagree on the reliability of the 27-year old boosters used in STARS missiles. Many believe that the Army's projection of 97% system reliability's is a deliberately misleading statement. There has been NO FLIGHT TESTS of these "refurbished" missiles - only 1 static firing of the 1st and 2nd stage. **THUS, THE ARMY'S ENVIRONMENTAL AND PUBLIC HEALTH IMPACT ESTIMATES RELY ON GROSSLY INADEQUATE TEST DATA!!!**

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of

Mr. Van Ness
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the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

2. HAZARD ARC

Many experts feel it is impossible to contain debris, from an early flight termination or launch area explosion within a 10,000 foot hazard arc. With a residential community only 5-8 miles from the launch site and significant recreational use of the adjacent are, the hazard arc inadequately addresses public health and safety. The 1991 Aries launch failure at Cape Canaveral rained flaming propellant 8 miles from the launch pad!

ANSWER

Page 2-2 of Vol. I of the Army's FEIS adds a table which lists the radius of GHAs used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet. Also, on page 3-73, response to comment WR 189-2, and page 3-32, response to comment OR 80-1, the Army considers and discusses the event which you cite. In particular, it is stated that "The decision of when to send the flight terminate command on the Red Tigress mission and the size of its hazard area are not comparable to that of the Strategic Target System."

3. HAWAIIAN HOMELANDS

The lease held by Kekaha Sugar on Hawaiian ceded land adjacent to the PMRF ends in late 1993. This area is a possible site for Hawaiian Homelands. Should the State of Hawaii compromise or restrict this land before Hawaiian rights are addressed?

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands in

Mr. Van Ness

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unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

4. PARK CLOSURE

Polihale Park, the target white sand beach in the State, receives 1/2 million visitors a year - residents and tourists alike. The Army's plan will close half of Polihale State Park at least 19 times a year for STARS and VANDALS launches with only minimal notice. Not only is this unacceptable, it sets a dangerous precedent for additional park closures and other restrictions on access at the military's discretion.

ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

5. AIR QUALITY

Experts have criticized the computer calculations of concentrations of hydrogen chloride and carbon monoxide that will be produced by STARS launches. Public health risks appear to be woefully underestimated.

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. This data has been received by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentration of combustion products at various distances from the launch site. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were

Mr. Van Ness
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also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects. Even though our experts have determined the analysis to be adequate the Army has decided to monitor these constituents during the first launch to confirm their results. The clean air branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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Mr. Ronald T. Weakley
276 Aina Pua Place
Kapaa, HI, 96746

Dear Mr. Weakley:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,

A handwritten signature in cursive script, appearing to read "W. W. Paty".

WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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Robin Yost
6015 Kolopua Street
Kapaa, HI 96746

Dear Robin:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) RISKS TO KAUAI: "I am utterly and completely against any such launches and 'experiments' as there are too many risks against our precious island of Kauai. These risks entail rocket safety, Hawaiian Homelands, air quality, a hazard arc, and park closure, among others."

ON ROCKET SAFETY: As stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for National Security reasons--allies continue to employ the same boosters as an element of their national defense. However, extensive steps have been taken to ensure that the reliability of the boosters is maintained. This has included multiple static firings, non-destructive testing such as x-ray of the 1st and 2nd stage boosters and refurbishment to original specifications by the original booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (page 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

Robin Yost
Page 2
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ON HAWAIIAN HOMELANDS: Neither the GHA nor the MOA being proposed to allow verification of clearance of the GHA extend onto Hawaiian Homelands. This action is not inconsistent with long range plans for this area and, in fact, may help ensure that these areas remain "open spaces". The MOA restricts access for the area to be verified clear for a period of 20 minutes no more than 19 times per year. The remainder of the park and sugar cane lands are still available for use even during this time.

ON AIR QUALITY: The sum of the air quality effects of the Strategic Target System and other missile programs were considered in the Army's Draft EIS, section 4.3.3 Cumulative Effects. Although a comprehensive emissions inventory of all emissions sources at PMRF and KTF has not been made, the point sources that are under a Permit to Operate from the State of Hawaii Department of Health were quantified. (See response to comment WR-9-5, Vol. I Final EIS.) The U. S. Army's EIS concluded that no cumulative air quality impacts are anticipated for the Strategic Target System in combination with other programs at PMRF and KTF.

ON A HAZARD ARC: Relative information concerning the Red Tigriss mission which resulted in a launch termination of an Aries booster at Cape Canaveral during the summer of 1991 can be found on page 3-32 of the Army's Final EIS. Also, information concerning relative GHAs for a broad range of launch vehicles can be found as an addition to the Draft EIS on page 2-2 of the Final EIS, Volume I. The size of the GHA is dependent on many factors including the type of booster and the area around the launch pad that can be cleared of people. The State of Hawaii has reviewed this analysis and determined that, based on the information therein, the establishment of the GHA for STARS is consistent with or more conservative than that normally established for similar activities. Therefore, the State of Hawaii's determination is that no significant impact to Public Health and Safety is likely.

ON PARK CLOSURE: State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur. The reasons for closure of the area in question is to remove the element of possible danger to personnel. The project is not expected to have any effect on tourism as addressed in the Army's Final EIS (page 3-21) and in the Draft EIS (paragraph 4.12)

Robin Yost

Page 3

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2) REQUIREMENT FOR AN INDEPENDENT EIS: "It is imperative that the State should prepare a full Environmental Impact Statement--not one that was hastily put together, using the Army's EIS."

Answer: The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army has determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATE

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 521
HONOLULU, HAWAII 96809

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Refer to:KA-90:2107

Ms. Majorie Ziegler
Hawaii Audubon Society
212 Merchant Street, Suite 320
Honolulu, HI 96813

Dear Ms. *Majorie* Ziegler:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

We are considering your request that we withdraw the "Acceptance Report" that was signed on July 31, 1992. However, we have not made a determination at this time.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIMEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 521
HONOLULU, HAWAII 96809

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Mr. Charley Love
P.O. Box 1541
Koloa, HI 96813

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,

A handwritten signature in cursive script, appearing to read "W. Paty", written over the typed name and title.

WILLIAM W. PATY
Chairperson

JOHN WAIMEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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Ms. Ingrid Tillman
P.O. Box 818
Kilauea, Hawaii 96754

Dear Ms. Tillman:

Thank you for your interest and comments on the Environmental Assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) The military has prepared an EIS that is no more than an Environmental Assessment. To nobody's surprise they couldn't find any impact.

ANSWER: The Army has reviewed Strategic Target System activities on Kauai, including the proposed Memorandum of Agreement (MOA), through the completion of an Environmental Assessment, a supplemental Environmental Assessment and a full Environmental Impact Statement (EIS). Under provisions of the National Environmental Policy Act, the Strategic Target System project has been the subject of extensive public review, agency review as well as judicial review. Consultations were conducted with federal, state and local experts in every environmental resource area. The State of Hawaii, in preparing its draft Environmental Assessment on the proposed MOA, has once again reviewed this extensive body of information. Our analysis of the facts associated with this project leads to the conclusion that producing a full EIS on the proposed MOA is not required.

Ingrid Tillman
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2) To my information there is not even the rocket's safety guaranteed neither in terms of safety of the missiles nor the impact zone for the debris.

ANSWER: Overall system reliability from launch to mission completion is cited by the Army as 97 percent. As noted in the Army's EIS extensive steps have been taken to ensure that the reliability of the boosters is maintained in the form of multiple static firings, non-destructive x-ray of the boosters before their use and refurbishment to original specifications by the booster manufacturers. Furthermore, we have concluded through review of the Army's analysis that in the remote event of a flight termination over land all debris would be contained within the ground hazard area.

3) If anything happened...tourism, our main source of income, would suffer unpredictable impact.

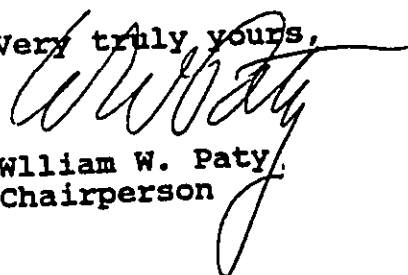
ANSWER: The remote possibility of an event that would require flight termination over land is not expected to have any impact on tourism. Based on the findings contained in the Army's EIS, any debris from a terminated flight would be contained within the ground hazard area. As specified in the draft MOA between the state and the Navy any impact would be short term because remedial actions would be initiated to restore the land to its original condition. Because of the periodic nature of this project, four launches per year, and their short duration, the launch vehicle clearing the island in 15 seconds, the operation of the Strategic target System should be transparent to nearly all visitors to kauai.

A careful and comprehensive review of the analyses contained in the Army's EIS and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed MOA.

Ingrid Tillman
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Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


William W. Paty
Chairperson

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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Ms. Ilse N. Peetz
Kaumakani & Kekaha
United Methodist Churches
P.O. Box 298
Kekaha, HI 96752

Dear Ms. Peetz:

Thank you for your interest and comments on the Environmental Assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) This land belongs to the Hawaiian people and should be reserved for indigenous use.

ANSWER: It should be noted that no Hawaiian Homelands are within the designated ground hazard area. The proposed Memorandum of Agreement (MOA) is consistent with current land use in this area and with long range plans to ensure that this area is maintained as "open space."

2) I urge you to prepare a full Environmental Impact Statement without reliance on the Army's EIS.

ANSWER: The Army has reviewed Strategic Target System activities on Kauai, including the proposed MOA, through the completion of an EA, a supplemental EA and a full Environmental Impact Statement (EIS). Under provisions of the National Environmental Policy Act, the Strategic Target System project has been the subject of extensive public review, agency review as well as judicial review. Consultations were conducted with federal, state and local experts in every environmental resource area. The State of Hawaii, in preparing its draft EA on the proposed MOA, has once again reviewed

Ms. Ilse N. Peetz
Page 2

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this extensive body of information. Our analysis of the facts associated with this project leads to the conclusion that producing a full EIS on the proposed MOA is not required.

A careful and comprehensive review of the analyses contained in the Army's EIS and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed MOA.

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours



William W. Paty
Chairperson

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 521
HONOLULU, HAWAII 96809

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Jay Hanson, Program Chair
West Hawaii Sierra Club
78-6622 Alii Drive
Kailua-Kona, HI 96740

Dear Mr. Hanson,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. We asked the Army to identify the social impacts that the SDI/STARS program will have on the residents of Kwajalein Lagoon. Please do a comprehensive study on the social impacts of the SDI/STARS program on the residents of Kwajalein Lagoon.

ANSWER: The potential environmental impacts of STARS on Kwajalein Atoll, which is part of the independent sovereign Republic of the Marshall Islands, is outside the scope of this analysis. It is, however, assessed in the 1989 EIS, Proposed Actions at U.S. Army Kwajalein Atoll (USAKA). For more detailed information see response to comment OR11-2, page 3-22 and 23, Strategic Target System Final EIS, Volume I.

2. We asked the Army to identify all sources of ionizing radiation that could be aboard the launch vehicles...The Army said there would be no sources of ionizing radiation aboard their launches. We do not think the Army was telling the truth.

Mr. Jay Hanson
Page 2

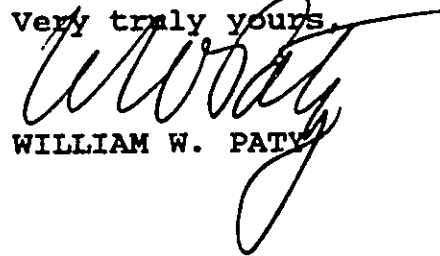
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ANSWER: See page 3-23, Volume I of the Strategic Target System Final EIS, response to comment OR11-4.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Refer to:KA-90:2107

David O'Quinn
Post Office Box 1613
Kapaa, HI 96746

Dear Mr. O'Quinn,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

I do not feel that the Army can guarantee that 27 year old refurbished rockets can really be 97% reliable. Furthermore, retired officials from NASA and the agency that STARS originates from have given talks on Kauai. They agree that STARS is not necessary. They say the Army already has the information it needs from other research, so further testing is pointless.

ANSWER

As stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. The reliability of the flight termination system is 99%, for example. Extensive flight data exists on the reliability of the 1st and 2nd stage Strategic Target System boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the Strategic Target System booster as an element of their national defense.

However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray of the 1st and 2nd stage boosters, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analyses in the EIS (page 2-29 and 30 of the Army's Draft EIS) and found it to reasonably address all potential concerns.

2. HAZARD ARC

As of now the Army wants to close off half of Polihale Park as a hazard area during launches. This will mean closing the park at least 19 times a year to local residents and visitors. If an accident were to happen, who will be responsible for the destructions to the sensitive reef and wildlife, and how long will the parks remain closed then? Can you possibly guarantee that the environment would be restored after such an incident? Past experience in these matters indicates not.

ANSWER

The Army assessed potentially significant effects to land use as a result of the ground hazard area in their Draft EIS Sections 2.1.2.2, 3.6, and 4.6; and in the Final EIS, Volume I, page 2-5, change to page 2-25 in the Draft EIS; and page 3-19, response to comment OR 1-6. The State of Hawaii has reviewed this analysis and concurs with the conclusion that because of the duration and extent of the closure event, that the impact to land use will not be significant.

The Army assessed the potential for significant impacts to water resources in section 4.2 of the Draft EIS and the potential for significant impacts to biological resources in section 4.4 of the Draft EIS. The Final EIS contains changes to the text of the Draft EIS which were made for clarification with respect to biological resources on page 2-11 of Volume I. Volume I of the Final EIS also contains responses to numerous comments on these resources and during the public comment period. The Army's EIS assessed both normal flights and flights resulting in early termination. It found no significant impact with the mitigations incorporated as outlined in the EIS and adopted by the Record of Decision (ROD). Additionally, the Honolulu Office of the U.S. Fish and Wildlife Service and the U.S. National Marine Fisheries reviewed these analyses and concurred with their findings (see Appendix A in the Army's Draft EIS and Chapter 4 in their Final EIS). The State of Hawaii has reviewed these analyses and has likewise determined there to be no significant impact as a result of these activities.

3. AIR QUALITY

They are currently trying to close down commercial boat activities on the Na Pali coast. Personally, I am ok with the idea, however, I know that STARS is a tremendous threat to the environment and I don't think it would be fair to force boaters out of business when the air quality for emissions has not been satisfactorily addressed. I feel it is important that the State conduct its own EIS before these launches are allowed to start.

ANSWER

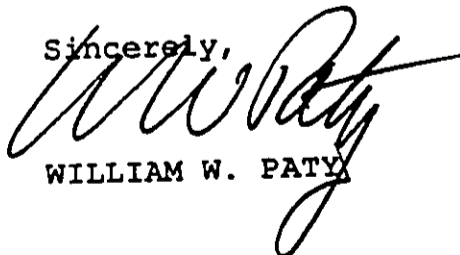
The Strategic Target System program will not have any detrimental effect on the commercial boat activities at the Na Pali coast. The boating activities along the Na Pali coast may continue without interruption from a Strategic Target System.

The Army modeled dispersion of hydrogen chloride and carbon monoxide, as well as other contaminants, from a normal launch of a Strategic Target System booster or a launch which results in an early flight termination. These predicted contaminant concentrations were then compared to health based standards concentrations documented in the literature to adversely affect plants and animals to measure the potential for significant impacts on public health and safety and biological and water resources. The State of Hawaii Department of Health, Clean Air Branch, as well as the U.S. Fish and Wildlife Service and the U.S. National Marine Fisheries have reviewed these results and conclusions drawn. All of the above agencies, including the Clean Air Branch, have agreed that there should be no significant impact from air emissions as a result of Strategic Target System launch activities.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Sincerely,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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HONOLULU, HAWAII 96809

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Refer to:KA-90:2107

Deborah Melendez
Post Office Box 3
Kealia, HI 96751

Dear Ms. Melendez,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Sincerely,

A handwritten signature in cursive script, appearing to read "W. W. Paty".

WILLIAM W. PATY

JOHN WAIMEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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Refer to:KA-90:2107

Beth Mallia
Post Office Box 1711
Hanalei, HI 96714

Dear Ms. Mallia,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. The great force of propulsion needed to launch missiles must send great vibrations into the ground which also effects surrounding land. What is the range of vibration or 'hazard arc' around the launch pad? What effects does this volume of vibration have on our already eroding cliffs of the surrounding areas? Please address this issue over the span of time in which the launches are expected to continue.

ANSWER

The Army assessed the potential impact from noise in section 3.8 and 4.8 of the Army's DEIS and potential impacts on Geology and Soils in section 3.1 and 4.1 of the DEIS. The analysis concludes that historically the infrequent and short term increases in noise levels from rocket launches at KTF have not resulted in complaints. Also on page 2-1 of the Army's FEIS, it is noted that more than 300 rocket test launches have occurred since the facility was first established for that purpose in 1962. Many of these launches involved boosters with greater thrust (e.g. more noise and greater vibration). No impact to the surrounding area's geological stability have occurred as a result of these

launches and accordingly no significant impacts are anticipated from the STARS launches which number 4 per year for the next 10 years.

2. I would like exact calculations of the concentrations hydrogen chloride and carbon monoxide that will be produced by the STARS launches. Please provide a map denoting the concentration over our island and as far away as these poisons can possibly travel.

ANSWER

Section 4.3 of the Army's DEIS lists predicted concentrations for hydrogen chloride and carbon monoxide. These modeling results as well as the criteria used to measure the significance of these levels have been reviewed by the State of Hawaii Department of Health, Clean Air Branch and found to be completely adequate. None the less, the Army will perform air sampling tests during the first launch to confirm these predictions.

Calculations of concentrations of contaminants dispersed from any source are dependent upon a number of variables (e.g. wind speed, wind direction, duration of source, height of emission, and etc.). However, lower wind speeds will result in higher concentrations as the contaminants move away from the source. For this reason, in consultation with the Clean Air Branch, the Army modeled the dispersion from STARS at a near-stagnant wind speed. Actual occurrences at a higher wind speed will be much lower in concentration. Tables 4-3 and 4-5 of the DEIS denote these concentrations at a radial distance from the source since wind direction at any given time is unpredictable.

3. What effects do hydrogen chloride and carbon monoxide have on the more genetically sensitive residents, especially those with severe allergies? People with allergies need to know all the types of poisons they are trying to counteract so that they may receive proper treatment. I mention concern for people with allergies while all citizens have the right to know the health risks from the launches, from safe operations to the most unexpected disaster. Please provide best and worst case examples of this information.

ANSWER

Health based standards for public exposure are developed with consideration for the more vulnerable numbers of the public. Such health based standards were used (NAAQS and SPEGL) by the Army as evaluative criteria for assessing the potential impacts to public health and safety from emissions as a result of the STARS launches. These evaluations were conducted for normal flights and flights involving early termination (page 4-10, Army DEIS). The State of Hawaii Department of Health,

Clean Air Branch has reviewed these analyses and determined that it adequately assessed the potential for significant impacts to public health and safety.

4. Concerning park closures, how exactly does the State Department of Land and Natural Resources plan to be informed of the missiles launches? How does the DLNR plan to coordinate the issuance of permits to Polihale State Park with these launches when permits are available up to one year prior to the date of use?

ANSWER

The Army will inform the State of Hawaii Department of Land and Natural Resources at least 7 days prior to a missile launch. As stated in the Army's FEIS, Vol. I, page 3-58, response to comment WR 30-3 and in the DEIS on pages 2-24 and 4-37.

Due to the brief nature of the interruption in vehicular traffic (less than 20 minutes) and the continued availability of the major portion of the improved part of Polihale State Park, permits will be issued consistent with past practices. It should be noted that the areas where permits are issued are not impacted by the STARS launch.

5. It seems to me that state land is owned by the citizens of the particular state. Is it legal to designate state lands for uses other than what these lands were originally designated for by vote of the people? I feel this use of the land is definitely subject for a statewide vote, especially since the land will continue to be support by Hawaii tax dollars. I demand that this issue be brought before the citizens of the State of Hawaii.

ANSWER

The land use designation of these lands was not by vote. The proposed MOA is consistent with the long term use designation for this area which is the preservation of open space.

6. Please define in detail, the emergency procedures established to revitalize all surrounding areas that could possibly be affected by all possible disasters that could occur with the launches.

ANSWER

In the event of an early termination of the STARS booster, debris could impact at localized points within the modified 10,000 foot GHA. The Army has stated in their DEIS, page B-2 that debris would be removed to the extent practicable and disposed of consistent with its waste clarification. No long

term adverse environmental effects are anticipated as a result of a terminated launch. During a normal launch, no significant environmental effects are anticipated.

7. Why should all this effort be placed into the PMRF location for missile launches when the hazard arc area could be compromised, if it is attained? Hawaiian rights could precedent any decisions made concerning the use of the lands leased to Kekaha Sugar. I do not feel it is a wise decision to funnel tax dollars into building launch facility that is already subject of compromise and may not be allowed to exist even a year after it is constructed.

ANSWER

Hawaiian Homelands are not encompassed in the area affected by the GHA which the MOA addresses (Fig. 3-3 DEIS and Figure 2-13 FEIS, Vol. I, page 2-4 page 3-19 FEIS response to OR 1-6). Long term plans for this area, center on its preservation as open space. The subject MOA is in no way inconsistent with these plans and in fact helps ensure its preservation as open space.

8. What portion of maintenance funds for Polihale State Park is the PMRF indebted to pay for their exclusiveness to the park? I do not feel the park is still considered a state park when its access is denied. I feel foremost that the practice of using state land for private uses is illegal and secondly, deny the responsibility of state taxpayers to fund such misuse of public lands.

ANSWER

Maintenance of the state park is paid by the State of Hawaii. Thank you for your comment.

9. Could I have exclusive use to the same land at Polihale State Park that the PMRF wishes to include in their hazard arc for the same number of days per year? What is the difference in my request versus the PMRF's request?

ANSWER

All requests for use of state land are considered on its own merits with consideration of the duration and extent of the activity. State Lands are routinely used by federal agencies as well as private organizations and individuals.

10. I demand that more live test data be gathered on the "refurbished" STARS missiles. Since the missiles are old and have been changed, there has not been adequate testing especially live flight test data, to gather accurate information. Please provide the EIS based on this more accurate data.

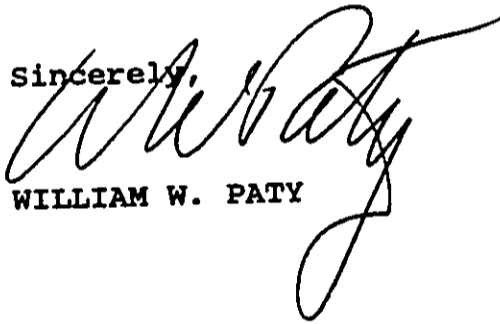
ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons. Allies continue to employ the STARS booster as an element of their National Defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, non-destructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has received the analysis in the EIS and found it to reasonably address all potential concerns relative to booster safety.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Sincerely,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
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Mr. Edward Kawamura
President
Kauai Veteran's Council
P.O. Box 3397
Lihue, Hawaii, 96766

Dear Mr. Kawamura and members of the Kauai Veteran's Council: |

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. The record will reflect support in favor of signing the agreement by your 1200 plus veterans who are members of Kauai's thirteen veteran and veterans support organizations. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Mr. and Mrs. Philip C. Hoffman
P. O. Box 1813
Kealahou, HI 96750

Dear Mr. and Mrs. Hoffman:

Thank you for your interest and comments on the Environmental Assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30-day public comment period. Please find below our response to your specific comments.

1) I further demand that you produce a scientifically sound and supportable full EIS with particular emphasis on: rocket safety, hazard arc, Hawaiian homelands, park closures and air quality.

ANSWERS:

(Producing a Full EIS)
The Army has reviewed Strategic Target System activities on Kauai, including the proposed Memorandum of Agreement (MOA), through the completion of an environmental assessment, a supplemental environmental assessment and a full environmental impact statement (EIS). Under provisions of the National Environmental Policy Act, the Strategic Target System project has been the subject of extensive public review, agency review as well as judicial review. Consultations were conducted with federal, state and local experts in each of the various environmental resource areas. The State of Hawaii, in preparing its draft environmental assessment on the proposed MOA, has once again reviewed this extensive body of information. Our analysis of the facts associated with this project leads to the conclusion that producing a full EIS on the proposed MOA is not required.

Mr. and Mrs. Philip C. Hoffman

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(Rocket safety)

Overall system reliability from launch to mission completion is cited by the Army as 97 percent. As noted in the Army's EIS, extensive steps have been taken to ensure that the reliability of the boosters is maintained in the form of multiple static firings, non-destructive x-ray of the boosters before their use and refurbishment to original specifications by the booster manufacturers.

(Ground hazard arc)

We have concluded through review of the Army's analysis that in the remote event of a flight termination over land, all debris would be contained within the ground hazard arc. As specified in the draft Memorandum of Agreement (MOA) between the State and the Navy, any potential impact would be of short duration, term because of the mitigation established and committed to by the Army. Because of the periodic nature of this project, four launches per year, and their short duration, the launch vehicle clearing the island in 15 seconds, the operation of the Strategic Target System should be transparent to the general populace of Kauai.

(Impacting Hawaiian Land)

It should be noted that no Hawaiian Homelands are within the designated ground hazard area. The proposed MOA is consistent with current land use in this area and with long range plans to ensure that this area is maintained as "open space."

(Closure of part of Polihale Park)

Due to the periodic nature of this project, four launches per year, and their short duration, the launch vehicle clearing the island in 15 seconds, the operation of the Strategic Target System should not significantly impact users of Polihale Beach Park. As stated in the proposed Memorandum of Agreement, vehicular traffic into and out of the park will be interrupted for approximately 20 minutes for a maximum of 19 times per year. Because the GHA does not include any camping areas of Polihale Park, permits will be issued consistent with past practices. It is expected that activities associated with this project will be transparent to most users of Polihale Beach Park.

Mr. and Mrs. Philip C. Hoffman

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(Air Quality)

During launches of the Strategic Target System, approximately 15 seconds of emissions would occur over or near the Island of Kauai. Combustion products from a launch are detailed in Chapter 4-1 of the Army's Draft Environmental Impact Statement (DEIS). Emissions of primary concern to the State include hydrogen chloride, aluminum oxide, and chlorine. The Army performed analyses (Section 4.3.1.2 of the DEIS) to predict the concentration of these constituents following launches. This modeling has been reviewed by the State of Hawaii Department of Health, Clean Air Branch, and was found to adequately predict the concentration of combustion products at various distances from the launch site. The Clean Air Branch has concluded that there would be no significant impact to public health and safety or the environment from these emissions. Nonetheless, the Army will perform air sampling tests during the first launch to confirm its predictions, and the Clean Air Branch will monitor the results of this sampling to confirm its conclusions.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed MOA.

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD, no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 521
HONOLULU, HAWAII 96809

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WATER AND LAND DEVELOPMENT

Refer to:KA-90:2107

Jesse and Lisa Cervantes
Post Office Box 2050
Lihue, HI 96766

Dear Mr. and Mrs. Cervantes,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Sincerely,

A handwritten signature in cursive script, appearing to read "W. W. Paty".

WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



WILLIAM W. PATY, CHAIRPERSON
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Mr. Harvard A. Fujiwara
4567 Lehua Street
Kapaa, Hawaii 96746

Dear Mr. Fujiwara:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. The record will reflect support in favor of signing the agreement. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Ms. Jana Price
P.O. Box 1139
Kalaheo, HI 96741

Dear Ms. Price:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) "The military says the old Polaris boosters are 97% reliable. If you trust that figure, then that means that the possibility of two launches being successful is 94%, three is 91%, four is 88%, five is 85%, etc...Why not use your calculator to see what the probability is of all launches being successful? It "ain't" 97%."

Answer:

As stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. For example, the reliability of the flight termination system is 99 percent. Extensive flight data exist on the reliability of the 1st and 2nd stage STARS boosters. Steps have been taken to ensure that the reliability of the boosters is maintained. This includes periodic static firings, non-destructive testing such as x-raying critical booster areas and refurbishment to original specifications by the booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (pages 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

Ms. Jana Price

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"Since there is a HIGH risk of failure of at least one firing, my concern stays heightened about about the hazard zone and air quality."

The Ground Hazard Area established for the Strategic Target System is designated a 10,000 ft radius area within which all debris from a terminated flight will fall. Wind factors are taken into account. As noted in the Army's Final EIS Volume I, page 2-2, figure 2-4, the size of the GHA is dependent on many factors, including the type of booster and the area around the launch pad that can be verified clear of people. The GHA for the Strategic Target System appears to be quite conservative compared to much larger missiles such as the Titan and Minuteman I.

Air quality issues are extensively discussed in the Army's Draft EIS, Section 4.3, pages 4-6 to 4-22. The DNLR has reviewed this analysis and agrees with its findings.

Hawaiian Homelands - It must be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands are unencumbered except for 105 hours per year (see page 3-60, Army's Final EIS, Volume I, response WR 33-14). The Memorandum of Agreement (MOA) is being proposed to allow verification of the GHA. This action is consistent with long range plans for this area and, in fact, may help ensure that these areas are preserved "open spaces".

"I support the military base. It is the impending STARS launched that I consider to have been made from political and military interests, not people interest."

The STARS program is a national priority program approved by Congress. The Strategic Target System program will carry payloads through near space on a suborbital trajectory to the U.S. Army Kwajalein Atoll. The objective is to gather data and aid in development of the Global Proection Against Limited Strikes (GPALS) systems. Decisions on program funding are made at the national level based on many factors including

The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment, and an Environmental Impact Statement. As part of these analyses, consultations were conducted with federal, state and local experts in every environmental resource area. The State of Hawaii has once again reviewed this extensive body of information and, consistent with the Army, have determined that no significant impacts on state lands or Polihale would result from the Strategic Target System activities.

Ms. Jana Price

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2)"It is imperative that the State prepare a full independent EIS and address many unresolved issues. These issues include: 1) the Hawaiian homelands and rights of those who own these ceded lands 2) the closure of Polihale State Park during the launches (a danger precedent would be set up regarding State parks lands, etc) 3) public safety and health. This is in the middle of a recreational and residential area. Are these 27 year old Polaris boosters reliable? What about falling debris, etc., etc."

Answers:

Independent EIS - The National Environmental Policy Act (NEPA) was established to ensure that decision makers for major federal activities were aware of and considered the potential effects on the environment as a result of the proposed action. The Hawaii Environmental Policy Act (HEPA) was derived from NEPA to be applied to state activities in a similar manner. Similarly, the State is a participant in this environmental process. The purpose of this analysis is to ascertain the potential effects of the state entering into agreement with the U.S. government for the purpose of conducting the Strategic Target System activity. It is the State's determination that the Army has fulfilled this requirement through the Strategic Target System Final EIS and a separate State EIS is not required. The DLNR is not aware of any legal requirement calling for these determinations to be made by an independent third party or parties.

Closure of Polihale State Park - Closure of a portion of Polihale is based on activation of the Ground Hazard Area (GHA) and public safety. Due to the periodic nature of this program (four launches per year) and their short duration, Strategic Target System operations should not adversely impact users of Polihale State Park. It should be noted that the GHA does not encompass any existing camping areas. As stated in the proposed Memorandum of Agreement, vehicular traffic into and out of the park will be interrupted for only 20 minutes, a maximum of 19 times per year. It is expected that activities associated with this project will be transparent to nearly all users of the park.

Public Safety and Health - Public health and safety are a primary concern in conducting Strategic Target System activities. Extensive analysis and mitigation measures are implemented to protect the public from any hazards associated this program.

Recreational and Residential Areas - Lands outside of the PMRF boundary affected by Strategic Target System activities are designated as either conservation or agriculture. None are considered residential. Polihale State Park is a conservation district. Sugar fields within the Ground Hazard Area are designated agriculture.

Ms. Jana Price

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Hawaiian Homelands - It must be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands are unencumbered except for 105 hours per year (see page 3-60, Army's Final EIS, Volume I, response WR 33-14). The Memorandum of Agreement (MOA) is being proposed to allow verification of the GHA. This action is consistent with long range plans for this area and, in fact, may help ensure that these areas are preserved "open spaces".

Booster Reliability - As stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. For example, the reliability of the flight termination system is 99 percent. Extensive flight data exist on the reliability of the 1st and 2nd stage STARS boosters. Steps have been taken to ensure that the reliability of the boosters is maintained. This includes periodic static firings, non-destructive testing such as x-raying boosters and refurbishment to original specifications by the booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (pages 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

Falling Debris - The Ground Hazard Area and off-shore Safety Zone will be verified clear prior to launch is required to protect the public from any falling debris resulting from a Strategic Target System launch. All debris resulting from an early flight termination would be contained within the GHA. The missile will be clear of land approximately 15 seconds after launch. Any debris generated after this time will fall into the ocean.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PAFY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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Ms. Jana Price
P.O. Box 1139
Kalaheo, HI 96741

Dear Ms. Price:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) "My concern has to do with State's inadequate EA regarding the use of State lands or Polihale area by PMRF for its missile launches.

Answer:

The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment, and an Environmental Impact Statement. As part of these analyses, consultations were conducted with federal, state and local experts in every environmental resource area. The State of Hawaii has once again reviewed this extensive body of information and, consistent with the Army, have determined that no significant impacts on state lands or Polihale would result from the Strategic Target System activities.

2) "It is imperative that the State prepare a full independent EIS and address many unresolved issues. These issues include: 1) the Hawaiian homelands and rights of those who own these ceded lands 2) the closure of Polihale State Park during the launches (a dangerous

Ms. Jana Price

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precedent would be set up regarding State parks lands, etc) 3) public safety and health. This is in the middle of a recreational and residential area. Are these 27 year old Polaris boosters reliable? What about falling debris, etc., etc."

Answers:

Independent EIS - The National Environmental Policy Act (NEPA) was established to ensure that decision makers for major federal activities were aware of and considered the potential effects on the environment as a result of the proposed action. The Hawaii Environmental Policy Act (HEPA) was derived from NEPA to be applied to state activities in a similar manner. Similarly, the State is a participant in this environmental process. The purpose of this analysis is to ascertain the potential effects of the state entering into agreement with the U.S. government for the purpose of conducting the Strategic Target System activity. It is the State's determination that the Army has fulfilled this requirement through the Strategic Target System Final EIS and a separate State EIS is not required. The DLNR is not aware of any legal requirement calling for these determinations to be made by an independent third party or parties.

Closure of Polihale State Park - Closure of a portion of Polihale is based on activation of the Ground Hazard Area (GHA) and public safety. Due to the periodic nature of this program (four launches per year) and their short duration, Strategic Target System operations should not adversely impact users of Polihale State Park. It should be noted that the GHA does not encompass any existing camping areas. As stated in the proposed Memorandum of Agreement, vehicular traffic into and out of the park will be interrupted for only 20 minutes, a maximum of 19 times per year. It is expected that activities associated with this project will be transparent to nearly all users of the park.

Public Safety and Health - Public health and safety are a primary concern in conducting Strategic Target System activities. Extensive analysis and mitigation measures are implemented to protect the public from any hazards associated this program.

Recreational and Residential Areas - Lands outside of the PMRF boundary affected by Strategic Target System activities are designated as either conservation or agriculture. None are considered residential. Polihale State Park is a conservation district. Sugar fields within the Ground Hazard Area are designated agriculture.

Hawaiian Homelands - It must be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands are unencumbered except for 105 hours per year (see page 3-60, Army's

Ms. Jana Price
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Final EIS, Volume I, response WR 33-14). The Memorandum of Agreement (MOA) is being proposed to allow verification of the GHA. This action is consistent with long range plans for this area and, in fact, may help ensure that these areas are preserved "open spaces".

Booster Reliability - As stated in the Army's EIS, the overall system reliability is greater than 97%. However, the reliability of individual components is much greater. For example, the reliability of the flight termination system is 99 percent. Extensive flight data exist on the reliability of the 1st and 2nd stage STARS boosters. Steps have been taken to ensure that the reliability of the boosters is maintained. This includes periodic static firings, non-destructive testing such as x-raying boosters and refurbishment to original specifications by the booster manufacturers. The State of Hawaii has reviewed the analyses in the Army's EIS (pages 2-29 to 30 of the Army's Draft EIS) and found that it adequately addresses all potential concerns.

Falling Debris - The Ground Hazard Area and off-shore Safety Zone will be verified clear prior to launch is required to protect the public from any falling debris resulting from a Strategic Target System launch. All debris resulting from an early flight termination would be contained within the GHA. The missile will be clear of land approximately 15 seconds after launch. Any debris generated after this time will fall into the ocean.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATZ

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
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Refer to:KA-90:2107

Elizabeth Freeman
Responsible Citizens for Responsible Government
Post Office Box 1440
Hanalei, HI 96714

Dear Ms. Freeman,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

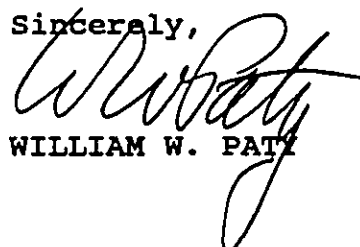
The reliabilities for the first and second stage motor were derived from many static firings and actual launches during the development and operational stages of the Polaris A3. The static tests of refurbished motors were strictly to verify the predicted performance and did not contribute to the reliability figure of the motors.

Enclosed are responses to the communications from Mr. Aldridge and Mr. Dietz you attached that are applicable to this EA.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Sincerely,

A handwritten signature in cursive script, appearing to read "W. Patz", is written over the typed name.

WILLIAM W. PATZ

Enclosure

1. My experience has made me aware of the potential for accidentally ignition of weapons by discharge of static electricity, lightning strikes, electromagnetic radiation such as radio and radar waves, and sharp blows caused by impact or slipping. I have also become aware of the hazards associated with launching missiles -- the failure of trajectory programming, the malfunction of nozzles, explosions caused by separation of propellant from the motor case liner, and loss of control due to motor case failure or burn-through.

ANSWER:

First of all, the Strategic Target system is not a weapon and does not carry any explosives other than those required for this launch vehicle to properly function (i.e. boosters used for propulsion, electro-explosive devices used to initiate these boosters, ordnance used for flight termination, etc.). Secondly, the Army is aware of the many hazards associated with the launching of missiles. The launch integrator, Sandia National Laboratories, has been at the forefront in determining the causes of some of the incidents noted in your letter, such as the Pershing II motor accident in Germany. The Army's foremost task during a launch operation is safety, and as such, strict guidelines and procedures have been established and are rigidly followed.

The following describe how the concerns in the letters are being addressed:

- a. Static electricity - All ordnance (including boosters) are properly grounded at all times. Also, no static producing material is allowed near the ordnance.
- b. Lightning strikes - The Strategic Target system Launch Vehicle is assembled and tested in lightning protected buildings. The only time the vehicle is exposed is during transport to the launch pad and subsequent erection (a six hour task) and also during the actual launch operation when the missile service tower is rolled back to expose the missile. During both these activities (and in fact during the entire vehicle processing operation) the potential gradient is monitored. All vehicle operations cease when the potential gradient exceeds 2000 Volts per meter.
- c. Electromagnetic radiation - No mobile or portable communication radios are allowed in the missile assembly building or in the launch pad area. Furthermore, extensive testing was performed to measure the levels of radiation from all external sources (including the local radio station KUAI and all radar sources within PMRF) on the vehicle and were found to be minimal.

d. Sharp blows - All the boosters are handled with cranes and specialized lifting equipment that has been rated for that load. Also, the propellant in all three boosters is not sensitive to impact (i.e. will not initiate under a sharp blow).

e. Trajectory programming - There is only one version of the flight control code used throughout the testing and the launching of the Strategic Target System. This code is validated and "frozen" prior to each mission.

f. Nozzle malfunction - The nozzles on each booster are inspected several times for cracks or deformations during booster buildup and again during vehicle processing. Leak checks are performed on the first and second stage boosters at least twice, the second one is just prior to final mating of the missile stages, to find any leak paths around the nozzle seals.

g. Motor case failure - All boosters are x-rayed as has been noted previously to look for potential causes of motor burn-through. Leak tests are performed on the first and second stage boosters to look for leaks around all the seals. The third stage motor case is hydrotested prior to propellant casting. Finally, all motors are visually inspected for damage from shipping and assembly.

2. ...In my opinion these documents make the program look too predictable and benign. The too-readily dismiss the health and accident hazards and the environment dangers....

ANSWER:

The Strategic Target System was specifically designed to be a low-risk, minimal impact launch vehicle that uses proven Polaris A3 flight components along with state-of-the-art upgrades in flight control electronics and guidance system. Although impacts to health and the environment were evaluated based on worst-case scenarios, it was still determined that impacts would be minimal. Wherever possible, mitigative measures have been implemented to further lessen these impacts.

3. I see no way that Polaris rocket motors can be refurbished to their original state. ...Old motors are much more sensitive to sharp blows which can be inflicted while removing a motor from its canister,... Or a motor can swing out of control while being handled with a crane,...

ANSWER:

The first and second stage Strategic Target System boosters were refurbished and recertified by the original motor manufacturers to the original Polaris specifications. Furthermore, the Army has continued consultation with Lockheed regarding the recertification of Polaris A3 assets used in the Strategic Target System. After refurbishment, these motors are placed on recently acquired motor trailers (not old canisters) as they are prepared for shipment. There is no scenario for "sticking" and "jerking" when these motors are removed from these motor trailers. Also, as has been previously noted, cranes with creep capabilities and specialized motor handling equipment is used such that the motors do not swing or sway during movement. Shock recorders are used to record the transportation environment seen by the motors.

4. Regarding the 97% reliability of the motor, that may be consistent with the claim that motors are refurbished to original condition. Even then, I doubt if the actual performance of the motors supported the 97% figure even when new. But to claim a functional 97% reliability for these old motors is simply stretching the truth. And there is no way to establish this by testing only one motor of each stage -- a probability curve cannot be drawn with only one data point.

ANSWER:

The reliabilities for the first and second stage motor were derived from many static firings and actual launches during the development and operational stages of the Polaris A3. The static tests of refurbished motors were strictly to verify the predicted performance and did not contribute to the reliability figure of the motors.

5. Even if 97 percent reliability were possible, that means one out of every 32 motors will blow up from motor failure alone. How many launches are planned over the lifetime of the STARS program?

ANSWER:

The 97% reliability is a system reliability. Furthermore, a failure was defined not only as a catastrophic one, such as a motor failure, but also anything that prevented the mission from being a complete success. This could mean that if the payload or nose fairing did not properly deploy, or if the second or third stage retro motors failed to fire, or other like events, the mission would not be successful. Note that

scenarios like these would have no impact on Kauai, yet are accounted for when determining the overall system reliability. As stated in the Executive Summary in the Draft EIS, there will be up to four launches per year for 10 years.

6. I recognize static electricity as a serious hazard around rocket motors. ...Field operations, such as on Kauai, are less formal. Also, the explosion of a Pershing-2 motor in Germany, killing three and seriously burning others, was blamed on static electricity.

ANSWER:

Field operations will be conducted in strict compliance with Sandia, DOE, Navy and Army safety regulations. The personnel involved in the missile buildup, testing, and launching operate under specific operating procedures and checklists with a responsible engineer and another person performing independent quality checks. There is no truth in the statement that the Kauai field operations are "less formal" than a manufacturing operation.

Protection against static electricity buildup was described in paragraph 1.a. above.

7. Lightning is another hazard. Sounding rockets at Wallops Island were accidentally ignited by lightning. An Atlas motor launched from a test base exploded shortly after lift off when struck by lightning.

ANSWER:

Lightning protection was described in paragraph 1.b. above.

8. Rocket motors use igniters which incorporate electromagnetic explosive devices (EEDs) to set them off. Other pyrotechnics on a missile use numerous EEDs. They are like the blasting cap which detonates a stick of dynamite. EEDs can be accidentally detonated by electromagnetic radiation such as radio and radar waves from ship, cars, aircraft, land facilities, and even Cbs. ...Electromagnetic radiation is a clear and present danger on Kauai.

ANSWER:

The EEDs used in the Strategic Target System cannot be initiated unless there is a 3.5 amp discharge in 10 milliseconds. All ordnance is properly grounded and is handled according to Sandia, DOE, Navy and Army safety requirements for explosives. Furthermore, as has been described in paragraph 1.c. above, the electromagnetic

radiation levels have been measured around the missile launch pad and found not to pose a problem. However, portable radios are not allowed either in the launch pad area or the missile assembly building.

9. I only read in the DEIS about Polaris motor aging during storage, although separation of the propellant from the insulating liner and motor dome failure were discussed. Damage is also caused from handling and shipping. ...I feel that cracking of the propellant and separation from the liner would be a serious problem. Such damage provides additional exposed surface which causes more vigorous burning to exceed the allowed pressure, and thus causes the motor case to explode. It is not my opinion that X-ray, or even ultrasonic, inspection is fool-proof.

ANSWER:

When the first and second stage boosters were removed from storage and refurbished, they were X-rayed by the motor manufacturer to look for propellant cracking and debonds. These boosters were then carefully loaded onto a specially designed motor trailer for loading onboard a military aircraft for the trip to PMRF. Shock recorders are mounted on the motors to record the transportation environment. It is the Army's and the motor manufacturer's belief that these boosters are free of propellant cracks and debonds and are thus ready for flight.

10. Should a first stage failure occur, or should an early flight termination (destruct signal) be necessary, page 4-51 of the DEIS refers to it being "unlikely" that second stage propellant fragments would detonate when they hit the ground. That doesn't sound very positive and is far from reassuring. The propellant could be burning and rain on the area like incendiary bombs.

ANSWER:

If a flight termination event is required, the propellant may not necessarily be ejected from the motor case. To terminate a flight, two independent EEDs initiate a length of flexible linear shaped charge (FLSC) that is attached to the outside of a motor case. The FLSC cuts a large hole in one of the ends of the motor case which allows for rapid internal depressurization and not a large explosion. The motor case itself will stay intact keeping most of the propellant within it at ground impact. Since the propellant is not sensitive to detonation by shock, the statement was made in the DEIS that propellant fragments would not detonate at ground impact.

11. Regarding the 20-degree pitch maneuver to tip the missile seaward after launch, there is a roll maneuver prior to that to orient the missile so that it tips in the proper direction. All of these are pre-programmed in the missile's flight control package. Programming does go wrong. ...The three scenarios on pages 4-52 and 4-53 of the DEIS are admission that such pitch-over errors can still happen.

ANSWER:

It is possible for the launch vehicle to pitch over and fly inland if, for example, the first stage nozzles move to an improper location and get stuck. However, the flight termination system is designed to terminate the thrust of such a missile and keep the debris within the ground hazard area. Also note that the guidance and control system for this vehicle is state-of-the-art and is far more advanced than the early flight control systems on early Polaris missiles.

12. More recently, Trident-2 Development Test Missile #9 was destructed during third stage flight on 21 January 1988 because the flight control system went off course. ...Missiles do go off course and have to be destroyed. And these are only some of the failures we have been told about.

ANSWER:

The Strategic Target System is composed of proven boosters with state-of-the-art guidance and flight controls. Even though there have been launch failures of certain missiles under development, there have been a tremendous number of successful launches of different types of launch vehicles. Thus, the Strategic Target System which was designed as a low risk vehicle has a high mission reliability associated with it.

13. Page 2-25, Section 2.1.2.4, first paragraph of the DEIS - the end sentence states: "It should be noted that only flight termination during the first-stage powered flight of the Strategic Target System vehicle would have any effect on the island of Kauai and the surrounding vicinity." That may not always be true. ...It is my opinion that the second stage could also ignite after a first stage explosion, and that severe maneuvers could tumble the guidance system, thereby causing the second stage to fly about unpredictably. It would then be necessary to destruct the second stage which by that time might be over a populated area.

ANSWER:

If a launch vehicle has to be terminated during launch, the motors on the upper stages would also be cut open. For example, if during the first 60 seconds (which is the burn time of the first stage booster) the vehicle's flight had to be terminated, the flight termination system (FTS) would be activated on all the stages. The ordnance of the FTS is designed to cut through the motor cases and relieve the internal pressure, thus it is not possible for the upper stages of the launch vehicle to fly about uncontrollably. The FTS is self-actuated in the case of a vehicle breakup and also in the case of premature upper stage booster ignition. Therefore, the statement made in the Draft EIS: "It should be noted that only flight termination during the first-stage powered flight of the Strategic Target System vehicle would have any effect on the island of Kauai and the surrounding vicinity." is true.

14. Regarding pages 2-11 (last paragraph) and 4-58 of the DEIS (1st paragraph) and the correction on page 2-20 of the EIS, Volume I, pertaining to hydrazine being in the third stage motor and being transported by truck through the community. There are currently lawsuits against Lockheed by former workers and their families for cancer caused by hydrazine at Lockheed's Santa Cruz Mountains Test Facility during the Polaris program.

ANSWER:

As described in the above references in the Draft and Final EIS, the Army has made every attempt to insure safety and reliability during transport and transfer operations. These measures are beyond the current requirements to protect the public's health and safety.

15. In summary, the health & safety hazards and environmental consequences of the STARS program to the island of Kauai have, in my opinion, been grossly understated, if not completely concealed. I recommend that a use permit for the hazard zone be rejected.

ANSWER:

A careful and comprehensive review of the analyses contained in the Army's EIS and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

16. The A3T motors in question were in storage for many years

because the U.S. Navy could not figure out how to get rid of them consistent with being a good environmental citizen. ...In summary, to the Navy, A3 motors were toxic garbage, already cannibalized for parts, and a storage headache. But, as the saying goes -- "one man's garbage is another's treasure."

ANSWER:

The A3 motors have been stored and monitored in environmentally controlled facilities before, during and after the assets were transferred from the U.S. Navy to the U.S. Air Force to the U.S. Army.

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Sincerely,


WILLIAM W. PATY

JOHN WAIMEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

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Refer to:KA-90:2107

Mr. and Mrs. Alan Drinan
Post Office Box 3490
Princeville, HI 96722

Dear Mr. and Mrs. Drinan,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. ROCKET SAFETY

The feasibility of executing launches with predictable safety using fossilized relic rockets.

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

2. HAZARD ARC

The use of a land mass which is relatively small and quite populated as compared with vast areas of wasteland normally used for such testing.

ANSWER

Page 2-2 of Vol. I of the Army's Final EIS adds a table which lists the radius of Ground Hazard Areas used for a variety of launch vehicles at various locations. In particular, note that the Titan IV, which is a much larger booster with considerable more propellant, is only 8000 feet.

3. AIR QUALITY

The matter of toxic materials to be release in the environment and resultant health risks.

ANSWER

The Army's modeling of contaminant released is described in section 4.3 of the draft EIS. this data has been received by the Hawaii Department of Health, Clean Air Branch, and found to adequately predict concentration of combustion products at various distances from the launch site. The predicted concentration were then compared to health based standards and found to be within acceptable limits. Concentrations were also evaluated against various data on the effect to sensitive flora and fauna and found to not exceed limits known to produce long-term detrimental effects. Even though our experts have determined the analysis to be adequate the Army has decided to monitor these constituents during the first launch to confirm their results. The clean air branch will continue to work with the Army and will likewise review the results of this monitoring and require whatever is necessary to ensure public health and safety.

4. HAWAIIAN HOMELANDS

Lastly - and a concern of a different but extremely sensitive nature - is the cultural insensitivity that such a project would impose on Hawaiians looking to adjacent sites to rebuild their culture and the impossibility of measuring such negative effects.

ANSWER

The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within

the designated Ground Hazard Area and public access to these lands in unencumbered except for 105 hours per year (see page 3-60, Final EIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Sincerely,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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DEC -2 1992

Refer to:KA-90:2107

Michael Daly
Post Office Box 1629
Hanalei, HI 96714

Dear Mr. Daly,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Sincerely,

A handwritten signature in cursive script, appearing to read "W. W. Paty".

WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Mr. Glenn Katahara
4332 Anonui Street
Lihue, Hawaii, 96766

Dear Mr. Katahara;

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) REQUIREMENT FOR AN EIS--"I am writing regarding the proposed STARS missile testing on Kauai. I am writing to oppose the State's decision to start testing after doing only a perfunctory State Environmental Assessment study. In a project where the potential for environmental damage is so great, an independent State Environmental Impact Statement is necessary." (Additional inputs refer to performing the State EA in only six days, copying the less-than-satisfactory Federal EIS)

Answer: Regarding the first part of this concern, the STARS missile is not being tested on Kauai. It is a target vehicle which is being utilized in the Testing and Evaluation process. Regarding the comment about the State's decision to start testing, it should be pointed out that the Strategic Defense Initiative Organization, part of the Department of Defense is the agency which is conducting the program. The Army has reviewed the Strategic Target System activities on Kauai by analysis that resulted in an Environmental Assessment, a Supplemental Environmental Assessment; and an Environmental Impact Statement (EIS). As part of these analyses, consultations were conducted with federal, state, and local experts

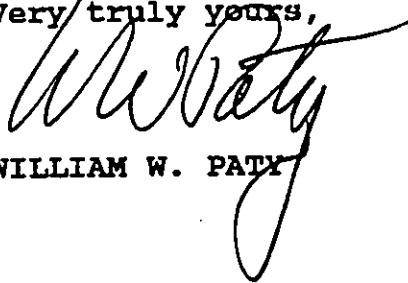
Mr. Glenn Katahara
Page 2

in every environmental resource area. The State of Hawaii, in preparing the draft environmental assessment which is the subject of your letter, has once again reviewed this extensive body of information, and consistent with the Army have determined that no significant impact would result from STARS activities. This interface has occurred over a period in excess of two years, and any related conclusions and decisions are far from hasty. The well-being of the Citizens and environment of Hawaii are of foremost interest. However, once satisfied that an informed decision has been made which fully protects health and safety and the environment, there is also an obligation for the State of Hawaii to support programs important to the National Defense.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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Denver A. Leaman, President
Greenpeace Hawaii
Post Office Box 10909
Hilo, HI 96721

Dear Mr. Leaman:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

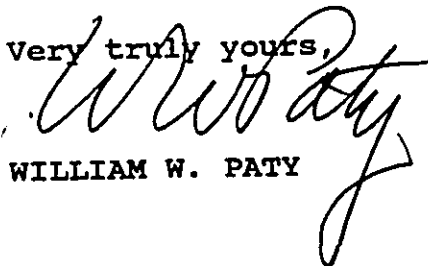
An extensive biological assessment (BA) of the areas potentially affected by STARS activities was conducted by the Army as a part of their analyses conducted under the National Environmental Policy Act (NEPA). This BA and the associated NEPA documentation was then reviewed by the Honolulu based offices of the U. S. Fish and Wildlife Service and the U. S. National Marine Fisheries. All analyses and proposed mitigations were concurred with, as well as the determination that Strategic Target System activities would not likely adversely affect any threatened or endangered species on Kauai. A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS), the BA and subsequent Record of Decision (ROD) has been conducted by DLNR as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Ms. Denver A. Leaman
Page 2

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Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,



WILLIAM W. PATY

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Ms. Joan Levy
Post Office Box 160
Kapaa, HI, 96746

Dear Ms. Levy:

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1) Military Stewardship of Hawaii's Lands--"Historically the military has been a terrible steward for Hawai'i's lands. No one intended that Kaho'olawe would become unfit for human habitation or recreation--but that's what happened, and now the military says that the cost of a cleanup would be prohibitive. The same seems to be true of Lualualei and a number of other lands on O'ahu. The military has always promised to clean up after itself and return lands which have been turned over to it, but the record indicates that it has done a lousy job."

Answer: The military is not asking for stewardship of the State Lands affected by the proposed Memorandum of Agreement. The situation at Kaho'olawe is not a good analogy, as one of the reasons it was turned over for use as a target area was that previous attempts at human habitation and commercial ranching proved unsuccessful.

Ms. Joan Levy
Page 2

2) ³³² Use of Park Lands--"Now the military wants to use our park lands at least 19 days each year for the next ten years. This will only be afoot in the door. 19 days will grow to 20 and then to 30 and the hours will be extended, little by little. Ultimately we will lose control of these lands just as we have other lands before them--and all for a program, STARS, that is itself unneeded, probably unworkable, and a tremendous waste of tax-payer's money. Don't let the military get its foot any further in the door.

Answer: The military does not intend to "use" State park lands in any different way than it has for the past 30 years. The land in question is part of the Ground Hazard Area, and clearance of the area is for the purposes of public safety. State parks are routinely used for short periods of time by various federal agencies as well as private organizations and individuals. Each situation requires an evaluation of the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for very short duration and limit access only to a portion of the State Park. Therefore, no significant restriction of access by the public to state recreational lands will occur.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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Refer to:KA-90:2107

Suzanne Marinelli
Kauai Group Chairperson
Sierra Club, Kauai Group of the Hawaii Chapter
Post Office Box 3412
Lihue, HI 96766

Dear Ms. Marinelli,

Thank you for your interest and comments on the environmental assessment (EA) for the proposed land use agreement between the Department of Land and Natural Resources (DLNR) and the U. S. Government. An important part of any EA is the input obtained during the comment and consultation period. In an applicant action, such as this one, the administrative rules do not contain specific consultation requirements. However, the DLNR is pleased that this consultation and opportunity for valuable public input is available in all categories of action through the 30 day public comment period. Please find below our response to your specific comments.

1. PUBLIC NOTIFICATION

Public notification procedures for launch windows are inadequate at best. We're to be told that a launch will take place "...within 30 days." Vacations to state parks are not planned with 30-day leeways, as you know.

ANSWER

These closures are hardly at the military's discretion since the State will be notified 7 days in advance of each closure event. As far as a precedence is concerned, state levels are routinely used for short periods, of time by various federal agencies as well as private organizations. Each situation requires we evaluate the potential impact to access by the general public in terms of duration and extent. As described in the Army's EIS, these restrictions are for a very short duration and affect access to only a portion of the state parks. Since the closure events are of short duration and

Ms. Suzanne Marinelli
Page 2

affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the FEIS), no significant restriction of access by the public to state recreational lands will occur.

2. ECONOMY

Irregular and sporadic closing of a state park which hosts half a million visitors each year WILL harm our tottering tourist economy.

ANSWER

Since the closure events are of short duration and affect only a portion of the total available are (as described on pages 2-5 and 3-19 in the Final EIS), no significant restriction of access by the public to state recreational lands will occur. As discussed on page 4-74 of the Draft EIS and page 3-21 of Volume I of the Final EIS, the Army acknowledges the importance of the tourist industry to Kauai's economy. Strategic Target System launches could attract a public viewing audience, which would have some beneficial economic effect for communities adjacent to PMRF.

3. TRANSPORTATION

Transportation of extremely deadly fuels across state holdings have been casually dealt with. This is serious business, when exposure to spilled fuel can cause death within thirty minutes.

ANSWER

The transportation of the liquid propellants is not a part of the MOA and therefore, is outside the scope of the EA.

4. EMERGENCY RESPONSE CAPABILITIES

Emergency response capabilities of Kauai are woefully inadequate to deal with a catastrophic launch failure.

ANSWER

As stated in the EIS, the potential for an early flight termination to affect public health and safety is extremely remote. However, in the unlikely event that an accident occurs, adequate medical facilities are available.

1992

5. ROCKET SAFETY

A mothballed rocket fleet whose age is now measured in decades and whose nozzles are prone to blowing off cannot be considered reliable.

ANSWER

Extensive flight data exists on the reliability of the 1st and 2nd stage STARS boosters. The Army is unable to cite the actual reliability of key flight components for national security reasons -- allies continue to employ the STARS booster as an element of their national defense. However, extensive steps have been taken to ensure the reliability of the booster in the form of multiple static firings, nondestructive testing of key parameters such as by x-ray, and refurbishment to original specifications by the original booster manufacturer. The State of Hawaii has reviewed the analysis in the EIS and found it to reasonably address all potential concerns.

6. HAWAIIAN HOMELANDS

Your agency is the temporary caretaker of ceded land belonging to the Hawaiian people. Your primary obligation here is to them, and not to a questionable federal program which will provide only a handful of jobs, at most, to our land.

ANSWER

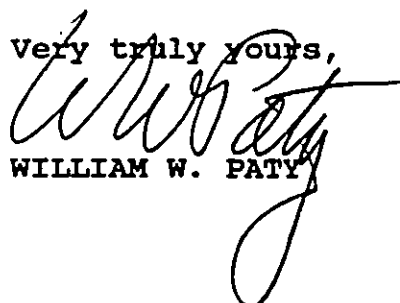
The MOA being considered would also expire in late 1993. However, the issuance of an MOA for even longer, periods of time would not be inconsistent with land use designations for the area. In fact, this action is consistent with these plans in that it ensures preservation of this area as open spaces. It should also be noted that no Hawaiian Homelands are within the designated GHA and public access to these lands is unencumbered except for 105 hours per year (see page 3-60, FEIS, Vol. I, response to WR 33-14), and even then it is only a portion of the park and cane field that acres in denial to such that the area can be verified clear for a period of 20 minutes each launch.

A careful and comprehensive review of the analyses contained in the Army's Environmental Impact Statement (EIS) and subsequent Record of Decision (ROD) has been conducted as a part of our EA for this action. Particular emphasis was placed on the review of those areas relative to the proposed Memorandum of Agreement (MOA).

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Based on this analysis and following consideration of all comments, we have concluded that with the mitigations adopted by the Army in their ROD no significant adverse effect should occur to the public's health and safety or the environment as a result of entering into the MOA or the related activities on the part of the Army.

Very truly yours,


WILLIAM W. PATY