

Department of Defense

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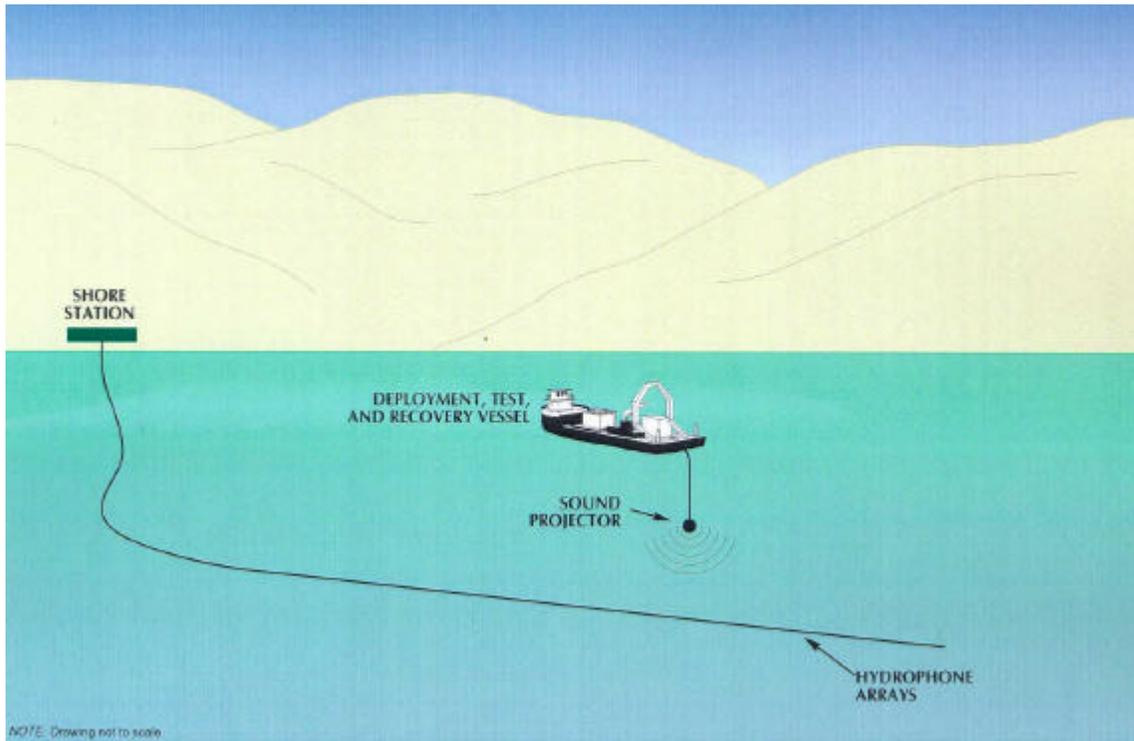
Finding Of No Significant Impact For The Advanced Deployable System Program Definition And Risk Reduction Phase

Pursuant to section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality regulations (40 CFR Parts 1500-1508) implementing the procedural provisions of NEPA, the Department of the Navy gives notice that an Environmental Assessment (EA) has been prepared and that an Environmental Impact Statement is not required for the performance of the Program Definition and Risk Reduction Phase for the Advanced Deployable System (ADS) off the West Coast, USA. Furthermore, this EA satisfies the requirements set forth in Executive Order 12114, Environmental Effects Abroad of Major Federal Actions.

The proposed action will evaluate the capability and performance of ADS by conducting four ocean tests: the Multinode test (Test 1); Development Test-ID (Test 2); the Integrated Deployment Test (Test 3); and the All Optical Deployable System test (Test 4). The proposed test site is Southern California, the area between Point Conception and the Mexican border. ADS consists of sensors connected by cables placed on the ocean floor designed to "listen" to sounds produced by vessels operating in shallow waters. The Navy proposes to use ADS to help detect underwater and surface marine vessel activity.

The proposed tests include:

- the establishment of a temporary land based shore station, at Marine Corps Base (MCB) Camp Pendleton, to be used for receiving, processing, displaying, and storing data
- exercising shipboard handling and deployment systems
- deploying cables and passive hydrophone arrays to the sea floor
- deploying a junction box on the sea floor and deploying a cable from the junction box to the shore station (which would require some onshore trenching activities)
- conducting acoustic performance tests
- recovering all equipment



Although ADS is a passive acoustic system, it is necessary to produce pulsed and continuous sound sources during the ocean tests to evaluate ADS capabilities. Two different active acoustic methods are proposed: a towed sound source and a simple system involving the implosion of light bulbs. During the four separate tests, a maximum of 1344 hours of introduced sound would be emitted from a towed sound source over a period of 3 years. The pulsed sound source transmissions will be at a frequency range between 20-1000 Hz and at source level range of 120-175 dB. Continuous sound source levels will be at a frequency range between 20-1000 Hz and at source level range of 130-170 dB. A maximum of 192 light bulbs will be used in support of these tests.

Alternatives to the proposed ADS ocean tests include alternative test sites and the No-Action Alternative. System operational parameters were analyzed to determine reasonable site locations for conducting the ADS ocean tests. The two locations that satisfied all required operational criteria and could support a shore station site are analyzed in the EA. These two locations consist of the proposed ADS ocean test site, located within Southern California, and the alternative ADS ocean test site, located within the Pacific Northwest. Southern California is the preferred location since there is a lower threat from the fishing industry and less potential for periods of heavy weather. In addition, the shore station will be located on a military installation in a secured area, whereas portions of the Pacific Northwest alternative would be located on a public beach and in a private facility. Under the No-Action Alternative, the proposed action would not be implemented and the purpose and need for ADS acquisition approval would not be met.

The key issue identified during the preparation of this EA was the potential for acoustic impacts on fish and marine mammals. However, the analysis of potential acoustic impacts demonstrated that significant impacts on fish and marine mammals would not occur as a result of implementation of the proposed ADS ocean tests.

The National Research Council (NRC) reported that National Oceanic and Atmospheric Administration/[National Marine Fisheries Service](#) (NOAA/NMFS) recommended (on an interim basis) the use of sound source levels 80 to 100 dB above absolute hearing threshold as harassment levels based on annoyance or Temporary Threshold Shift (TTS). Absolute hearing thresholds for odontocetes and pinnipeds in the band of sensitive hearing tend to fall in the range 40 to 80 dB (re 1 μ Pa), consistent with the lowest observed ambient noise levels in those bands. There are no measurements of hearing sensitivities for mysticetes, but for the low

band (below 500 Hz), noise band levels in the quietest locations generally exceed 80 dB. Based upon the NOAA/NMFS recommendation, the harassment thresholds for mysticetes would then fall in the range from about 160 dB to 180 dB (re 1 μ Pa), depending on species, frequency, duration, waveform, etc. NMFS is re-examining sound pressure level thresholds in the context of the definition of harassment. For this EA, the Navy will take the conservative approach of mitigating to the range at which the level is estimated to be 120 dB or less for continuous sound and 160 dB or less for pulsed sound. In this case, the ADS program can meet the testing requirements while mitigating to these very conservative sound levels.

Mitigation measures for marine mammals were established based on predicted received sound levels relative to the distance from the sound sources. The mitigation measures have been incorporated into the ADS ocean test program to minimize any potential for acoustic impacts on marine mammals.



For mysticetes (baleen whales), mitigation measures will minimize the possibility that these animals will be exposed to a continuous sound source greater than 120 dB (received level) or a pulsed sound source greater than 160 dB (received

level).

Because pinnipeds (seals and sea lions) and odontocetes (toothed whales: dolphins, porpoises, etc.) do not have good hearing below 1 kHz, continuous sound source transmissions between 140 and 170 dB re 1 μ Pa-m would continue unless pinnipeds and/or odontocetes remain within 1,050 ft (320 m) of the sound source for periods greater than one-half hour.

For the proposed ADS ocean tests, two types of visual searches for marine mammals would be conducted: (1) a *ship's watch* by the ship's crew, and (2) a *dedicated watch* by at least two personnel specifically trained in marine mammal identification. A ship's watch would begin at least 20 minutes prior to and continue through all pulse sound source transmissions. A ship's watch would also be used for continuous sound source transmissions not greater than 140 dB re 1 μ Pa-m.

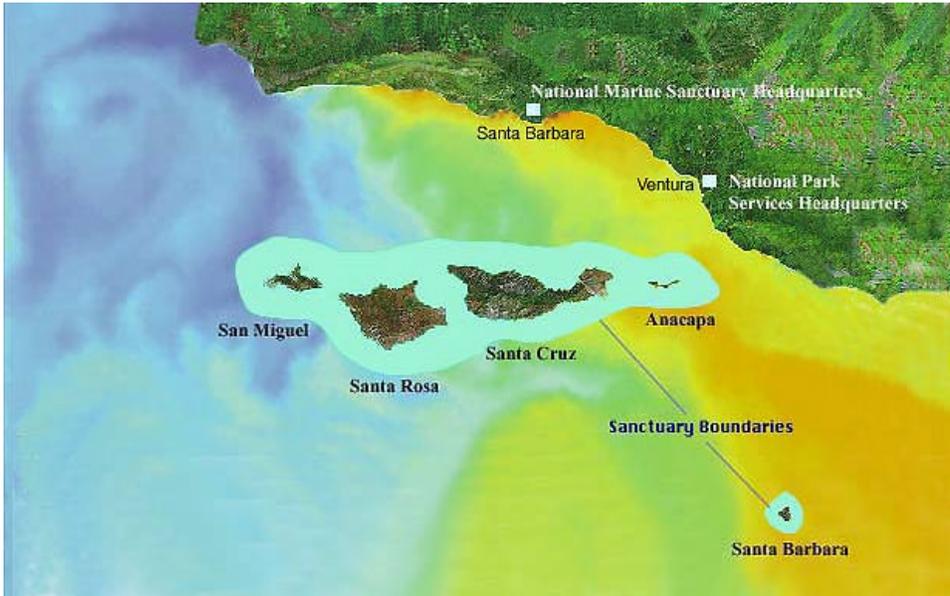
Continuous sound source transmission between 140 to 170 dB re 1 μ Pa-m would be conducted only during daylight hours and when visibility is not limited by weather conditions (e.g., fog, adverse sea state). A dedicated watch would be implemented for continuous sound source transmissions between 140 and 170 dB re 1 μ Pa-m.

At the start of sound source transmission, the transmission level would be increased gradually or ramped-up from an overall level less than or equal to 140 dB re 1 μ Pa-m to the desired operating level, at a rate not exceeding 6 dB per minute.

Transmissions would be curtailed if: 1) any marine mammal is seen within 33 feet (ft) (10 meters (m)) of the sound source during any acoustic transmissions, 2) mysticetes are sighted within the 120 dB contour during continuous sound source transmissions, or 3) pinnipeds or odontocetes remain within 1,050 ft (320m) of the sound source for more than 30 minutes when the continuous sound source transmissions are between 140-170 dB re 1 μ Pa-m.

National Marine Fisheries Service has concurred that, with the implementation of mitigation measures, the ADS ocean tests would have no adverse effect on marine species protected under the Endangered Species Act and that obtaining an incidental harassment authorization under the Marine Mammal Protection Act was not recommended due to the low potential for take by harassment.

The scientific literature on acoustic impacts to fish indicates that no significant impacts would occur with source levels below 180 dB re 1 μ Pa; therefore, no significant impacts to fish would result from active acoustic ADS testing.



Recreational SCUBA diver acoustic exposure potential is avoided with the implementation of the following measures which ensure that no active sound source transmissions will occur: in waters 200 ft (61 m) or less in depth; if divers or dive flags are observed within 0.5 mile (approximately 1 km) of the test vessel; within 3 nm around San Clemente Island, Santa Catalina Island, or San Nicolas Island; and within 1 nm boundary around the existing 6 nm [Channel Islands National Marine Sanctuary](#).

In order to avoid impacts to terrestrial threatened and endangered species, all activities associated with the trenching and the placement of the shore landing cable would occur outside of the western snowy plover and California least tern breeding seasons (1 March – 15 September). If any repairs are needed to the buried shore landing cable during the plover breeding season, all activities would be coordinated with MCB Camp Pendleton Environmental Security Personnel and the U.S. Fish and Wildlife Service (USFWS). USFWS has concurred that with the implementation of the mitigation measures, no adverse effect would occur to the western snowy plover or California least tern.

To install the cable at the shore station, approximately 0.01 acre of unconsolidated beach sand would be trenched and back-filled. The total volume of trenched material would be approximately 111 yd³ (85 m³) with 89 yd³ (68 m³) being trenched through the beach and 22 yd³ (17 m³) in the tidal zone. Trenching across the beach would occur at low tide with calm surf to minimize impacts to water quality. Army Corps of Engineers authorization and Regional Water Quality Control Board certification will be obtained prior to initiation of construction.

The proposed ADS tests and establishment of the proposed shore station are not intrusive and have been designed to minimize environmental impacts. No significant impacts have been identified. It is highly unlikely that any marine mammals would become entangled with the single string of cables that makes up the system. Due to the limited area of disturbance of a cable, no significant impacts to marine biology would result. No significant impacts to terrestrial biological resources would result due to the temporary shore station. No federal or state listed species or critical habitats or wetlands (vernal pools) at the shore station site would be impacted by the proposed action.

Air quality analyses for the proposed tests were geographically complex since the study area included Santa Barbara, Ventura, South Coast and San Diego air basins. However, impacts to air quality would not be significant as a result of implementation of the proposed action since emissions are limited to those associated with short term shore facility construction (minor grading and trenching) and the emissions from two test vessels. Emissions subject to Clean Air Act Conformity Rule review were found to be below *de minimis* levels for all criteria pollutants, and were found not to be regionally significant (i.e. greater than 10% of an air basin's emissions budget); therefore emissions are exempt from the requirements of a full conformity determination and a Record of Non-applicability has been signed. Offshore emissions from 2 ocean vessels during 4 tests conducted in a 3 year period were found not to be significant.

With the exception of less than 31 ounces (879 grams) of magnesium iron alloy, all component surfaces with the potential to corrode are either encapsulated, coated with corrosion resistant materials, or have a secondary housing and therefore no significant impacts to water quality or marine sediments would result.

No documented cultural resources are within the area of potential effect at the proposed shore facility. The potential for disturbance to undocumented underwater archaeological resources is minimal, given the limited area of disturbance created during the placement and retrieval of the ADS system. All documented underwater historic properties will be avoided. The California State Historic Preservation Officer has concurred that the proposed action would have no effect on historic properties.

The extent and magnitude of the operation of the test vessels and deployment of the described equipment is consistent with offshore land use in this area. Therefore, the proposed action will not result in significant changes to surface noise, underwater noise, human health, or visual resources. Furthermore, the proposed action is consistent to the maximum extent practicable with the state's Coastal Zone Management Act. A Coastal Consistency Determination has been prepared and will be on the agenda of a future [California Coastal Commission](#) hearing. The proposed action complies with environmental justice objectives since it would not disproportionately affect human health or the environment in low income, minority areas or among disadvantaged populations including children. Potential public safety impacts resulting from the proposed ocean tests would not be significant.

Upon completion of the four tests, the marine environment within the proposed footprint area would remain essentially unchanged from its condition prior to the proposed action. Based upon information gathered during preparation of the EA, the Navy concludes that implementation of the proposed action will not have a significant effect on the environment.

A copy of the Environmental Assessment may be obtained from: [Richard Williamson](#), Office of Congressional & Public Affairs, Space & Naval Warfare Systems Command, San Diego, California 92110-3127 USA; telephone (619) 524-3432.
