93-F-0822

BRILLIANT EYES

1.0 PROPOSED ACTION AND ALTERNATIVES

1.1 PROPOSED ACTION

The Brilliant Eyes (BE) Proof-of-Principle (POP) is a key demonstration/validation program being conducted by the U.S. Air Force Headquarters Space Systems Division. The POP program would demonstrate the feasibility of a Department of Defense defined space-based sensor concept to perform tracking and discrimination functions against ballistic missile targets. Tracking refers to following objects visible within the observer's field-of-view. Discrimination is closely coupled with identification. It allows tracking and identifying multiple objects within a single field-of-view, and distinguishing between them.

POP program activities center on developing and operating a sensor system consisting of cryogenically cooled passive focal plane arrays and an active laser radar (LADAR). POP experiment missions would observe target of opportunity (TOO) ballistic missiles and resident space objects (RSOs) to collect boost and midcourse phase data representative of the targets that the operational BE space system would be required to observe. (TOO ballistic missiles are those that would be present regardless of the BE project. RSOs are any objects currently in orbit, such as satellites, debris, and spacecraft.)

1.1.1 Purpose and Need for the Action

The purpose of the POP program is to perform a series of ground-based observatory experiments to demonstrate tracking and discrimination functions allocated to the BE space subelement. The POP program supports activities currently being performed within the demonstration/validation phase of the BE development program to refine baseline concepts for sensor design and operations concept. Data collected by POP activities would be used to evaluate sensor concepts proposed for the operational BE system and provide data supporting development of algorithms needed by the operational BE system for target tracking and discrimination.

1.1.2 Project Location

POP experiment operations would be conducted from three observatory sites to view real-time ballistic missile and RSO targets. The host sites were chosen for operations based on a combination of the availability of desirable TOOs for observation by the POP sensor and the ability to integrate a sensor system of the size and weight of the POP system onto a host mount. Ballistic missiles are launched from the Wallops Island Flight Facility, Virginia and the Kauai

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Test Facility, Kauai, Hawaii. The observatory sites are the Mt. Lemmon Observation Facility (MLOF) located north of Tucson, Arizona; the Firepond Research Facility located below Millstone Hill in Westford, Massachusetts; and the Air Force Maui Optical Station (AMOS) observatory located on Mt. Haleakala, Maui, Hawaii. The POP sensor would also be installed at the White Chamber located at the Lockheed Palo Alto Research Laboratory (LPARL) in Palo Alto, California to observe simulated target scenes. Figure 1.1-1 shows the locations of the launch and observatory sites and the test chamber.

1.1.3 Project Description

The proposed action is installing and operating the POP sensor and associated data processing hardware at the selected observatory sites. These actions require physical integration of POP components into the existing facilities and structures available at each site. Table 1.1-1 summarizes the experiment objectives for each POP site, the TOOs to be used to meet the objectives, and the sensor components that would be onsite to support those objectives. Real-time experiment operations would be accomplished at each site through commanding the host mounts to point the POP active and passive sensor components at the targets in accordance with the approved mission operations plans.

Passive/Active Sensor System

POP data collections would be performed using an integrated passive/active sensor system. Separate hardware modules, one containing the cryogenically cooled passive focal plane arrays and another containing the LADAR receiver focal plane array, would be bolted to the POP sensor telescope system to form the single hardware unit that would be used for data collection.

Cryogens include both liquid helium and liquid nitrogen to cool the sensor focal plane and optics. The fluids would be brought to the AMOS site in pressurized metal bottles containing 160 to 180 liters of liquid nitrogen and 250 liters of liquid helium. Two of each bottle would be brought to the site. The supply would last for approximately one week of operations. When needed, the fluid would be pumped into the sensor dewar to begin the cooling. Once the dewar was filled, the pump would be turned off. As the fluid warmed, the gaseous material would be pumped out into waste bottles. The bottles would be returned to the local supply company, where the gas would be cooled again for future use. Cryogens used at the Mt. Lemmon and Firepond sites would be provided by the respective facilities.

The LADAR transmitter unit would be separately mounted during operations at the Firepond and AMOS sites and would not share the POP telescope aperture. Through the use of a flip mirror, the passive arrays and the active receiver array would alternately receive the light coming

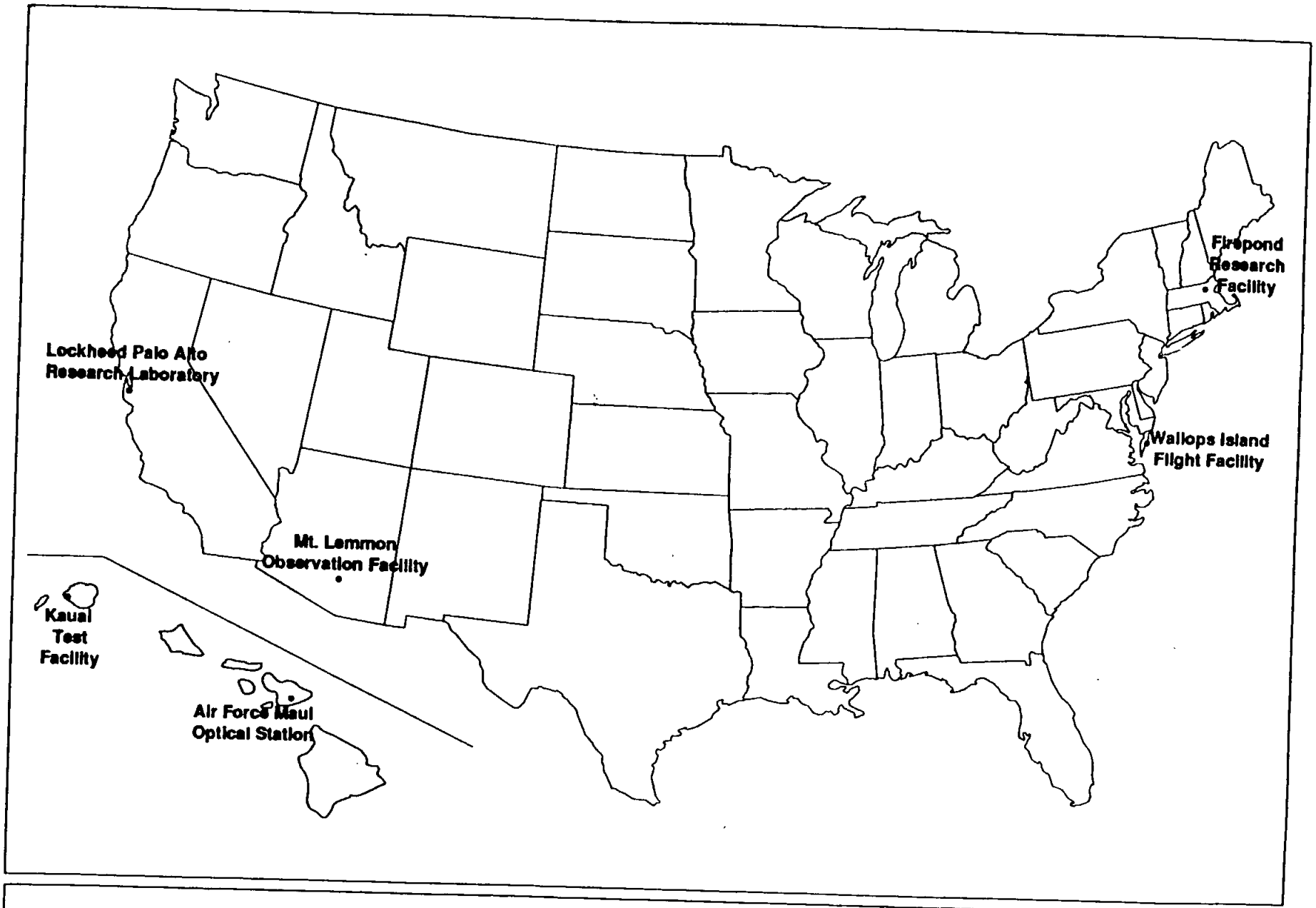

Figure 1.1-1

LOCATION OF BRILLIANT EYES PROOF-OF PRINCIPLE PROJECT SITES

Table 1.1-1

BRILLIANT EYES PROOF-OF-PRINCIPAL OBJECTIVES AND ACTIVITIES SUMMARY

Site	*Objectives*	*Targets*	*POP Sensor Components*
Mt. Lemmon Observation Facility	Verify POP telescope/passive sensor integration Characterize passive sensor focal plane arrays	Stars. High altitude RSOs	POP telescope Passive sensor focal plane array module
Firepond	Verify integrated operation of passive and active sensor components Collect real-time target tracking and discrimination data	Stars, RSOs, ballistic missile TOOs	POP telescope Passive sensor focal plane array module LADAR receiver focal plane array module LADAR transmitter
AMOS	Verify integrated operation of passive and active sensor components Collect real-time target tracking and discrimination data	Stars, RSOs, ballistic missile TOOs	POP telescope Passive sensor focal plane array module LADAR receiver focal plan array module LADAR transmitter
Lockheed Palo Alto Research Laboratory White Chamber	Collect real-time target tracking and discrimination data	Simulated threat target scenes	POP telescope Passive sensor focal plane array module

in from the telescope. Operation of the flip mirror and LADAR transmission times are controlled by the POP operators in accordance with approved experiment mission plans.

The POP telescope and passive/active focal plane array hardware has been designed for mounting, as a single unit, on a host telescope mount as an adjunct system that is co-boresighted with the host mount. The POP sensor package and the host mount would be connected through mounting plates. The mounting plates provide the mounting surface for the POP sensor and are uniquely designed for attachment to the various host mounts. The mounting plates for each site would be built by the POP program and transported to each site.

The POP LADAR transmitter would be separately mounted from the receiving focal plane array hardware at the host observatories. The transmitter unit would be mounted on an optical bench located a distance from the telescope, which would be used to direct the output beam toward the desired TOO or RSO. By using a series of mirrors, the LADAR output beam would be directed to the destination telescope for transmission to the target.

The POP system would observe targets based on the line of sight provided by the host mount. POP experiments mission plans would specify which TOO target the host mount must be pointed toward to allow the POP sensors to perform the required data collection and calibration operations. All data collected by the POP sensor would be recorded for post-experiment playback and analysis.

The passive portion of the POP sensor system consists of three focal plane arrays observing the targets in the visible, longwave infrared (LWIR) and very longwave infrared (VLWIR) wavebands. These focal planes would be housed in a dewar and cooled for data collection using liquid nitrogen to 150 degrees K for the visible array and to less than 10 degrees K for the LWIR and VLWIR arrays.

The POP LADAR used at Firepond and AMOS is a pulsed green light Nd:YAG (neodymium:yttrium aluminum garnet) chemical system. No gaseous emissions would result from use of this system. The LADAR would be pulsed at 200 pulses per second at an output power of 0.25 millijoules per pulse. Each pulse would have a 5 nanosecond pulse width. The LADAR would operate in a pulsed mode for approximately 5 minutes during the Firebird 1B mission. The LADAR system would be turned on for the whole mission timeline (approximately 10 minutes); however, the output would be allowed into the telescope aperture only for the 5-minute period of interest for the POP experiment. RSO tracking would occur every day at Firepond and AMOS for an approximately 3-week period. The laser would be fired about half of the days during this time for 5 to 10 minutes each day of operation. No laser operations would occur under foggy or cloudy conditions.

The LADAR is not eye-safe for a distance of approximately 500 kilometers; however, the beam would exit the atmosphere at the 50,000-foot elevation at a distance of about 20 kilometers from its origin. It may be considered eye-safe for all practical purposes at this distance since commercial aircraft do not fly above an altitude of 50,000 feet. Most, in fact, fly below 40,000 feet. At its origin, the laser beam would be 0.25 centimeters high by 0.5 centimeters wide. The beam would be slightly expanded as it passed through the telescope optics prior to exiting the 1.2 meter aperture. Through the atmosphere and to the target, the beamwidth would be approximately 20 microradians. This would result in a footprint of approximately 0.4 meter at the 20-kilometer eye-safe distance (C. Niessen 1991).

The frequency-doubled Nd:YAG laser used for POP would be a green light laser. It would be visible to someone looking down the aperture. Looking edgewise at the laser beam, a person or animal would have to observe light scattered from the atmosphere to see the laser. It is not likely that there would be enough scattered energy for the beam to be observable.

The LADAR would be directed toward the target objects only when the target was within the pre-approved cleared firing areas (CFAs). These corridors would be defined in the POP mission operations plans. BE would obtain approval of these plans from the FAA prior to LADAR operations against each target. The laser beam would probably be used entirely at night in order to accommodate simultaneous operations with the passive sensor.

Collateral Sensors

POP experiment missions would be conducted using a variety of collateral sensors, viewing the same objects as the POP sensor, to provide radiometric and tracking truth data. These sensors would be a combination of airborne and ground-based systems. Only existing ground-based sensors, identified in Table 1.1-2, would track the objects in space.

Two airborne sensors would be dedicated to supporting POP mission objectives during the Firebird 1B mission. The Airborne Surveillance Testbed (AST) would take off from Wallops Island runway for this operation. A passive, large-field-of-view scanning LWIR optical sensor would be mounted on a Boeing 767. The final flight plan would be developed approximately six months prior to launch and filed with the Federal Aviation Administration (FAA) as a proposed plan. The AST would operate according to previously established flight plans. During the operation, the AST would employ a "racetrack" loiter path about the launch point. Upon liftoff notification, the aircraft would position itself to observe a portion of the trajectory required by POP mission objectives. Throughout the missile flight, the AST would remain outside the safe zone defined by the Wallops launch range.

Table 1.1-2

BRILLIANT EYES PROOF-OF-PRINCIPLE GROUND-BASED SENSORS

Sensor	*Location*
Firepond Video	Firepond Research Facility
Haystack Radar	Millstone Hill, Massachusetts
Millstone Radar	Millstone Hill, Massachusetts
Wallops Island Radar	Wallops Island, Virginia
Goddard Video	Greenbelt, Maryland
Grumman Optics	Bethpage, New York
Malabar Optics	Malabar, Florida

The COBRA Eye aircraft would take off from Offutt Air Force Base, Nebraska. It, too, would use a passive sensor mounted in an RC-135, which is comparable to a Boeing 707. Like the AST operation, the COBRA Eye aircraft would file a nominal flight plan with the FAA approximately six months prior to launch. COBRA Eye would follow a flight path nearly identical to the path it used for the Firebird 1A mission conducted in March 1991.

The ground-based sensors would perform only routine tracking functions consistent with ongoing activities. AST and COBRA sensors would generate no emissions, and the use of two aircraft operating in accordance with approved procedures would create negligible environmental impacts. Thus, use of collateral sensors is not considered further in this analysis.

Targets of Opportunity

The POP experiment missions would be conducted using a variety of TOOs. To provide a target scene more comparable to that which the operational BE would observe, the POP program would augment one of the TOOs, the Firebird 1B ballistic missile, with two inflatable balloons. These balloons would be made of 1 mil black kapton. They would be 3.1 meters in diameter and would be deployed from the host missile. POP would not be adding similar targets or modifying the physical configuration of any other TOO.

Safeguards

Lasers would be used only at the Firepond and AMOS sites. Laser beam controls would include procedural, computer software, and electromechanical safeguards. These safeguards prevent the beams from being directed lower than 30 degrees above the horizon at AMOS and 20 degrees above the horizon at Firepond, which eliminates the possibility of laser hazards to observers on the ground. Through coordination and cooperation with the FAA and other federal agencies, the safety of occupants of passing aircraft would be assured by (1) implementing a controlled firing process (CFP) in areas adjacent to the host facilities; (2) posting notices to airmen; and (3) regularly broadcasting pilot advisories during laser operating periods. The CFP is an aircraft control technique used by the FAA and laser operators to ensure that (1) laser firings are contained within the designated area, (2) aircraft remain outside the laser firing area when the lasers may be operating, and (3) if aircraft do enter the designated area, laser operation is terminated. The FAA has established CFAs for laser emissions from the AMOS site since 1981. Similar aircraft safety programs are also in effect near Firepond. For additional safety, two observers with positive laser control would be posted at the laser facilities. Similar safety procedures have been in effect during previous U.S. Air Force laser experiments in Hawaii and Massachusetts.

Transportation

POP instrumentation would be transported to Mt. Lemmon and Firepond using a Utah State University or Space Defense Laboratory trailer approximately 22 feet in length. As an alternative, a rental truck of approximately 16 feet may be used. POP instrumentation would be shipped to Maui via standard air cargo. Cryogen for the AMOS operation would be transported via standard cargo carriers using bottles of the sizes discussed above. In most instances, approximately four truck trips would be required to haul equipment to and from the sites, although up to eight could be needed. The only other trips would be associated with passenger vehicles used by project team members.

Hazardous Materials

Approximately 2 liters of pure grain alcohol and acetone would be used at the AMOS and Firepond sites in order to clean the mirrors used to direct the LADAR output beam. Helium gas may also be brought to each DOD site to check vacuum seals and initiate pumping of the liquid helium into the dewar. Duoseal pump oil (Seargent Welch Scientific Company) would be brought to each site for use by the cryogen roughing pump. The oil would be brought to the sites in 2-gallon drums. Hazardous materials would be recycled or reused in accordance with U.S. Air Force policies dealing with hazardous material minimization. Any hazardous wastes would be handled in accordance with applicable federal and state regulations. Use of cryogens is described above under "Passive/Active Sensor System."

Utilities

The POP system would require only minimal amounts of power that would be accommodated by the existing power supplies at the host facilities. The POP system would require no water, natural gas, or communications facilities. No solid waste would be generated, other than by administrative activities. No sanitary facilities would be required in addition to those already present at the host facilities.

1.1.4 Use of Existing Facilities

The POP experiment activities timeline requires different components of the POP sensor system to be used at each site (see Table 1.1-1). The following details activities occurring at each location.

Mt. Lemmon Observation Facility

The MLOF is a 10,000-foot elevation observatory site located in the Coronado National Forest, Pima County, approximately 18 miles north of Tucson, Arizona (see Figure 1.1-2). Only the POP passive array sensor component would be installed at this site. A 60-inch telescope mount would be used to host the POP passive array system. POP sensor operations support equipment and data recording equipment would be brought to the facility and installed in the main telescope building. Activities comparable to those proposed occur routinely at this observation facility and are governed under the terms of a U.S. Forest Service (USFS) permit (U.S. Department of Agriculture Forest Service 1981).

Firepond Research Facility

The Firepond facility is located below Millstone Hill, in Westford, Massachusetts (see Figure 1.1-3). POP installation at Firepond would include bolting the POP telescope along with the passive sensor and the active sensor receiver array components onto the existing 1.2-m telescope. The LADAR transmitter unit would be installed in an existing building, and the output from the LADAR would be sent through an optical relay system to shine out through the 1.2-m telescope aperture. The POP project at Firepond is consistent with ongoing activities at this facility that are already approved by the Commonwealth of Massachusetts, FAA, and Air Force Space Defense Operations Center (SPADOC).

The sensors at Firepond would track, among other things, the metallized balloons deployed from the Firebird 1B launch out of the Wallops Island Flight Facility. This launch, along with the deployment of lightweight objects, such as metallized balloons, has been assessed under separate environmental review and found to have no significant impact (U.S. Department of the Navy 1991). Impacts of the Firebird 1B launch are not considered further in this analysis.

AMOS

The AMOS facility is located at the 10,000-foot elevation on the peak of Mt. Haleakala, Maui, Hawaii (see Figure 1.1-4). The POP telescope, along with the passive sensor and active receiver arrays, would be mounted on the B-29 side of the 1.2-m telescope system. The LADAR transmitter unit would be installed in an existing building at AMOS. The LADAR output would be relayed to the Laser Beam Director mount for target tracking. Project components at AMOS fall within the parameters of existing uses that have been assessed on a programmatic level and found to have no significant environmental impact (U.S. Department of the Air Force 1991).

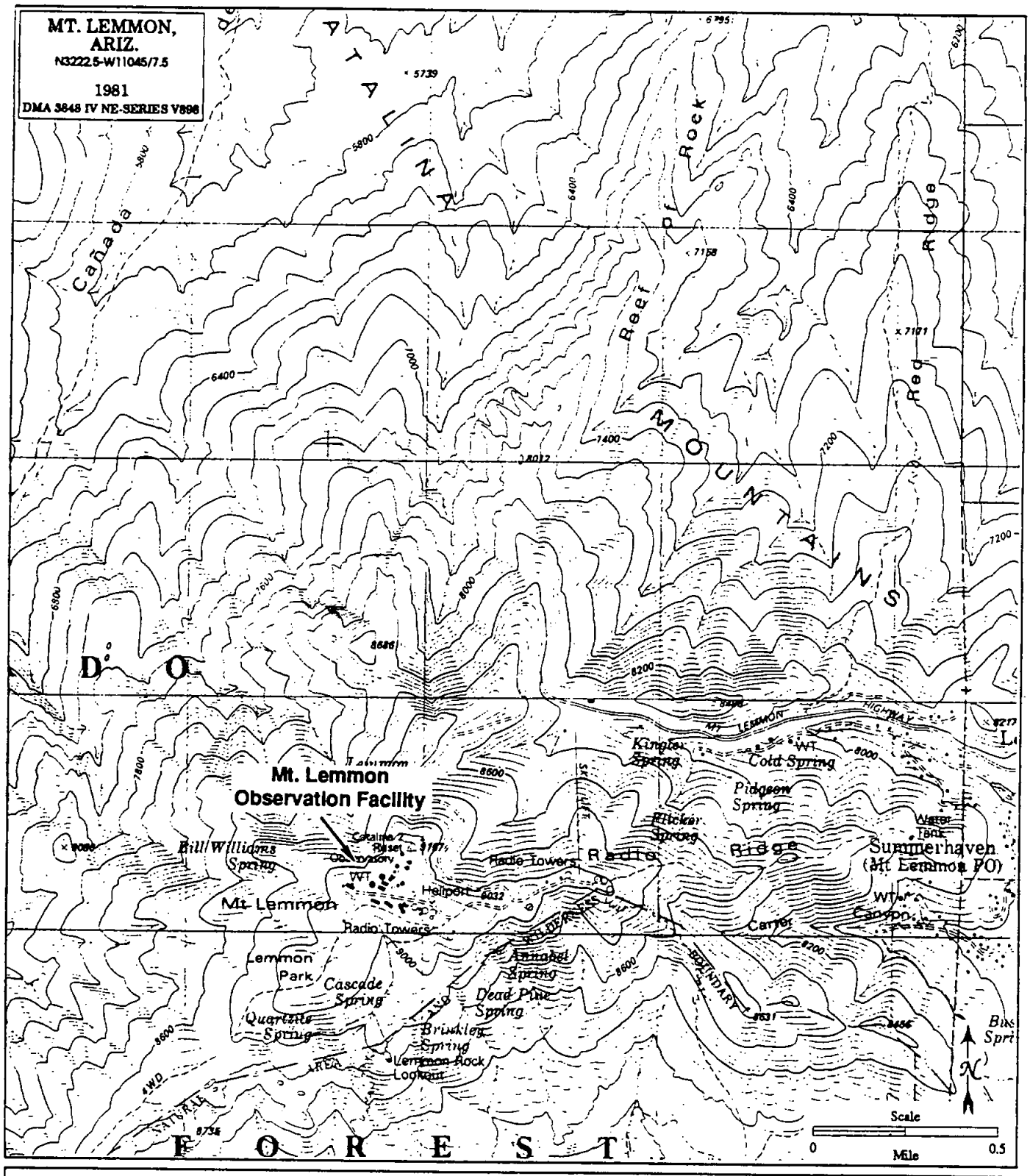

Figure 1.1-2

LOCATION OF MT. LEMMON OBSERVATION FACILITY, CORONADO NATIONAL FOREST, ARIZONA

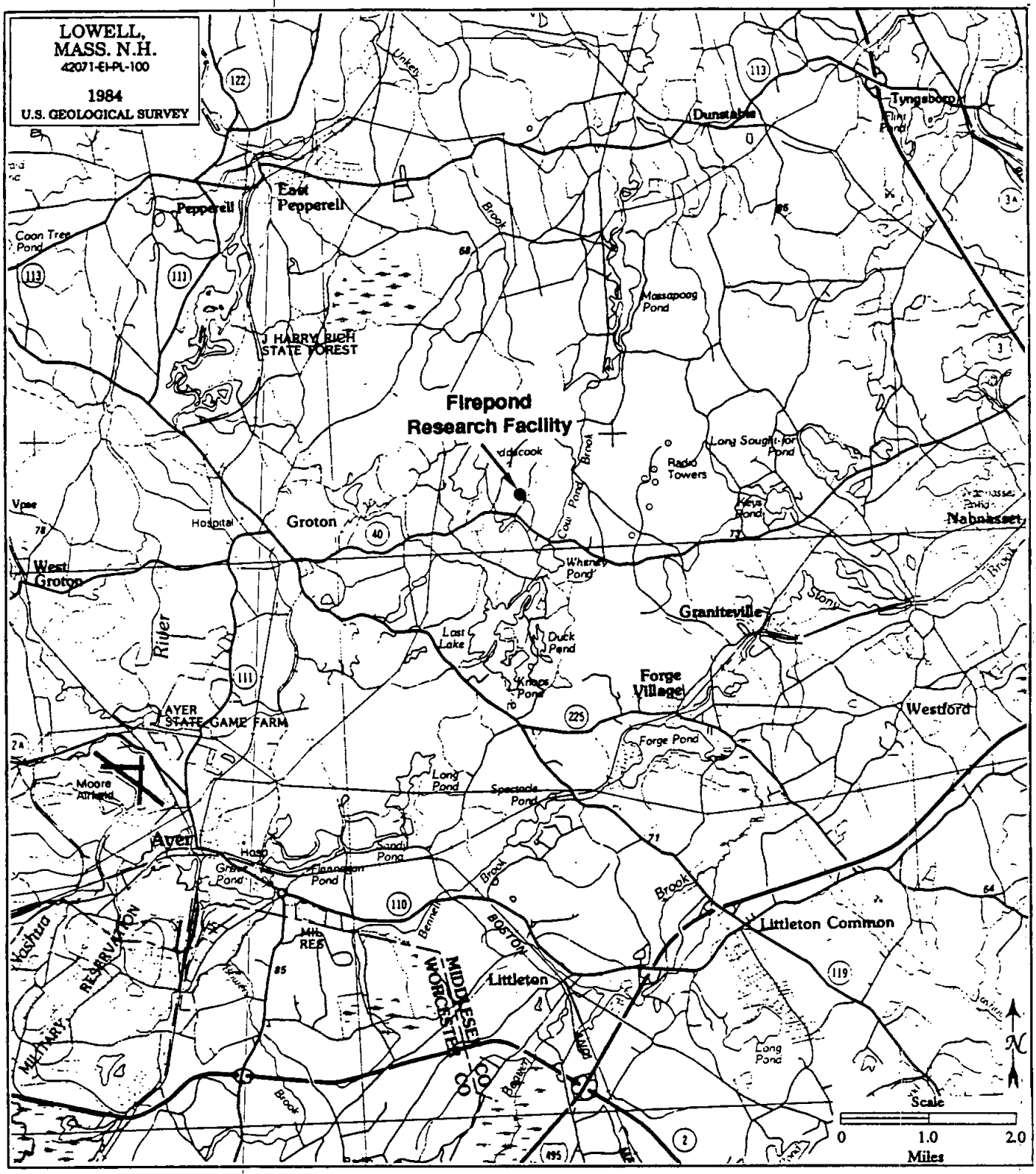

Figure 1.1-3

LOCATION OF FIREPOND RESEARCH FACILITY, WESTFORD, MASSACHUSETTS

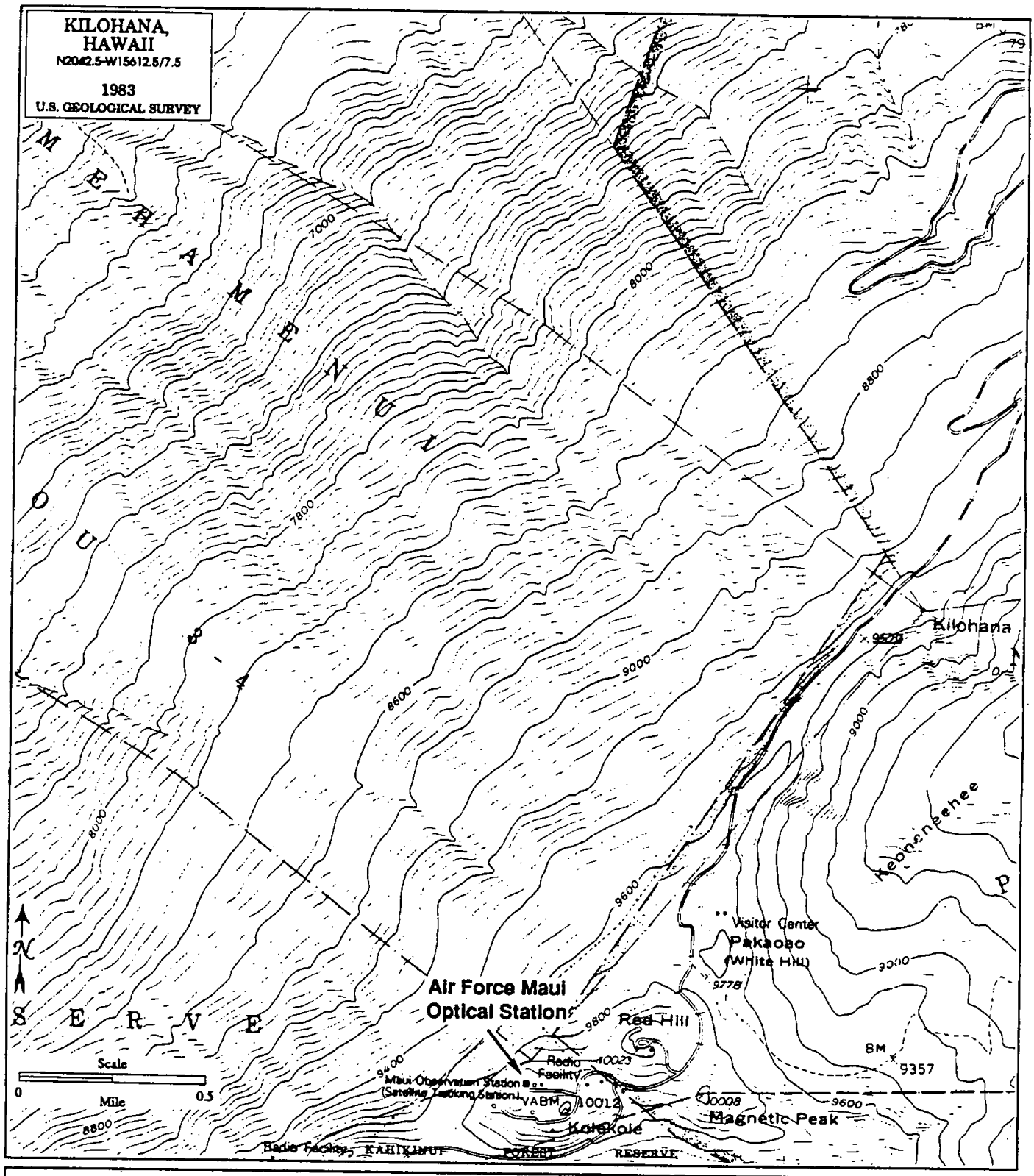

Figure 1.1-4

LOCATION OF AMOS, MAUI, HAWAII

The ballistic missile launched from the Kauai Test Facility and tracked from AMOS will be launched by another U.S. governmental agency as a target of opportunity for a separate program and will be covered under separate environmental documentation (B. Inouye 1991). The determination to proceed with the launch is separate from the decision this EA supports and is not so closely related as to be considered part of a single course of action. This launch is not considered further in this impact analysis.

Lockheed Palo Alto Research Laboratory White Chamber

The POP telescope and passive sensor arrays would be installed at the LPARL White Chamber for viewing simulated target scenes. All activities would be confined to the test chamber and would involve no actions that would have an environmental impact (e.g., construction, emissions, population increases, or hazardous materials). Thus, actions at this location are not considered further in this analysis.

1.1.5 Construction and Decommissioning

No new construction is planned for the POP program at any of the proposed sites. Upon completion of activities at each site, all POP equipment would be removed from the site and relocated to the next site or returned to the Utah State University or Massachusetts Institute of Technology/Lincoln Laboratory development facilities.

1.1.6 Project Schedule

POP installation and actual operations would begin around March 1992. One Firebird 1B launch would occur in March or April of 1992, and one launch from the Kauai Test Facility would be tracked. The date of this latter launch has not yet been scheduled, although it is anticipated the launch would occur in the fourth quarter of 1992.

1.1.7 Project Employment

POP activities at each site would require a team of approximately ten scientists and engineers for installation, testing, and operations. These personnel would be flown to each site from their permanent residence locations and housed in local hotels for the duration of the activities. All personnel would return to their respective home locations following completion of all required activities.

1.2 ALTERNATIVES TO THE PROPOSED ACTION

1.2.1 Alternatives Eliminated from Consideration

The size and weight of the POP sensor system as well as the availability of TOOs were the primary considerations for selecting the experiment locations. Sites also considered were the Malabar Optical Station, which was dismissed due to its low altitude and lack of sufficient targets; White Sands Missile Range, eliminated because no mounts were available; and the Western Test Range, which was not considered further because of the inadequate range to the targets.

1.2.2 No-Action Alternative

Selection of the no-action alternative would result in the inability of the Department of Defense to obtain real world data on the technical feasibility of the BE concept for synergistic focal plane operations and the utility of integrating active and passive sensor systems for target tracking. A decision not to proceed with the POP program would result in the loss of data needed to demonstrate key BE functions and establish a database against which future proposals for BE sensor concepts may be evaluated.

1.3 SCOPE OF THIS ENVIRONMENTAL REVIEW

This environmental assessment (EA) was prepared to satisfy the environmental review requirements set forth in the National Environmental Policy Act of 1969 (NEPA, Public Law 91-190). It was prepared in accordance with the President's Council on Environmental Quality Regulations implementing NEPA (40 CFR, Parts 1500-1508) and AFR 19-2 (August 10, 1982). The objective of this EA is to form a basis for determining the significance of the proposed action's environmental impacts.

A number of resource areas were eliminated from evaluation in this analysis because it was evident from the project description that no impact would occur. These resources are identified below, along with a discussion addressing why they would not be impacted.

Meteorology/Air Quality

No components of the BE POP system would in any way affect meteorological conditions. No stationary sources of emissions would be developed as part of the project. The only emissions would result from the small number of trips associated with the project (approximately four to

eight truck trips per site and passenger vehicle trips when project team members are visiting each site). These emissions would have a negligible impact on air quality.

Hydrology/Water Quality

No construction or ground disturbance of any kind is proposed. There would therefore be no impacts to surface water due to erosion or runoff or as a result of modification of drainage patterns. No use of water or discharge of waste would occur during operations. Thus, it is concluded that there would be no impact to surface water quality or groundwater quality.

Population

No permanent population increase would result from this project. Teams of approximately ten members would be sent to each site for the installation, test, and operations periods; they would then return home.

Socioeconomics

Since project personnel would be present at the host sites only briefly, no impact on schools or health care would occur. The project would require no water; thus, there would be no impact on local water supply systems. The project teams would be housed in local hotels and would work at established observatory sites; the BE POP components would not generate any wastewater. Therefore, no impacts pertaining to wastewater treatment and disposal would result from the project. Minimal amounts of solid waste would be generated by office activities; therefore, no adverse impacts to solid waste management systems would occur.

The project would require negligible amounts of power that could be readily accommodated by existing supplies at the host observatories. Since the project would result in no population increase and would be comparable to existing activities at the host sites, it would create no impacts to fire and police protection. Transportation impacts would be limited to trips by visiting team members and vehicles moving equipment. The latter would generate approximately four to eight trips per project. Therefore, transportation impacts are considered negligible. Since the visiting team members would be using local hotels and visitor facilities, they would have a small, but beneficial, impact on the local economy.

Cultural Resources

Cultural resources would not be affected, since the proposed project would involve neither ground disturbance, alterations to structures that could be considered historic resources, nor

construction that could be viewed from historic resources. No approvals from the State Historic Preservation Officers are required.

Noise

The primary source of noise associated with this project would be from the Firebird 1B launch, which has previously been assessed and found to have no significant impact (U.S. Department of the Navy 1991). The only other noise would be from the vehicle trips needed to transport equipment and people to and from the sites and from the COBRA Eye and AST aircraft. The small number of vehicles would generate only a negligible noise impact, as would the addition of two aircraft on a one-time basis in an area that routinely is used for similar operations.

This impact analysis focuses on the following resources: biology, safety, and hazardous materials.

RR

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OFFICE OF THE SECRETARY OF DEFENSE

WASHINGTON, DC 20301-1000

MEMORANDUM FOR THE SECRETARY OF DEFENSE

SUBJECT: Recommended DoD Homosexual Policy

Reference: OSD Working Group memorandum, 8 June 1993, "Recommended DoD Homosexual Policy Outline"

On 8 June, we forwarded a recommended policy outline (reference) describing, in our judgement, the only option that complies with the President's direction to end discrimination while maintaining high standards of combat effectiveness and unit cohesion. The attachment provides a more in-depth explanation of the policy detailing the process and explaining the findings and conclusions that led to our recommendation.

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Attachment

OFFICE OF THE SECRETARY OF DEFENSE

SUMMARY REPORT OF THE MILITARY WORKING GROUP

1130 1 JULY 1993

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I. BACKGROUND

A. Guidance

1. On 29 January 1993, the President directed the Secretary of Defense to develop a policy "ending discrimination on the basis of sexual orientation in determining who may serve in the Armed Forces of the United States." The President further directed that the policy be implemented in a manner that is "practical, realistic, and consistent with the high standards of combat effectiveness and unit cohesion our Armed Forces must maintain."

2. On 5 April 1993, the Secretary of Defense directed that a Military Working Group (MWG) be formed to develop and assess alternative policy options to meet the President's requirements.

B. Perspective in formulating this policy. Although the all volunteer military is drawn from civilian society, and generally reflects society's norms, the military institution differs in several important ways. These differences were an essential part of MWG's perspective in formulating this policy.

1. Military mission. Ultimately, the military's mission is to fight and win the nation's wars.

a. The "terms of employment" for an individual servicemember include the real possibility that he or she will be called upon to make the ultimate sacrifice in service to our country. For military leaders, the moral imperative is to accomplish the mission with the least loss of life possible. Accordingly, any change to the military institution must be weighed in light of this responsibility.

b. Similarly, there is no "right to serve" in the Armed Forces. Military service is clearly a privilege afforded only to those who are qualified. There are many features that are disqualifying, such as height, weight, prior conduct record, membership in groups with certain objectives, or mental category. These disqualifying factors are directly related to combat effectiveness and apply whether the force is all-volunteer or conscript.

2. Institutional values. Values are important to any institution, but they

are critical to the military of a democratic nation.

a. The nation calls upon its military to be prepared to kill and destroy -- acts which, in any other context, would be immoral. The shared moral values of the institution -- the collective sense of right and wrong -- provide the foundation which ensures that license will not be abused. This foundation is the essential difference between a professional armed force and a mercenary force. It also provides to individual servicemembers the moral basis for personal service, commitment, and sacrifice in a profession which is demanding in the extreme.

b. As citizen soldiers, military members bring their values with them when they enter the Service. Whether based on moral, religious, cultural, or ethical considerations, those values and beliefs are often strongly held and not amenable to change. While we indoctrinate and train recruits, leadership and discipline cannot -- and generally should not -- attempt to counter the basic values which parents and society have taught. Indeed, efforts to do so will likely prove counter-productive.

3. *Military environment.* Military operations are team operations -- units win wars, not individuals.

a. The rights and needs of the group are emphasized while individual rights and needs are often set aside or sacrificed for military necessity. For example, if military members aren't satisfied with the conditions of their environment, they have no right to quit and, in fact, are subject to prosecution if they do. Similarly, members of the military often are not able to separate their private lives from their working environment. They may be required to work, eat, recreate, sleep, and bathe in cramped spaces for prolonged periods of time, sometimes in the most remote parts of the world. Indeed, separation of the sexes is often the only concession to privacy.

b. In the short term, the military is facing a number of issues -- budget reductions, early retirements, reorganizations, health care worries, base closures, reductions in force -- that have had a severe negative impact on morale. Any change in policy which would further exacerbate this "misery squeeze" must be carefully weighed.

II. PROCESS

A. Composition and organization. The MWG, composed of a general or flag officer from each Service and a support staff of approximately 50 officers, enlisted personnel, and civilian employees convened on 6 April 1993. To facilitate examination of various options, the staff was organized into four functional panels: military operations, service life, personnel policy, and legal.

B. Policy boundaries. The MWG worked within specific limitations which were confirmed with the Office of the Secretary of Defense. Returning to the pre-29 January 1993 policy of "asking the question" was not an option; nor was changing the Uniform Code of Military Justice. These limitations defined the boundaries within which the MWG developed its recommended options.

C. Deliberations. Fairness and objectivity were major aims of the MWG's process. In pursuit of those aims, the MWG met with individuals and groups holding a broad spectrum of views on the subject. This included meetings with uniformed and civilian experts from inside and outside the Department of Defense (DoD), including the soldiers, sailors, airmen, Marines, and Coast Guardsmen who would be most affected by the policy. To broaden understanding of the issue, the MWG also compared experiences of the militaries of other countries, researched available literature, and performed statistical analyses of military separation data obtained from the Services.

D. Results. Several policy options were developed and assessed. After extensive review and consultation, the MWG ultimately focused on a single policy recommendation and a plan to implement that policy. This policy, discussed in detail below, meets the President's guidance, maintains combat effectiveness, and is sustainable for the foreseeable future.

E. Definitions. The public debate over homosexuals in the military has often been further confused by a lack of a common usage of terms. For clarity, the MWG used the following definitions:

1. Bisexual. A person who engages in, desires to engage in, or intends to engage in both homosexual and heterosexual acts. (DoDDir 1332.14 of 28 January 1982)

2. *Homosexual.* A person, regardless of sex, who engages in, desires to engage in, or intends to engage in homosexual acts. (DoDDir 1332.14 of 28 January 1982)

3. *Homosexual act.* Bodily contact, actively undertaken or passively permitted, between members of the same sex for the purpose of satisfying sexual desires. (DoDDir 1332.14 of 28 January 1982) (This includes sodomy and acts other than sodomy, such as kissing and dancing between members of the same sex for the purpose of satisfying sexual desires.)

4. *Homosexual conduct.* Evidenced by homosexual acts and attempts or solicitations to engage in such acts, statements by a member that he or she is homosexual or bisexual, or homosexual marriage or attempted homosexual marriage. (OSD MWG)

5. *Homosexual marriage.* When a member has married, or attempted to marry, a person he or she knows to be of the same biological sex (as evidenced by external anatomy). (OSD MWG)

6. *Homosexual statement.* The member has stated that he or she is homosexual or bisexual. (DoDDir 1332.14 of 28 January 1982)

7. *Homosexuality.* The quality, condition, or fact of being a homosexual. (OSD MWG)

8. *Sexual orientation.* A sexual attraction to individuals of a particular gender. (OSD MWG)

III. FINDINGS

Following extensive review, the MWG made the following findings:

A. Combat effectiveness. The Armed Forces of the United States serve an important role in our society by furthering our national interests abroad, defending our borders, and protecting the American way of life. To accomplish this unique mission, the military must be fully combat effective. Combat effectiveness is the *sine qua non* of any armed force and any prospective change must be assessed first and foremost in light of its effect on the military's ability to fight. High combat effectiveness embodies a synergistic mix that can be best expressed as the product of unit cohesion and readiness.

1. Unit cohesion. Unit cohesion encompasses a number of factors which, although often intangible, are fundamental to combat effectiveness. These include:

a. Bonding. The essence of unit cohesion is the bonding between members of a unit which holds them together, sustains their will to support each other, and enables them to fight together under the stress and chaos of war. The MWG found that the presence of open homosexuals in a unit would, in general, polarize and fragment the unit and destroy the bonding and singleness of purpose required for effective military operations. This phenomenon occurs whether or not homosexual acts are involved. By simply stating that he or she is a homosexual, the individual becomes isolated from the group and combat effectiveness suffers.

b. Leadership. In addition to tactical and technical competency, effective leadership depends on mutual respect, fairness, and concern for the well-being of subordinates. If the values and lifestyle of a leader are perceived as contrary to those of the unit, the leader will be, at best, ineffective. That ineffectiveness would be further undermined by perceptions of unfairness or fraternization. The MWG found it would be extremely difficult for an open homosexual to exercise authority or serve effectively as a leader in the Armed Forces of the United States.

c. Good order and discipline. Good order and discipline refers to behavior based on respect for authority, other servicemembers, established laws, and regulations and is critical for the effectiveness of leadership and the ability of the unit to carry out its mission. Information presented to the

MWG clearly indicated that the introduction of individuals identified as homosexuals into the military would severely undermine good order and discipline. Moral and ethical beliefs of individuals would be brought into open conflict. Leadership priorities would, of necessity, be reoriented from training for combat to preventing internal discord. Additionally, the military would be perceived as "turning a blind eye" to conduct proscribed by the Uniform Code of Military Justice and regulations, thereby undermining the very basis for good order and discipline.

d. Privacy. Sexual orientation alone is, and should remain, a personal and private matter. However, once an individual's homosexual orientation becomes known, privacy becomes a significant issue. Military members give up many rights -- including the right to free association -- upon joining the military. When deployed on ships or overseas, members often work, eat, relax, bathe, and sleep together in close proximity 24 hours a day. Further, the space individuals can call their own -- their personal sanctuary -- may be only slightly larger than a coffin. For many members, the presence of openly homosexual individuals in that environment constitutes a major and unacceptable invasion of what little privacy remains.

e. Morale. Lifting the ban on homosexuals serving in the military would be perceived by many servicemembers as the imposition of a political agenda by a small group -- an agenda which is seen as having no military necessity and as being, in fact, destructive to the finest fighting force in the world. Morale would suffer accordingly.

f. Core values. The core values of the military profession would be seen by many to have changed fundamentally if homosexuals were allowed to serve. This would undermine institutional loyalty and the moral basis for service, sacrifice, and commitment for those members.

2. *Readiness.* Readiness includes traditional hardware areas such as technology, equipment, and spare parts as well as the training, education, and fitness of quality personnel. The presence of homosexuals in the military would impact readiness in several ways.

a. Medical. The readiness of the military to deploy and perform its combat mission is directly linked to the medical well-being of the force. The homosexual lifestyle has been clearly documented as being unhealthy. Due to their sexual practices, active male homosexuals in the military could be expected to bring an increased incidence of sexually transmitted diseases and other diseases spread by close personal contact. Additionally, the association of the homosexual lifestyle as a high risk behavior in contracting

AIDS could create the perception of an "enemy within" which has the potential to harm not only other servicemembers, but family members as well.

b. Recruiting. Open homosexuality in the military would likely reduce the propensity of many young men and women to enlist due to parental concerns, peer pressure, and a military image that would be tarnished in the eyes of much of the population from which we recruit.

c. Retention. Discharges for homosexual conduct account for only about one-third of one percent of all United States military discharges. Conversely, recent surveys indicate a significant number of servicemembers say they would not reenlist if open homosexuals were allowed to serve. These views were supported by military personnel who appeared before the MWG. Of note, the members most likely to leave the service would be those with the best options for employment elsewhere -- i.e., the most skilled -- and those with strong moral beliefs.

3. *All homosexuality is incompatible with military service.* The effect on combat effectiveness is not limited to known homosexuals.

a. Even if officially unknown, individuals who engage in homosexual conduct can undermine combat effectiveness through, for example, high risk behavior and the formation of "sub-cultures" outside the chain of command. Further, they may not remain unknown over the course of several years of an enlistment or for a full military career. For example, an "unknown" homosexual can become "known" overnight as a result of a police blotter entry or any other incident by which his or her homosexuality becomes officially known. The resultant effect on readiness can thus manifest itself quickly and without warning.

b. Currently unknown and non-practicing homosexuals are also cause for concern. Homosexual activist groups argue that the productivity of individual homosexuals is reduced by virtue of having to hide their true orientation. While the immediate impact on combat effectiveness for those individuals is limited, it nonetheless exists. Further, by definition, even non-practicing homosexuals either intend to engage in homosexual acts or desire to engage in homosexual acts. Some may remain celibate for a time, but it is reasonable to presume that, over a period of years, many will engage in homosexual conduct.

c. The salient point is that what the military doesn't know can -- and over time will -- negatively impact combat effectiveness. While the

immediate effect on combat readiness varies depending on whether a homosexual is known or unknown, and whether or not the servicemember engages in homosexual conduct, it is nonetheless true that all homosexuality is incompatible with military service and has some measure of negative impact.

B. Practical considerations. In addition to the direct effects on combat effectiveness described above, a number of practical considerations were examined in assessing policy options.

1. Longevity of the policy. One of the tests for an effective policy is that it withstand the test of time.

a. A key element is the likelihood of surviving challenge in the courts. A central finding of the MWG is that statements that one is a homosexual are inextricably linked to homosexual acts. To suggest otherwise is contrary to logic, MWG research, and the publicly expressed view of homosexual advocates. Authorities on military law expressed concern that drawing an artificial distinction between homosexual statements and homosexual acts would undercut the legal precedent upholding the military's homosexual policy. Conversely, a policy which correctly includes as its underlying premise the linkage between homosexual statements and homosexual acts can draw from established precedent and is therefore likely to endure.

b. Any policy that condones homosexual conduct would require congressional action to change the Uniform Code of Military Justice. Failure to do so would establish an untenable situation, creating a perceived conflict between stated policy and military law. This would, in turn, create leadership and legal problems and ultimately would have to be resolved.

2. Personnel policies. Military personnel policies are designed by necessity to manage large groups or categories of people, as opposed to individuals, for the purpose of achieving maximum combat effectiveness. During its deliberations, the MWG found that current DoD policy, directives, and regulations regarding homosexuality generally are not well understood.

a. Accessions. The questions formerly asked during the accession process regarding an applicant's sexual orientation appear to have been ineffective either in deterring homosexuals from entering the military or in articulating DoD policy on homosexuality.

b. Assignments. The issue of assignment restrictions poses a particular dilemma. On the one hand, there are significant problems with

overall combat effectiveness associated with assigning open homosexuals to units that require higher degrees of cohesion (e.g., combat units, special forces) or close quarters berthing. On the other hand, restricting their assignments would cause resentment among those who must serve in their place while tending to concentrate open homosexuals into a narrow selection of skill fields. Since assignment to combat skills and combatant vessels is career enhancing, excluding homosexuals from these duties would inhibit their promotion and advancement opportunities and bring a new set of problems.

c. Berthing/billeting. The presence of known homosexuals in a unit will create tension which may require them to be berthed/billeted and segregated from the remainder of the unit in order to maintain good order and discipline. This would entail additional and unbudgeted costs. On the other hand, segregating certain members of the group will isolate those individuals, possibly highlighting them as a special class, and further degrade unit cohesion. Additionally, there are situations where separate berthing/billeting -- such as aboard ships -- is not practical at any cost.

3. Investigations

a. DoD has no written, uniform policy guidelines for investigating cases involving allegations of homosexuality. This lack of policy may have contributed to a misperception that the military's investigative agencies conduct "witch hunts" to weed out suspected homosexuals.

b. Commanders must have the discretion to inquire and investigate when there is credible information of misconduct or basis for discharge. However, a balance must be struck. While servicemembers set aside certain individual rights while they serve, they still retain freedom from unwarranted intrusion into their private lives.

4. Military family issues. Service life is all encompassing. While spouses and children obviously do not serve in the Armed Forces, military policies and personnel touch every aspect of family life. Servicemembers, both single and married, are often involved as leaders in military youth activities -- for example, scouting, little league, church youth groups, and social clubs. Indeed, most Morale, Welfare, and Recreation programs rely almost exclusively on these volunteers. Many military families would object to the participation of open homosexuals in these programs -- programs to which they entrust their children. Additionally, family members are worried about the same issues that concern their military sponsors -- such as, encumbered privacy during deployments, medical risks, and the breakdown

of the unit -- because they are perceived as a threat to their loved ones.

5. *Common misperceptions concerning homosexuals and the military*

a. Foreign militaries

(1) The policy and practice of foreign militaries regarding homosexuals actively serving do not always match. In countries where policies are "accepting," practice typically involves exclusion of homosexuals for medical/psychological reasons. Even where policy and law allow homosexuals to serve, few servicemembers openly declare their homosexuality due to fears of baiting, bashing, and negative effects to their careers.

(2) Extended deployments and berthing/billeting privacy are not significant issues for most foreign militaries. Additionally, no country has as high a proportion of its servicemembers billeted/berthed together on military installations and deployed aboard ships or overseas at any given time as does the United States. Most importantly, no other country has the global responsibilities, operational tempo, or worldwide deployment commitments of the Armed Forces of the United States.

b. Police/Fire departments. Parallels cannot be accurately drawn between the experiences of police and fire departments and the Armed Forces. While there are some organizational similarities, there are also some very fundamental differences in the areas of mission and related training, deployments, work environment, authority of the commander over subordinates, living conditions, and personal privacy.

c. Discharge and discipline of homosexuals in the Armed Forces. Incorrect perceptions exist that the military discharges large numbers of personnel for homosexuality and that most of those discharges are for reasons of homosexual "status" only -- i.e., statements alone that one is a homosexual, with no homosexual acts involved. Additionally, some believe the military prosecutes homosexual sodomy cases but does not prosecute heterosexual sodomy cases.

(1) Analysis of Armed Forces separations over the four-year period of fiscal years 1989 through 1992 reveals:

(a) Only one-third of one percent (0.3 percent) of all separations were for homosexuality.

(b) Of those discharged for administrative or punitive reasons, only 1.5 percent were for homosexuality.

(c) Drug and alcohol abuse discharges were nine times greater than those for homosexuality. Overweight discharges were five times greater.

(d) Of all discharges for homosexuality, at least 79 percent clearly involved homosexual conduct. There was insufficient documentation to determine whether conduct was involved in the remaining 21 percent.

(2) Similarly, a review of 1,141 military courts-martial involving Article 125 (sodomy) indicated that heterosexual sodomy cases outnumbered homosexual sodomy cases by a 4 to 1 ratio.

IV. CONCLUSIONS

After extensive research and prolonged deliberations, the MWG concluded the following:

A. Since it is impossible to determine an individual's sexual orientation unless he or she reveals it, sexual orientation alone is a personal and private matter.

B. Homosexuality is incompatible with military service. The presence in the military of individuals identified as homosexuals would have a significantly adverse effect on both unit cohesion and the readiness of the force -- the key ingredients of combat effectiveness. If identified homosexuals are allowed to serve, they will compromise the high standards of combat effectiveness which must be maintained, impacting on the ability of the Armed Forces to perform its mission.

C. For practical reasons, servicemembers should be discharged only when their homosexuality is manifested by objective criteria -- homosexual acts, homosexual statements, or homosexual marriages.

D. Applicants for military service should be clearly advised of the military's policy regarding homosexuals prior to their entering active duty. Specifically, applicants should be briefed and acknowledge in writing that they understand: (1) homosexuality is incompatible with military service; (2) they may be denied enlistment or separated if they have engaged in homosexual conduct (acts, statements, or marriage); or (3) they are not required to reveal their sexual orientation, even if asked, but if they do, it is of their own free will and can be used as a basis for separation from the Armed Forces.

E. A single, clear investigative policy should be adopted to provide uniform guidance to the Services for conducting inquiries and investigations into allegations of homosexual conduct.

F. All serving members should be educated on the military's policy on homosexuals. This education should be factual in nature and should not include sensitivity training or attempt to change deeply held moral, ethical, or religious values.

V. THE RECOMMENDED POLICY

A. Overview. After extensive research and assessment of several options, the MWG submitted the following policy for consideration by the Secretary of Defense on 8 June 1993. In the judgement of the MWG, the policy represented the only option which complied with the President's guidance to end discrimination while maintaining high standards of combat effectiveness and unit cohesion.

B. Key policy features

1. Sexual orientation will be considered a personal and private matter. The Armed Forces won't ask and servicemembers will not be required to reveal their sexual orientation.

2. The presence in the Armed Forces of persons who engage in homosexual acts, who state they are homosexual or bisexual, or marry or who attempt to marry persons of the same gender remains inconsistent with the requirement to maintain high standards of combat effectiveness and unit cohesion.

3. Sexual orientation alone is not a bar to service entry or continued service unless manifested by homosexual acts, statements, or marriages.

4. Neither commander's inquiries (normally for minor offenses) nor military criminal law enforcement investigations (normally for criminal violations) will be conducted absent credible information. Commanders will continue to initiate inquiries or investigations, as deemed necessary, when credible information that a basis for discharge or disciplinary action exists.

5. Servicemembers will be discharged if they are found to have engaged in homosexual conduct.

6. An education plan will be developed to inform servicemembers, commanders, and military investigators about this policy so as to reinforce the principle that all service-members can serve without fear of unwarranted intrusion into their personal lives.

C. Discussion of the policy

1. Military personnel policies are designed by necessity to manage large groups or categories of people for the purpose of achieving maximum combat effectiveness. The basis for our personnel policy regarding homosexuals has been and remains that homosexuality is incompatible with service in the Armed Forces.

2. For practical reasons, we implement that policy by discharging servicemembers only when their homosexuality is manifested by objective criteria -- homosexual acts, statements, or marriage. As a practical result of the implementation of this policy, homosexuals who keep their sexual orientation private have served and will continue to serve.

3. While maintaining the *de jure* basis of the previous policy, this policy acknowledges the *de facto* situation that some homosexuals have served, and presumably will continue to serve, in the Armed Forces under the unique constraints of military life. These constraints require members of the Armed Forces to keep certain aspects of their personal life private for the benefit of the group.

D. Implementation

1. Accessions policy. Applicants for service in the Armed Forces will not be required to declare their sexual orientation or answer questions about their orientation. They will be briefed on departmental policies governing conduct proscribed for members of the Armed Forces. All applicants will sign a statement acknowledging they understand these policies. Additionally, homosexual behavior will no longer be listed as a mental disorder in the DoD Physical Standards directive.

2. Investigative policy. Commanders may initiate investigations or inquiries into homosexual conduct as defined by DoD policy. However, no investigations or inquiries will be conducted solely to establish an individual's sexual orientation, nor will servicemembers be required to answer questions concerning their sexual orientation. This provision does not create a protected class. Acknowledgement by a member that he or she is a homosexual -- even in reply to a question asked in error -- continues to be a basis for separation. No investigations or inquiries will be conducted absent credible information of the commission of a crime or basis for discharge or disciplinary action. Military investigative agencies, at the direction of a commander, may investigate misconduct and violations of the Uniform Code of Military Justice. Investigations will not go beyond establishing the

elements of the offense or basis for discharge. There will be no stake-outs, sting operations, or round-ups absent specific allegations of proscribed conduct.

3. *Discharge policy.* Homosexual conduct is inconsistent with the high standards of combat effectiveness and unit cohesion our Armed Forces must maintain. Servicemembers will be discharged if they engage in homosexual conduct. Homosexual conduct is evidenced by any act involving bodily contact, actively undertaken or passively permitted, between members of the same sex for the purpose of sexual gratification, and attempts or solicitations to engage in such acts; a statement by the member that he or she is a homosexual or bisexual; or homosexual marriage or attempted homosexual marriage. Normally, administrative separations involving homosexual conduct will be under honorable conditions, unless there are aggravating circumstances -- such as acts with a minor.

4. *Education policy.* Each Service will provide training to their personnel, at every level, to explain the new policy regarding homosexuals. The DoD will provide an education plan for the Services to use as a guideline in their separate training programs. The education package will focus on the changes to the DoD policy and will not be an attempt to change any deeply held religious and ethical beliefs; that is, sensitivity training.