Reference Material: Memorandum of Findings in Support of Petition by County of Maui, Revocation of Air Space

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Memorandum of Findings in Support of Petition by County of Maui, Hawaii for Revocation of Airspace Restricted Area R-3104 - Kahoolawe, Hawaii and Associated Warning Area W-324

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Charles W. Carmody
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KAHOOLAWE

TARGET COMPLEX

A. General

This report is the result of a review and analysis of the history of the island of Kahoolawe; the allocation of the airspace over Kahoolawe to the U. S. Navy by the Federal Aviation Administration for use as a bombing target and the subsequent use of the airspace by the Navy. The report also focuses upon the effects of this airspace allocation other users of the airspace and other persons, and environmental aspects as well as alternate target areas.

B. Background

Kahoolawe is the smallest of the eight main islands of the Hawaiian group. It lies just southeast of the island of Lanai and southwest of the island of Maui. Kahoolawe is 6.4 miles wide and 10.9 miles long, with a total land area of about 45 square miles (28,000 acres). The highest elevation on the island is 1,477 feet above sea level. The distance from Kahoolawe to Maui is five and a half n. miles.

Being a sparsly populated island since the Hawaiian group was first settled, there is little history concerning the island. However, it is referred to by the ancient Hawaiians in chants and legends. Populations were most probably fisherman who used the island as a fishing base and temporary residence. Hawaiian historian Malo notes that crops cultivated were limited to potatoes, yams and sugar cane. Prior to Cook's expedition, populations rarely exceeded 150 semi-permanent residents. (See David Malo, Hawaiian Antiquities, Honolulu, 1951; and J. Gilbert McAllister, Archaeology of Hawaii, Honolulu, 1933).

Beginning in about 1830, the Monarchy used the island as a form of penal colony, to which certain types of criminals were banished. As early as 1849, proposals were made to purchase or lease Kahoolawe for farming or ranching. In 1858, Allen and Wyllie obtained a twenty year lease. Despite early problems from diseased imported sheep, by 1875 the island was supporting some 2,075 sheep and 10 horses. The lease was re-assigned to several different persons and partnerships over the next thirty years. The lack of a consistent supply of ground water, close cropping of vegetation by sheep and goats and low annual rainfall combined to frustrate hopes of financial success. Later ranchers realized that sheep

and goats would have to be removed and efforts confined to cattle raising, but without significant results. The Territorial government intervened in 1910, when it proclaimed the island a Territorial Forest Reserve and attempted to eradicate the sheep and goats. This project proved unsuccessful and in 1918 the island was leased to Angus McPhee with the requirement that he rid the island of goats and sheep within four years and begin restoration of the foliage. Within the next two years the feral animal population was severely reduced, a reservoir system was constructed with a capacity in excess of one million gallons and fencing and corrals were developed. Thousands of trees and hundreds of pounds of seed were spread over the island. Progress was steady but slow, McPhee brought in a partner, Harry Baldwin, and the project became known as Kahoolawe Ranch. By January of 1941, the project had turned the corner and a small annual profit was being made.

The events of December 7, 1941 effectively terminated their efforts. Following the attack on Pearl Harbor, the military commandeered the Kahoolawe Ranch boats and prohibited access to the island. Kahoolawe became a target for bombing and shelling by military aircraft and ships, and continued in this use throughout World War II. At the end of the war, McPhee and Baldwin were unsuccessful in regaining

the use of the island. The Territorial government was similarly unsuccessful in several attempts to regain control of Kahoolawe, since the military claimed a continuing need for the targets. The Korean conflict and its requirements led to the Executive Order 10436 of February 20, 1953 by which President Eisenhower gave the Navy complete authority over Kahoolawe with the provision that the Navy rid the island of feral goats and sheep, or reduce their numbers to not more than two hundred. The Executive Order also stipulated that the Territory has the right to take measures to restore the vegetation when the targets are not in use, and that, when no longer required for military purposes, the Navy is obligated to return the island to the local government, upon seasonable request rendering the area reasonably safe for human habitation without cost to the local government.

To date, various attempts have been made to require the Navy to relinquish its control over Kahoolawe. The last major attempt followed discovery on the island of Maui of an unexploded bomb of the type used on the Kahoolawe targets. The County of Maui, joined by others, initiated action in Federal Court on the grounds the Navy had failed to comply with the requirements of the National Environmental Policy Act of 1969, (83 Stat. 852) in not assessing

the environmental effects of their bombing of Kahoolawe. After several court sessions, the Navy did supply a draft environmental impact study, and the court dismissed the suit.

Last year Senator Inouye introduced a Senate bill requiring the Navy to return Kahoolawe to the State. Similar legislation was introduced in the House of Representatives by Congresswoman Mink. There have been no committee hearings or other action on these bills. More recently, Senator Inouye initiated an amendment to the 1976 military construction appropriations act, which was approved by the Congress and signed by the President, directing that the Navy conduct a study within the next year concerning the clean-up of Kahoolawe and its return to the State.

C. Airspace Aspects of the Designation of the Kahoolawe Restricted Area

The Federal Aviation Act of 1958 (as amended) gives the Federal Aviation Administration exclusive jurisdiction over allocation of the airspace of the United States. The same Act charges the Administrator of the Federal Aviation Administration with carrying out the expressed national policy (Section 104, Federal Aviation Act of 1958) (72 Stat. 740, 49 U.S.C. 1304): "There is hereby recog-

nized and declared to exist in behalf of any citizen of the United States a public right of freedom of transit through the navigable airspace of the United States". The specific authority for airspace management is contained in Section 307a of the FAA Act of 1958 (72 Stat. 749, U.S.C. 1348): "The Administrator is authorized and directed to develop plans for and formulate policy with respect to the use of the navigable airspace; and assign by rule, regulation, or order the use of the navigable airspace under such terms, conditions, and limitations as he may deem necessary in order to insure the safety of aircraft and the efficient utilization of such airspace. He may modify or revoke such assignment when required in the public interest."

The Administrator has established federal regulations amplifying this policy and establishing the procedures for airspace allocation and regulation. These are contained in the Code of Federal Regulations, Volume 14, Chapter 1 - Parts 11, 71, 73, 75 and 77. Of particular relevance in this study, Part 11, Sub-part D contains rules and procedures for airspace assignment and use; Part 73 contains policies, procedures and requirements for the designation of Special Use Airspace (bombing targets, etc.).

Special Use Airspace is that airspace set aside for the use of one particular user for some purpose which would be hazardous to other air traffic, and results in exclusive use for the approved user during the time of the designation. Special Use Airspace includes airspace designated as a Restricted Area. Federal Air Regulation, Part 73, prescribes the manner by which airspace will be removed from public use and the type of terms, conditions and limitations deemed necessary by the Administrator to justify setting aside this airspace for exclusive use.

Among the regulations adopted by the Administrator governing the setting aside of airspace for special and exclusive use is the provision that the Using Agency of a special airspace allocation must file an annual report (see 14 CFR 73.19). This regulation requires that the annual report provide certain detailed facts concerning aircraft and other operations in the designated area. Of relevance to the subject petition are the following:

With regard to aircraft operation:

"(10) Include a chart of the area (of optional scale and design) showing:

(i) the approximate location and the representative pattern, if any, for firing runs (if any), for

bombing runs (if any), the place where runs begin, where firing (if any) begins and ends, and the release point and pull-up point; and

(ii) the location of impact areas, if any; ...",

And, with regard to surface to surface firing:

"(14) Include a chart of the area (of optional scale and design) showing:

(i) the location of firing points and impact areas, if any; and

(ii) the perimeter of the firing fan for each weapon used, if any; ...".

This regulation also provides a definition of a Using Agency and prescribes its responsibilities as follows:

14 CFR 73.15: "(a) For purposes of this sub-part, the following are using agencies: (1) The agency, organization, or military command whose activity within a restricted area necessitated the area being so designated."

14 CFR 73.15 (c): "The using agency shall:

(1) Schedule activities within the restricted area;

(2) Authorize transit through, or flight within, the restricted area as feasible; and

(3) Contain within the restricted area all activities

conducted therein in accordance with the purpose for which it was designated."

This section of Part 73 also contains the official designation of each Special Use area, including the Kahoolawe Restricted Area, R-3104 A/B/C, which includes the airspace over the Island of Kahoolawe and extending off-shore around the island for one to three miles (the A/B/C denotes the vertical division of the airspace into three levels); and, the using agency is designated as U. S. Navy, Commander, Fleet Air Hawaii, NAS Barbers Point, Hawaii (Sec 14 CFR 73.31).

D. Analysis of Navy Use of Kahoolawe (R-3104)

The annual airspace utilization reports filed with the F.A.A. by the Navy regarding their use of Special Use airspace in the Hawaiian Islands over the past five year period - Oct. 1, 1968 to Sept. 30, 1974 - have been reviewed with particular attention to those reports concerning the Kahoolawe target complex. These reports regarding use of Kahoolawe do not comply with the requirements of 14 CFR 73.19. The data provided is extremely brief and is inadequate for the purpose of performing a full analysis of the activities within this target complex.

Regarding the requirements for charts of the area, identifying aircraft targets, location and orientation of firing and bombing runs, release and pull-up points, and impact areas, or for surface firing points, firing fans, and impact areas, the compliance over the five-year period (Oct. 1968 - Sept. 1974) is a small chart, attached to the report for the year ending September 30, 1969. This chart indicates the locations of some air-surface and surface-surface targets but other mandatory data is not provided. Each successive report, up to the latest one for the period October 1, 1973 to September 30, 1974, refers to "chart previously submitted" - despite some five or six target changes since the subject chart was composed. (See similar, but up-dated, chart submitted by the Navy as part of their Draft Environmental Impact Statement submitted to the U. S. District Court for the District of Hawaii, dated October 1971 in case Civil No. 71-3391.)

Further, newspapers have reported that during 1974 there has been use of the Kahoolawe target complex by Army field artillery units which were airlifted to and from the island by helicopters. (See Honolulu Star-Bulletin, October 23, 1974). This use, and the data required therefore, are not included in the reports, nor has this change in use been reported in advance per 14 CFR 11.63(c).

Similarly, in January of 1975 it was reported that a U. S. Marine unit was engaged in night surface-to-surface firing of 105 mm howitzers on Kahoolowe. (See Honolulu Advertiser, Jan. 30, 1975). This type of use also is not included in the purposes for which the area is designated.

Shortly after this study was initiated in July 1975, the F.A.A. requested the Navy to supply the required data. The Navy responded in December 1975 by transmitting two charts and an updated list of targets. One chart showed the general area used by aircraft to approach the targets, primarily from the south. The other indicates the areas used by ships in shore bombardment, one west northwest of the island and the other to the south. These charts do not provide sufficient information to conduct the required annual review and analysis to monitor proper utilization and to determine the need for possible action to alter or revoke the allocation of airspace. These charts are inadequate, insofar as compliance with the regulatory requirements, since they also do not show the location and representative patterns of the aircraft firing and bombing runs, the place where the runs begin, where firing begins and ends, the release point and pull-up point for bombing runs, and the location of impact areas (See 14 CFR 7319 b.

(10); as well as (regarding surface to surface firing) the location of firing points and impact areas or the perimeter of the firing fans for the weapons used. (See 14 CFR 7319 b. (14)).

It is noted that the use of the Kahoolawe target complex (as reported by the Navy in its annual reports 1969/1974) by military aircraft has declined about 50% since 1969 (238 aircraft in 1974 as opposed to 475 in 1969), despite that in the past two years the Navy reports show new shared use of the targets with a "USAF Tactical Support Squadron" for close air support practice. Shore bombardment by military ships is reported to have increased over the same period, from 23 ships in 1969 to 31 in 1974, though there are indications in these annual Navy reports that some of the increase is due to the use of the Kahoolawe targets by foreign allied naval vessels visiting Hawaii. The specific amount of use of the Kahoolawe complex by foreign aircraft or ships is not reported separately.

E. Hazards and Potential Hazards to Non-Participants (Arising Out of the Navy Use of the Kahoolawe Target Complex)

Operation of any firing or bombing range poses potential hazards of many types to aircraft, vessels, persons or property which are not participants in the target operation or use.

The Navy in its Draft Environmental Impact Statement for Kahoolawe,* Part 4, paragraph 4, states:

> "While every effort is made, through training, improvements in weapons release and targeting systems, and by other means to prevent pilot or bombardier errors, malfunctioning of weapons release or targeting systems and improper trajectory tracking by air-to-ground weapons and shells from surface ships, early bomb drops or short gunnery shots will recur. Partly, this must be anticipated because the personnel involved are in the phases of training where full expertise has not been developed, thus necessitating the training with inert and live ammunition. At any event, misses will unavoidably recur."

Late bomb drops, late weapons releases, over-estimates of range and ricochets, as well as right/left errors in aircraft direction or aiming can cause bombs or shells to miss the intended target in any direction. Further, navigation or position errors by aircraft or ships can place part of the action outside of the protected airspace, and aircraft commencing a military maneuver in beginning a bombing

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*Provided as Defendants' Exhibit B, in Civil Proceeding No. 71-3391, in U. S. District Court for the District of Hawaii, November 16, 1971, in Elmer F. Cravalho, et al, vs Melvin Laird, et al.

or firing run or pull-up after completion can cause hazard to other aircraft outside reserved airspace.

From the time of a near mid-air collision between a chartered tour aircraft and navy fighters in January of 1969, followed by the discovery of a Navy 500-pound bomb in a pasture in Olowalu, Maui the same year, up to the present time, there is a recurrent history of incidents evidencing these hazards. Most incidents do not involve the larger air carrier type aircraft including Hawaiian and Aloha, since these jet aircraft operate at higher altitudes and normally fly under the instrument flight rules under the direction of the F.A.A. air traffic control system.

The area west and south of the island known as Warning Area 324 (also established by F.A.A. under the authority of the F.A.A. Act of 1958, as amended, and Executive Order 10854) was established to contain the activities of Navy aircraft and ships necessary to the use of the targets on Kahoolawe - the high speed low level runs, dive-bombing runs, and similar acrobatic type maneuvers by aircraft, as well as the firing points for naval vessels shelling the island. Flight in this area is as

hazardous to non-participants as that in the Restricted Area itself, however since it is over "international waters", flight cannot be prohibited as in a Restricted Area. Private pilots and pilots of other small aircraft are not generally aware of the dangers existing in "Warning Areas", since it is not against the law to fly through them and the hazards are not clearly advertised.

Of the many incidents involving danger to non-participants in the use of the Kahoolawe target complex by the Navy, we have been able to obtain the details of the following typical cases from F.A.A. records:

1. On January 4, 1969, four aerial sightseeing tour aircraft were enroute from Honolulu, over Lanai, to Kona and were informed by the F.A.A. that the Navy had issued a Notice to Airmen that the Kahoòlawe targets would not be in use, authorizing passage through the Restricted Area. The lead aircraft started on a direct route to Kona across the Island of Kahoolawe. When over the target area, a Navy fighter buzzed him at a distance of 25 to 50 feet. The Navy had prematurely scheduled a bombing mission without prior notice and the fighter was trying to warn off the civilian aircraft, subjecting the tour aircraft with

its crew of two and seventeen passengers to a possible mid-air collision. In this case the Navy action was in violation of 14 CFR 73.15(b) and (c), as well as the flight operation rules in 14 CFR 91.65 converning proximity of aircraft in flight.

2. On September 16, 1974, Maui Radio (an F.A.A. facility) advised six air taxi tour aircraft that the Navy had advised by Notice to Airmen that the Kahoolawe target area would not be in use and authorized their passage through the Restricted Area. The first two aircraft, when over Kahoolawe sighted two fighter aircraft making passes over the targets, bomb bursts and smoke, and vacated the area rapidly. The Navy, without proper prior notice, had instituted a bombing mission endangering non-participating aircraft and the lives of almost one hundred people. This, too, was a Navy violation of the requirements of 14 CFR 73.15(b) and (c).

3. On June 10, 1975, a group of air taxi tour aircraft were enroute from over Lanai to Kona, and the first aircraft inquired of F.A.A. if the Kahoolawe area was open. They received assurance that the area was not in use and authorized to transit it. As the first pilot passed over the island, he

observed puffs of smoke and debris being thrown up around the targets - he "departed the area in a most expeditious manner". The Navy reported that the incident was due to an "administrative scheduling error". This incident also was a violation of 14 CFR 73.15(b) and (c).

4. On August 20, 1975, at 7:43 AM, a tour aircraft was en-route from over Lanai to Kona and was warned that the Kahoolawe area was in use. As the pilot passed along the federal airway (V2-21), clear of the restricted area and between the islands of Maui and Kahoolawe, he noted directly below him, near the middle of the airway, a Navy destroyer or cruiser firing salvos of shells toward Kahoolawe. The trajectory of such shells would pass through the flight altitudes of this airway used by all civil non- participating air traffic between Lanai and the island of Hawaii. (According to Navy data, contained in their annual reports, shells used in surface-to-surface firing reach a maximum height of 35,000 feet.) By not confining activities which are a hazard to non-participating aircraft within the Restricted and Warning Areas, the Navy was in violation of 14 CFR 73.15(c).

The bombing and shelling in this area throughout the past 30 odd

years have left a considerable number of unexploded bombs and shells outside of the target areas on the island. These exist not only in the reefs off-shore of the island of Kahoolawe of which fishermen are warned in Notices to Mariners, but also in the off-shore areas around Lanai and Maui as frequently reported by various civilian divers. There are reported from 7 to 20 unexploded bombs in the coral reefs off the island of Molokini, midway between Maui and Kahoolawe. Two of these latter were exploded by a Navy disposal team in July 1975, without prior public notice, destroying large portions of the coral formations. The reefs around Molokini are a popular area among scuba divers because of the varied and unusual coral formations and marine life.

The scarcity of data filed by the Navy under 14 CFR 73.19 prevents any significant analysis of the flight patterns of the navy aircraft using the targets on the island, however the loft bombing target A-4 and pylons #1, #2 and #3 associated therewith indicate the possibility of a low level high speed approach from an easterly direction, across the airway complex between Maui and Kahoolawe. It may be assumed however, that with the west end of the island occupied by based navy personnel, all target approaches, or firing,

must be from the other directions.

The data required in the annual reports by the subject regulation is necessary so that the F.A.A. and other interested persons, can determine if the approach runs and pull-up paths after firing or bomb release, can be safely contained within designated restricted airspace. The Navy has not provided sufficient data to permit analysis of the safety of these target patterns.

F. Restrictions to Other Air Traffic

The location of the Restricted Area and the associated Warning Area for the Kahoolawe target complex quite effectively blocks the free movement of air traffic among the Hawaiian Island group. These areas are considered "in use" by the Navy, unless the Navy informs the Federal Aviation Administration air traffic control facilities that the areas are not scheduled for use, thus releasing the areas for other traffic. F.A.A. air traffic control will not clear aircraft through these areas when in use by the Navy, and F.A.A. flight regulations (14 CFR 91.95) prohibit flight through restricted airspace that has not been released by the using agency.

The network of Federal Airways affected by Kahoolawe, serving inter-

island traffic is quite complex; Airway V-20 goes direct between Honolulu and Kona, but passes through Warning Area W-324; Airway V-7 goes from Molokai, over Lanai direct to Kona, but passes over the southwest part of the restricted area; Airway V-16 goes from Honolulu over Lanai then direct to Upolo Point (Kamuela, Hawaii), then to Hilo, but goes directly over the island to Kahoolowe; Airway V-2-21, the only one of these routes not blocked when the Navy is using the Kahoolawe target complex, goes from Honolulu, over Lanai, then between Maui and Kahoolawe, and on to Upolo Point, with a right turn to Kona, or direct to Hilo.

Chart No. 1 is a portion of the Aeronautical chart showing this airway complex. Because of overlap and convergence of the airways, only the centerline is shown. By regulation, 14 CFR 71.5(b), airways are eight miles wide, 4 miles on each side of the centerline, except that F.A.A. may narrow either side to not less than three miles to bypass an obstruction or a Restricted Area.

Chart No. 2 is the same chart with the outlines of the Restricted Area and Warning Area emphasized, and a portion of airway V2-21 passing between Maui and Kahoolawe is shaded to show its actual width.

Chart No. 1 - Aeronautical Chart of Area Affected by Kahoolawe Target Complex

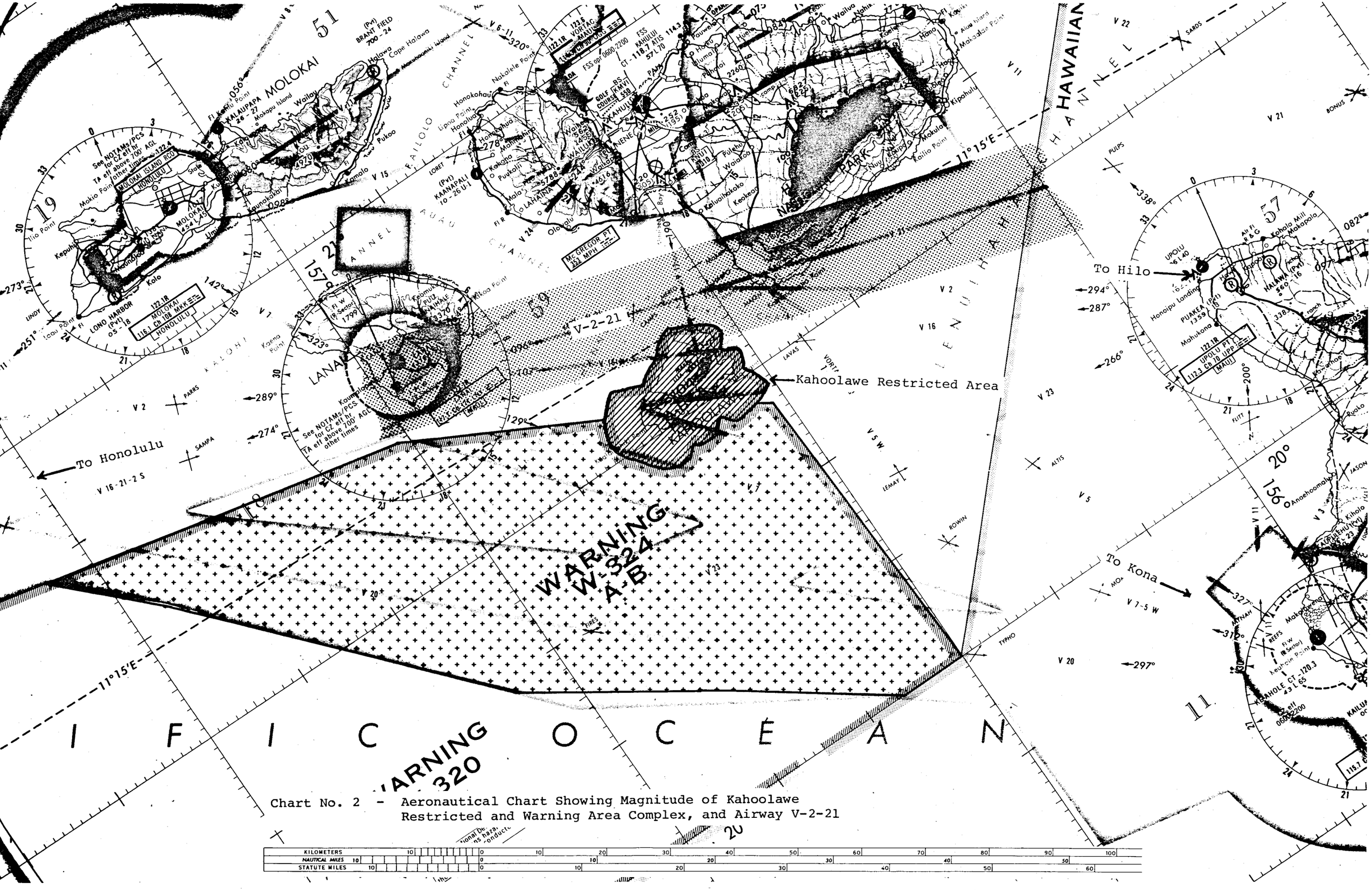


Chart No. 2 - Aeronautical Chart Showing Magnitude of Kahoolawe Restricted and Warning Area Complex, and Airway V-2-21

This portion of Airway V-2-21, however, as it passes between Maui and Kahoolawe, raises an unusual problem. It is flanked by high mountains on the north and the Restricted Area on the south. In order that an airway not be blocked when the area is in use, 14 CFR 71.5(b) requires that an airway centerline must clear a restricted area by at least four miles. If the airway were to fit this required criteria, the high ground on the other side would require airway traffic to fly at excessively high altitudes (over ten thousand feet) in order to clear the mountainous terrain. The regulations in 14 CFR 91.119 and 95.19 require the minimum enroute instrument altitude be at least 2,000 feet above terrain within the airway width. The F.A.A., in February 1962, authorized its Honolulu office to reduce the normal width of this airway V-2-21, as it passed the restricted area "to not less than three miles". This waiver of the criteria has continued in effect to the present day. A problem, however, has arisen in a recent cartographic re-check of the airway system which discloses an error in the presently designated airway, resulting in aircraft on the centerline of V-2-21 being only approximately two miles from the edge of the restricted area when passing between Maui and Kahoolawe. The F.A.A. is currently studying this problem and has only two alternatives: (1) to move the airway

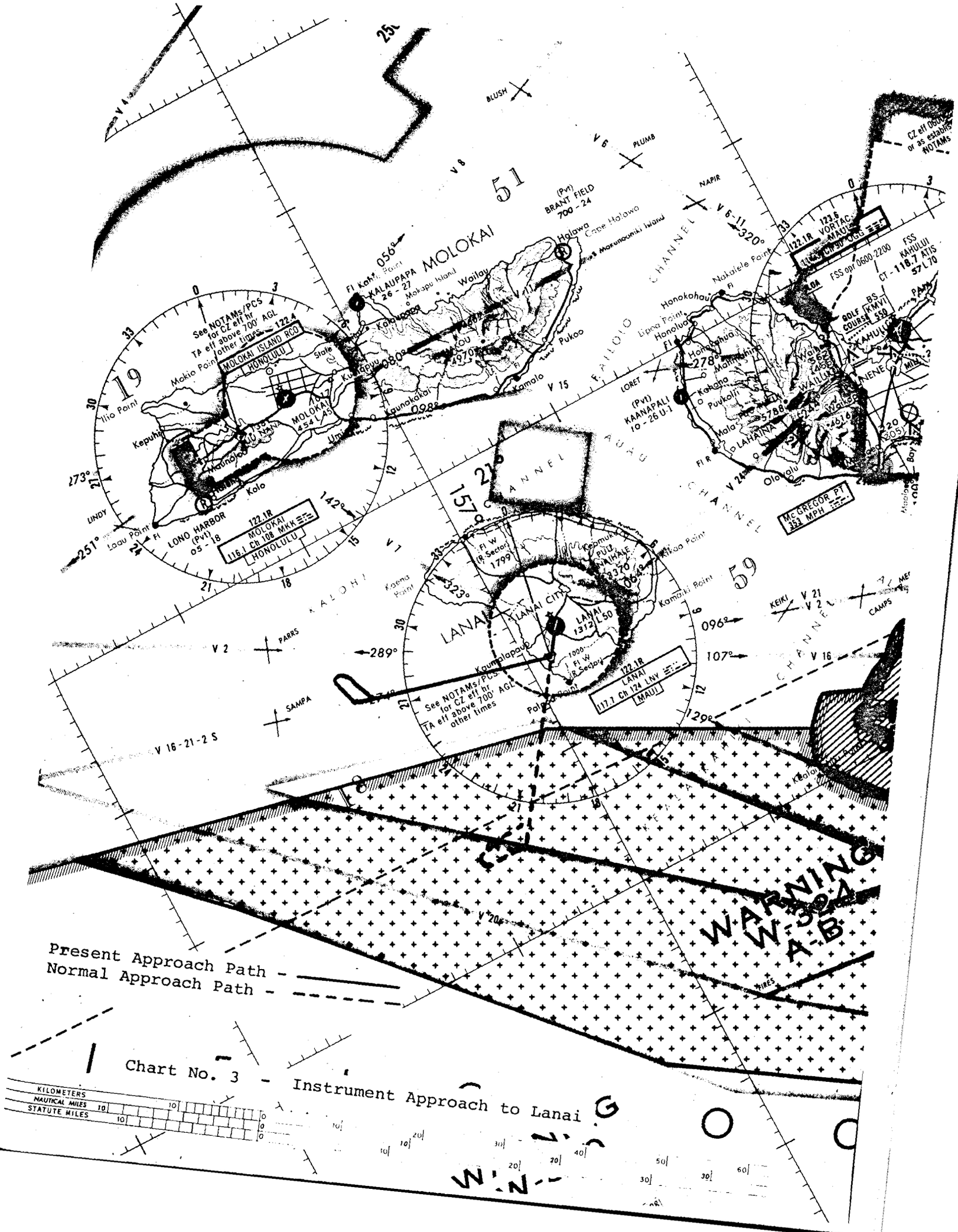
closer to Maui with an attendant raising of the minimum altitude on the airway; (2) to revoke or modify the restricted area. F.A.A. standards indicate that if the airway is moved a mile closer to Maui, the minimum altitude will have to go up to ten or twelve thousand feet, well above the capabilities of non-pressurized aircraft. In addition, instrument approaches from the south into Kahului Airport on Maui, and departures from Kahului using the "Beach Four" departure route south would be required to descend from and climb to over ten thousand feet in seventeen miles, a feat just within the capability of Hawaiian and Aloha jets, but beyond the capability of smaller propeller-driven aircraft. South departures are normal for traffic from Kahului to Kona, Kamuela, and Hilo. Also affected, though to a lesser extent, are Honolulu eastbound departures over Lanai and south of Maui ("Lanai-Five" Standard Departure Route) which also must climb to higher altitudes in limited distance. These problems are compounded by the air traffic control separation standards that assign enroute conflicting traffic to different altitude levels, one thousand feet apart.

Presently, instrument approaches to Kahului are confined by the restricted area whose boundary is 19 miles from the end of the

runway. Radar maneuvering area is limited, and the standard holding pattern on the final approach course is not possible. Presently used is a non-standard left turn pattern at the Camp Intersection, about three miles from the final approach course.

The problems created at the Lanai Airport are more complicated. Lanai has only one runway, on a north/south orientation. When the VOR facility was installed by the F.A.A., it was sited about one mile south of the field and aligned to provide a straight-in instrument approach from the south. However the edge of the Warning Area (W-324) serving the Kahoolawe complex lies only seven miles from the airport, and less than six miles from the VOR facility. The present instrument approach, therefore, is along a final approach course at right-angles to the runway, requiring a seventy-degree left turn at one mile from the touchdown point. This type approach is not only more difficult, but also results in higher weather minimums. The present instrument approach path, and a representation of the normal approach path, are shown on Chart No. 3.

F.A.A. policy provides for planning an ILS (precision instrument approach facility) at all airports served by jet-powered air-



Present Approach Path - ———

Normal Approach Path - - - - -

Chart No. 3 - Instrument Approach to Lanai

craft. In the normal course of planning such facilities, the F.A.A. planned an ILS for Lanai. Funds were appropriated, a project for installation was assigned, and equipment in the factory allocated for shipment. Recently, in its final review of the project prior to commencing work, it was realized that tradewinds permit only south to north approaches at Lanai, and since the ILS permits only straight-in approaches, the Warning Area would prohibit use of the facility if installed. The Navy objected to giving up some of Warning Area W-324 and consequently F.A.A. abandoned the project and released the funds and equipment for re-assignment to some other location. The F.A.A. policy concerning this ILS planning was formulated after an extensive study of under-shoot and over-shoot accidents occurring to jet transport type aircraft. Thus, Lanai receives not only a lesser order of navigational guidance, but a lower standard of safety as well.

These restrictions to the free flow of air traffic among the Hawaiian Island group are unparalleled anywhere in United States airspace. The constriction of air traffic flow in this busy portion of the Hawaiian airway complex into a single artificially narrowed airway, and resultant complications in approach and departure procedures for Kahului, Maui, and Lanai airport are not

only inefficient and wasteful of fuel but also decrease the desirable standard of aviation safety. Such limitations, possibly acceptable under the exigencies of war in the 1940's and 1950's are not tolerable with today's air traffic volume.

G. Environmental Aspects

In July of 1971, Elmer F. Cravalho as Mayor of Maui, joined by others, filed suit in U. S. District Court for the District of Hawaii against Melvin Laird, Secretary of Defense (Civil No. 71-3391) which requested court action for failure of the U. S. Navy to comply with the National Environmental Policy Act of 1969 in the use of the island of Kahoolawe as a bombing target. In response to a directive of the Court, the Navy produced a Draft Environmental Impact Statement for the Kahoolawe Target Complex, dated October 1971. This study dealt almost exclusively with the effects of bombing and shelling on the flora, fauna, and geology of the island itself, denigrated the position of Kahoolowe in past history and its future potential, and paid little attention to the overall effects on the resources and people of Hawaii. Possible noise and vibration on the island of Maui from the explosions, and the possibility of smoke, dust and fumes drifting toward Maui were noted in the study. The Court decided that the Navy had discharged

its obligations under the Act, and dismissed the proceedings in May 1972.

Noteworthy in this action is that the Federal Aviation Administration of the Department of Transportation was not a party, nor was consulted by the Department of Defense, even though it is the sole authority of the F.A.A. to assign the airspace over Kahoolawe to the Navy, and without which assignment the target complex would not be possible.

In carrying out the provisions of the Federal Aviation Act of 1958, Section 307 (72 Stat. 749, 49 U.S.C. 1348) concerning assignment of airspace which includes: "He (The Administrator) may modify or revoke such assignment when required in the public interest", the F.A.A. has established internal procedures for the annual review of all assigned Special Use Airspace (See F.A.A. Agency Order 7400.2B). In Chapter 20 of this Order, Paragraph 1000, "Review on Annual Basis" states: "AAT-200 (A Division of Washington F.A.A. Headquarters) and Regional Air Traffic Divisions shall systematically and periodically review special use airspace within their area of jurisdiction and, if required, initiate action to alter or revoke such airspace. As a minimum the utilization of each area of

special use airspace, except prohibited and warning area, shall be reviewed on an annual basis."

The same Order in paragraph 736 requires a detailed review of the annual utilization reports of restricted areas submitted by using agencies in order to:

"a. Determine if a particular area's utilization is consistent with its airspace designation or if an adjustment is in order.

b. Provide data for and to supplement a team review of an area.

c. Assist in resolution of questions concerning an area."

The F.A.A., as any other federal agency, is subject to the requirements of the National Environmental Policy Act of 1969 (83 Stat. 852) with regard to any action which significantly affects the human environment.

The F.A.A. annual decision to continue the current assignment of the Kahoolawe airspace to the Navy should be subject to a requirement for full environmental assessment under Section 102(c) of the NEPA (83 Stat. 853). Without this annual F.A.A. decision the

Navy could not continue use of the Kahoolawe complex.

A full environmental study must assess all consequences of the federal action. The Congress of the United States, in their deliberations leading to passage of the Federal Aviation Act of 1958, found "Airspace" to be an important national resource and rapidly diminishing in availability to free public transit. Based on this determination, it gave the Administrator of the F.A.A. exclusive jurisdiction over the airspace of the United States. The National Environmental Policy Act is clear in requiring assessment of commitment of resources by a contemplated federal action.

Among effects which need to be addressed in a proper full environmental analysis of the allocation of this restricted airspace to the Navy, are the adverse effects on the movement of air traffic among the Hawaiian Islands; the limitations on approaches to and departures from Kahului Airport on Maui and the Lanai Airport; the lack of needed approach aids at Lanai Airport; the hazards to air travellers; the constriction of most of the Oahu/Kona-Hilo air traffic into a narrow channel between the islands of Maui and Kahoolawe with attendant congestion, increased potential for mid-

air collision and longer flight routes; and the need for abnormally high instrument cruising altitudes in this airway complex. A complete environmental assessment must also evaluate the hazards and the noise nuisance to people on the ground, the limitations on surface ship traffic as well as commercial and sport fishing, skin diving and coral mining off the island of Kahoolawe, and restrictions as well as hazards to inter-island sea transport.

It is clear that the National Environmental Policy Act requires that the F.A.A. provide a full environmental study of an adverse decision concerning this petition for airspace action to revoke the Kahoolawe Restricted Area airspace allocation.

H. Alternate Sites

The Navy has spoken at length, in responses to interrogatories, the Draft Environmental Impact Statement and other statements in connection with the law suit in federal court 1971/1972, and in its annual reports to the F.A.A. concerning utilization of the Kahoolawe target complex, of the uniqueness and essentiality of this Restricted Area and the complete lack of alternatives to continued bombing of Kahoolawe.

In these papers there is much discussion of "alternatives" by the Navy, each of which is dismissed for various reasons and most of which stress the shortcomings of any one alternative to handle all of the operations now carried on at Kahoolawe. For example, the use of the Army ranges on Oahu and Hawaii are rejected because surface vessels could not practice shelling those shore targets without the shells passing over inhabited areas. Consideration is not given to the possibility of splitting different types of operations between several existing targets. Another Navy argument against sharing use of one or more of the other existing target ranges with other services is the difficulty in scheduling between "incompatible" types of uses. Yet, the Navy now shares its use of Kahoolawe with Air Force aircraft, Coast Guard, foreign military components and Army field artillery units. In addition, the Navy/Marine aircraft regularly have participated in usage of the Army Restricted Area on the Island of Hawaii.

Further, there is little justification that all these types of targets are essential to the military units based here in Hawaii, as contrasted with the convenience aspects of the Kahoolawe complex. A significant amount of the usage of the Kahoolawe complex is by

transient units enroute to or from the mainland, by foreign vessels and aircraft visiting Hawaii, as well as by the Army, Air Force and Coast Guard. Excluding this type of usage, the volume of use of this target complex, in justification for its continuance would significantly decrease, to the extent of 30 to 40 percent.

I. Summary of Findings

1. The Federal Aviation Administration has complete authority with respect to the allocation of airspace within the United States. (Federal Aviation Act of 1958, as amended and Executive Order 10854.)

2. The Federal Aviation Administration has implemented this authority in Federal Regulations, Volume 14, Chapter 1, Parts 11, 71, 73, 75, and 77. Part 73 prescribes the manner by which airspace is removed from free public use, and the terms, conditions and limitations prescribed by the Administrator of the F.A.A. as necessary in setting aside airspace for exclusive use by one class of user. These regulations also specify the specific area designated for use by the Navy in bombing and shelling the island of

Kahoolawe.

3. The Navy has consistently failed to fully comply with certain provisions of Part 73, namely:

a. Omitting necessary data as required by 14 CFR 73.19 in its annual special use airspace utilization reports; and

b. Failing to comply with 14 CFR 73.15(c) in observing its duties as a designated Using Agency by providing proper notice when the area is not in use, in authorizing transit through the area when not in use, and in containing within the area all activities for which the area was designated.

4. The Navy use of the area has been significantly reduced over the past five years despite the addition of new uses (Air Force and the Army artillery) and use by transients. These other agencies have not been granted use of the subject area by the F.A.A., nor were they included in the Executive Order assigning the use of Kahoolawe

to the Navy.

5. There is a real and continuing danger to air travellers, surface vessels and persons and property not involved in the operation of the target complex on Kahoolawe from these naval activities, a danger which poses an increasing possibility that tragedy will occur as air and surface travel between the islands increases and as the adjacent mainland of Maui becomes more populated.

6. The channeling of the majority of inter-island air traffic into a single narrow airway (V-2-21) to pass between the island of Maui and the Kahoolawe Restricted Area interposes problems in air traffic control and increases the possibility of mid-air collisions. Because the required re-alignment of the airway will raise the minimum instrument flight altitudes, it will severely handicap light non-pressurized aircraft and cause further difficulties to aircraft arriving at Kahului, Maui from the south as well as departing to the south. Instrument approaches into Lanai Airport will be severely hampered as long as the target complex exists, and the

modern instrument approach facilities needed for Lanai will not be possible.

7. The Congressional mandate of the public right of freedom of safe transit through the navigable airspace of the United States is not being carried out. There is a need for the Administrator of the Federal Aviation Administration to conduct an in-depth review of this airspace assignment, requiring the Navy to provide relevant data and a complete justification outlining those operations which are essential and non-essential.

8. The airspace for the Kahoolawe target complex was originally assigned after the attack on Pearl Harbor in World War II in the public interest and continued during the Korean conflict and the Vietnam war. A re-evaluation of the public interest, in light of today's technological advances, the changing international situation, the changing role of the United States as a world power and the renewed interest in the preservation and quality of the natural environment, is in order.

9. The public interest would best be served by immediate revocation of the Restricted Area #R-3104 A/B/C, and disestablishment of Warning Area #W--324 A/B.

Note: 14 CFR 11.75 "Petitions for revoking or modifying rules or orders.

(a) Any interested person may petition to revoke or modify any rule or order covered by this sub-part. Such petition must be filed, in triplicate, with the Director and must clearly state the information, views and arguments the petitioner considers necessary to support the requested action and must clearly indicate the effect the action would have on the use of navigable airspace."