

development of maneuver corridors. These corridors, if proposed for addition in the future, will be the subject of a supplemental National Environmental Policy Act document. The MPTR will be located in the southwest sector of the installation and will be used for training by armor, attack helicopter, Infantry Fighting Vehicles, and dismounted infantry units. The MPTR would include a support area, firing area and a target area. The firing area would include stationary, moving and defilade firing positions. The target area would contain stationary and moving targets. Firing points would be oriented to provide northeasterly trajectories into the existing impact area. The MPTR itself would occupy approximately 80 hectares (200 acres) and, including the safety fan, the area involved would total 4,550 hectares (11,250 acres).

Three alternatives in addition to the proposed action were considered—the first (Alternative 2A) includes the construction of the MPTR and two maneuver corridors, another alternative with less development (Alternative 2B), and the no action alternative. Alternative 2B involves the MPTR being located in the northwest sector of Camp Atterbury, with firing points oriented to provide southeasterly trajectories into the impact area, and would involve the development of only the eastern maneuver corridor. The no action alternative considers the continued use of Camp Atterbury without the proposed upgrade.

Two public meetings were conducted near Camp Atterbury, Indiana, on the DEIS after the Notice of Availability was published. After all the comments were compiled and reviewed, responses were prepared to all relevant environmental issues that were raised. These responses to comments and/or any new pertinent information were incorporated into the DEIS to constitute the FEIS.

The ROD was published after the 30-day waiting period on the FEIS that was completed on October 13, 1998.

Copies of the ROD will be mailed to individuals who participated in the public scoping process. Copies will also be sent to Federal, state, regional, and local agencies; interested organizations and agencies; and public libraries. Individuals not currently on the mailing list may obtain a copy by request.

Dated: January 14, 1999.

**Raymond J. Fatz,**

*Deputy Assistant Secretary of the Army, (Environment, Safety and Occupational Health), OASA (I, L&E).*

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## DEPARTMENT OF DEFENSE

### Department of the Army

#### Army Science Board; Notice of Open Meeting

In accordance with Section 10(a)(2) of the Federal Advisory Committee Act (P.L. 92-463), announcement is made of the following Committee Meeting:

*Name of Committee:* Army Science Board (ASB)

*Date of Meeting:* 19 & 20 January 1999

*Time of Meeting:* 0830-1600

*Place:* 2425 Wilson Blvd., Arlington, VA 22201

*Agenda:* The Army Science Board's (ASB) Summer Study Panel on "Enabling Rapid and Decisive Strategic Maneuver for the Army After 2010" will meet for discussions. These meetings will be open to the public. Any interested person may attend, appear before, or file statements with the committee at the time and in the manner permitted by the committee. For further information, please call Jacqueline Ladd at (703) 604-7479.

**Wayne Joyner,**

*Program Support Specialist, Army Science Board.*

[FR Doc. 99-1283 Filed 1-20-99; 8:45 am]

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## DEPARTMENT OF DEFENSE

### Department of the Navy

#### Record of Decision for Shock Testing the Seawolf Submarine

**SUMMARY:** The Department of the Navy (Navy), pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.*; the regulations implementing NEPA issued by the Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) Parts 1500-1508; Navy regulations implementing NEPA procedures (31 CFR 775); and Executive Order 12114, "Environmental Effects Abroad of Major Federal Actions"; hereby announces its selection of the area of the Atlantic Ocean offshore of Mayport Naval Station, Jacksonville, Florida for the SEAWOLF submarine shock test. NEPA sets out the procedures Federal agencies must follow in analyzing environmental impacts of major Federal actions within U.S. territory. Executive Order 12114 sets out the procedures Federal agencies must follow in analyzing environmental impacts of major Federal actions occurring outside U.S. territory in the global commons or within the territory of another nation. The Department of the Navy was the lead agency and the National Marine Fisheries Service

(NMFS) was a cooperating agency for the Environmental Impact Statement (EIS).

The SEAWOLF submarine would be shock tested in a manner consistent with the alternative "Shock Testing The SEAWOLF At An Offshore Location", described in the Final Environmental Impact Statement (FEIS) as the proposed action. The FEIS analyzed in detail two alternative areas offshore of Mayport, Florida and Norfolk, Virginia. The submarine would be subjected to a series of five 10,000 pound explosive charge detonations sometime between April 1, 2000 and September 30, 2000. Testing offshore of Mayport would be conducted between May 1 and September 30, 2000 to minimize the risk to sea turtles which may be more abundant in the Mayport area during April. The series of five detonations would be conducted at a rate of one detonation per week to allow time to perform detailed inspections of the submarine's systems prior to the next detonation.

The two areas were evaluated with respect to operational criteria and environmental impacts. Both were determined to meet all of the Navy's operational requirements. In choosing the Mayport area, Navy determined that while most environmental impacts of shock testing would be similar at both locations, the risk of mortality and injury to marine mammals is about five to seven times lower at Mayport.

The Navy has determined that shock testing in the Mayport area will have the least environmental impact. This Record of Decision leaves the selection of a single primary and two secondary test sites within the Mayport test area to be made based on aerial surveys of marine mammals and turtles done three weeks prior to the shock test. One of these three sites will be selected as the final test site based on marine mammal and turtle surveys performed two to three days before each detonation.

#### Background

The USS SEAWOLF is the first of a new class of submarines being acquired by the Navy. The class consists of three submarines, with the second and third currently under construction. SEAWOLF class submarines are the largest and most capable fast attack submarines in the fleet. Features include reduced acoustic and electromagnetic signatures, improved speed, greater maximum operating depth, greater ordnance capacity, and other technological improvements reflecting the state-of-the-art in submarine design.

Section 2366, Title 10, United States Code (10 U.S.C. 2366), provides that a covered system, such as a submarine, cannot proceed beyond initial production until realistic survivability testing for the system is complete. Realistic survivability testing means testing of the vulnerability of the system in combat by firing munitions likely to be encountered in combat with the system configured for combat. This testing is commonly referred to as "Live Fire Test & Evaluation" (LFT&E). Consistent with 10 U.S.C. 2366, the Navy has established a LFT&E program to complete the survivability testing of SEAWOLF Class submarines. The SEAWOLF LFT&E program includes a ship shock test. A ship shock test is a series of underwater detonations that propagate a shock wave through a ship's hull under deliberate and controlled conditions. Shock tests simulate near misses from underwater explosions similar to those encountered in combat.

The purpose of the project is to shock test the SEAWOLF so that the resultant data can be used to assess the survivability of the submarine. Computer modeling and component testing on machines or in surrogates does not provide adequate information to fully assess the survivability of the submarine. Testing the manned submarine with the appropriate systems operating provides the best information to support an assessment of the survivability of the ship. Shock tests have proven their value as recently as the Persian Gulf War when ships were able to survive battle damage and continue their mission because of ship design, crew training, and survivability lessons learned during previous shock tests.

The SEAWOLF was christened in June 1995 and delivered to the Navy in the summer of 1997. Because of the long series of at-sea testing that must be completed by the lead ship of a class, shock testing did not occur in 1997 as originally planned. Therefore, the Navy rescheduled the shock test for the spring/summer of 2000.

The delay of the SEAWOLF shock test from 1997 to 2000 is addressed in the environmental analysis provided in the FEIS. The impacts identified and the mitigation developed were based on the time of year that the test is conducted, and no impacts were identified that were variable other than seasonally each year. Therefore, the methodology for determining impacts remained valid and the Navy decided to issue the FEIS even though the planned year of the test had changed. During 1997, the Navy conducted additional aerial surveys of the Mayport area to further confirm and

validate the marine mammal and sea turtle population density data obtained during the 1995 aerial surveys. These additional data were incorporated into the FEIS.

To begin the NEPA process, Navy published a Notice of Intent in March 1995 in the **Federal Register** (60 FR 12748) and five newspapers (Washington Post, Virginian Pilot, Florida Times Union, Beaches Leader, and Southeast Georgian), announcing that Navy would prepare an EIS. A 30-day public scoping period was established for identifying issues to be addressed in the Draft Environmental Impact Statement (DEIS). Navy held scoping meetings jointly with NMFS on March 23, 1995 in Silver Spring, Maryland; on March 28, 1995 in Norfolk, Virginia; and on March 29, 1995 in Atlantic Beach, Florida. Written and oral comments were received during the public meetings. All comments were reviewed to ensure that all issues were addressed in the DEIS.

The notice of availability for the DEIS was published in the **Federal Register** (61 FR 30232) on June 14, 1996. Navy distributed the DEIS to Federal, State, and local agencies, elected officials, special interest groups, and interested persons. Navy held public hearings jointly with NMFS to receive written and oral comments on the DEIS on August 19, 1996 in Silver Spring, Maryland; August 20, 1996 in Norfolk, Virginia; and August 21, 1996 in Atlantic Beach, Florida. The public comment period on the DEIS ended on September 17, 1996. Federal, State, and local agencies, and the general public commented on the DEIS. These comments and Navy's responses were incorporated in the FEIS, which was distributed to the public on June 5, 1998, for a review period that concluded on July 6, 1998.

#### **Coordination and Consultation With the NMFS**

The NMFS has two regulatory roles in the SEAWOLF project. First, the NMFS is responsible for administering the Endangered Species Act as it applies to sea turtles and most marine mammals. The DEIS served as the Biological Assessment which the Navy submitted to the NMFS, requesting formal consultation under Section 7 of the Endangered Species Act (ESA), (16 U.S.C. 1531 *et seq.*). The NMFS subsequently issued a Biological Opinion, dated December 12, 1996, which completed the consultation process under ESA.

The NMFS also has a regulatory role under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361 *et seq.*).

When the DEIS was published, the Navy submitted a separate application to the NMFS for an "incidental take authorization" under section 101(a) (5) (A) of the MMPA. The NMFS published a Proposed Rule in the **Federal Register** on August 2, 1996 (61 FR 40377) and participated in joint public hearings with the Navy (see dates above) to receive comments. The Proposed Rule specified mitigation, monitoring, and reporting requirements for the shock test. A Final Rule must be issued by NMFS before shock testing can proceed.

The NMFS was also a cooperating agency with the Navy in preparing the EIS. Because of its regulatory responsibilities under the ESA and the MMPA, the NMFS limited its role in preparation of the EIS to providing review and comment.

#### **Alternatives**

NEPA requires Navy to evaluate a reasonable range of alternatives for implementing a proposed Federal Action. The alternatives evaluated in the FEIS were no-action and shock testing the SEAWOLF at an offshore location. Alternative offshore areas for shock testing were compared from operational and environmental perspectives. A preferred alternative was identified based on these comparisons.

Under the "No Action" alternative, no new activities affecting the physical environment would be conducted to predict the response of SEAWOLF class submarines to underwater detonations. This alternative would avoid all environmental impacts of shock testing. Navy has established an LFT&E program to demonstrate the survivability of SEAWOLF class submarines. The program consists of three major areas that together provide the data necessary to assess the SEAWOLF's survivability: computer modeling and analysis, component and surrogate testing, and a shock test of the entire ship. The SEAWOLF LFT&E program already includes the maximum reasonable amount of computer modeling and component testing. Testing the manned submarine with the appropriate systems operating provides the best information to support an assessment of the survivability of the ship. The "No Action" alternative would prevent the Navy from being able to make the best survivability assessment.

The remaining alternative discussed in the FEIS was the proposed action, to shock test the SEAWOLF at an offshore location. The submarine would be subjected to a series of five 10,000-pound explosive charge detonations. The series of five detonations would be

conducted at a rate of one detonation per week to allow time to perform detailed inspections of the submarine's systems prior to the next detonation. The series of detonations would occur sometime between April 1, and September 30, based on the Navy's operational requirements.

A location on the east coast best meets operational needs as that is where the SEAWOLF will be homeported and where all sea trials will occur. Scheduling the test on the West Coast or in the Gulf of Mexico would increase the time the ship is away from the homeport, complicate or prolong repairs, and further delay deployment. Under Navy Personnel Tempo (PERSTEMPO) regulations, a ship is required to spend a day in homeport for every day it is away from homeport for purposes of crew quality of life and efficiency (OPNAVINST 3000.13A, 21 December 1990). A shock test conducted away from the homeport is typically a 3.5 to 4 month deployment, including time spent having special equipment installed at the shore support facility, completing test runs and training, and conducting the actual shock testing. Scheduling the test away from the East Coast would maximize time spent away from the homeport and minimize the SEAWOLF's availability for deployment as part of fleet resources.

The Navy screened possible East Coast shock testing areas according to operational criteria. Potential areas were first defined as locations having a water depth of 152 m (500 ft) that are within 185 km (100 nmi) of a naval station support facility and a submarine repair facility. This water depth is sufficient to minimize the effect of a bottom reflected pressure wave on the submarine and shallow enough to allow mooring of the operational vessel with the test array. This depth would also permit recovery of the crew and submarine in the unlikely event of a control failure. Other criteria include proximity to an ordnance storage/loading facility and Navy assets (ships and aircraft) necessary to support test needs. There must also be little or no shipping traffic in the area. Finally, calm seas and good visibility are needed for the test.

Five east coast areas were identified that could potentially meet the Navy's operational requirements: Mayport, Florida; Norfolk, Virginia; Groton, Connecticut; Charleston, South Carolina; and Key West, Florida. Charleston was eliminated because of the closure of the Charleston Naval Base under the Base Closure and Realignment (BRAC) process (i.e., facilities and vessels to support the test would not be available). The water depth of 275 m

(900 ft) at the Key West area is too great for the planned shock testing. In addition, the Key West area lacks the industrial base to support submarine repairs or drydocking, and there is no surface vessel homeport nearby that could provide Navy assets (ships and planes) to support the test. Key West was, therefore, eliminated from further consideration.

The FEIS further analyzed Mayport, Norfolk, and Groton according to the operational criteria. The areas were scored against the operational criterion, with Mayport and Norfolk having nearly identical scores, whereas Groton scored substantially lower. Groton scored poorly on criteria for incidence of fog, visibility, and proximity to Navy assets. Mayport, Florida and Norfolk, Virginia were the areas determined to meet all of the Navy's operational criteria and therefore were the focus of detailed environmental analysis in the FEIS.

The FEIS evaluated the Mayport and Norfolk areas with respect to environmental considerations. Possible test sites were first defined as any point along the 152 m (500 ft) depth contour within 185 km (100 nmi) of a naval station support facility and a submarine repair facility. Environmental features near each area were mapped, including marine sanctuaries, artificial reefs, hard-bottom areas, shipwrecks, ocean disposal sites, and critical habitat for endangered or threatened species. Buffer zones were then developed to avoid impacts to these areas and associated biota, excluding portions of the 152 m depth contour. Features such as several shipwrecks, potential hard bottom, and the proposed Norfolk Canyon Marine Sanctuary were excluded from the area of consideration at Norfolk. All points along the 152 m depth contour off Mayport were considered potential shock testing sites.

To supplement historical information and better understand the potential impacts the SEAWOLF shock test might have on marine mammals and turtles, Navy conducted monthly aerial surveys during the six-month period from April through September 1995. These surveys, for both Mayport and Norfolk, were done to assist in determining density and distribution of marine mammals and turtles. Significantly higher numbers of marine mammals were sited off Norfolk. A total of 4,438 individuals representing at least 14 species of marine mammals were seen at the Norfolk area during the 1995 aerial surveys while a total of 1,303 individuals representing at least seven species were seen at Mayport. The total number of sea turtles seen in the two areas was 48 at Norfolk and 138 at

Mayport. During the month of April, 61 turtles were seen at Mayport while 0 were seen at Norfolk, accounting for a large portion of the difference between the two areas. Additional aerial surveys were conducted at Mayport during the five-month period May through September 1997. During the 1997 surveys 1,485 individuals representing at least eight species of marine mammals and 240 sea turtles were seen.

Most environmental impacts of shock testing were determined to be similar at Mayport or Norfolk. However, the two areas differ significantly with respect to potential impacts on marine mammals and sea turtles. The most significant environmental difference between the areas is the much lower risk of impacts to marine mammals at the Mayport area. Using the 1995 survey data from both areas as the most appropriate basis for comparison, the risk of mortality and injury of marine mammals is about 5 to 7 times lower at Mayport than at Norfolk, whereas the risk to sea turtles is about the same at the two areas. This comparison strongly favors Mayport as the preferred alternative. If the 1997 Mayport survey data are compared with the Norfolk 1995 data, the risk of marine mammal mortality and injury would be 3.5 to 5 times lower at Mayport, but the risk to sea turtles would be 2 times lower at Norfolk. This comparison also indicates that Mayport has the lowest overall risk of significant environmental impacts. Considering all components of the physical, biological, and socioeconomic environment, potential impacts would be less at the Mayport area.

Based on the evaluation of criteria, the preferred alternative is to shock test the SEAWOLF submarine offshore of Mayport, Florida. Testing will not occur during the month of April when turtle densities may be higher. This alternative meets the project purpose and need, satisfies operational criteria, and minimizes environmental impacts. The Norfolk area also meets the project purpose and need and satisfies operational criteria; however the density of marine mammals in the area could increase the risk of impacts.

### Environmental Impacts

In the FEIS Navy analyzed the potential impacts of shock testing the SEAWOLF at the Mayport, Florida offshore area. Impact discussion was separated into separate subsections to distinguish between those aspects of the proposed action evaluated under NEPA and those evaluated under Executive Order (EO) 12114. NEPA applies to activities and impacts within U.S. territory, whereas EO 12114 applies to

impacts outside territorial seas. The proposed action includes operations that will occur both within and outside U.S. territory. Shock testing and associated mitigation will occur at least 87 km (47 nmi) offshore at the Mayport area, well outside U.S. territorial seas.

No impacts from the actual test (detonation of explosives) will occur in U.S. territory. The only operations that will occur within territorial limits are shore support activities and vessel and aircraft movements in territorial waters (i.e., transits between the shore base and the offshore shock-testing site). These shore support activities and vessel and aircraft movements are not unusual or extraordinary and are part of the routine operations associated with the existing shore bases. This Record of Decision focuses on the impacts that will likely result from implementing the proposed action, detonation of explosives outside of U.S. territorial seas.

Shore support operations and movement of vessels and aircraft within territorial limits are not unusual or extraordinary and are part of the routine operations associated with the existing shore bases. Under NEPA, impacts of these existing operations on the physical environment, specifically geology and sediments, air quality, and water quality are minimal. Impacts of these existing operations on the biological environment, marine biota, including plankton, pelagic fish, marine mammals, sea turtles, benthic organisms, and seabirds are minimal. Impacts of these existing operations on the socioeconomic environment, commercial and recreational fisheries and ship traffic, are also minimal.

The impacts of detonation of the explosive charge on the physical environment are evaluated under EO 12114. Calculations based on the size of the explosive (4,536 kg or 10,000 lb), the depth of burst (30 m or 100 ft), and the total water depth (152 m or 500 ft) indicate there will be no cratering of the seafloor. The shock wave will reach the seafloor and be reflected from it, but will have no significant impact on bottom structure or form.

The test area is well offshore in an area not classified for priority pollutants under the Clean Air Act. It is estimated that 90% of the gaseous explosion products will become airborne. These products include carbon dioxide, carbon monoxide, ammonia, ethane, propane, hydrogen cyanide, methane, methyl alcohol, formaldehyde, acetylene, and phosphine. Because of the low initial concentrations and rapid dispersion of the explosion products, there will not be any risk to human health or marine life at the test site. 100% of the solid

explosion products and 10% of the gases will remain in the water. All products have predicted concentration levels well below permissible concentrations, indicating no hazard to marine life.

The impacts of detonation of the explosive charge on the biological environment are also evaluated under EO 12114. The impacts are evaluated for several categories of marine life. Plankton would be affected mainly by the physical force of the shock wave from the detonations. No lasting impacts on plankton communities due to cavitation or chemical products are expected. The detonations could have two main effects on pelagic fish. First, fish within a certain radius will be killed or injured by the resulting shock waves. The predicted 10% mortality range for fish (i.e., a distance beyond which at least 90% of fish would survive) ranges from 22 m (73 ft) for non-swimbladder fish to over 914 m (3,000 ft) for some of the small swimbladder fish. A large fish kill is not expected because detonation would be postponed if large schools are observed within 1.85 km (1 nmi) of the detonation point. Secondly, fish at greater distances may react behaviorally to sound impulses from the blast. It is expected that any behavioral responses to low-frequency sounds from the underwater explosions would be short term and reversible.

The detonation of the explosive charge on marine mammals may have two types of potential impacts. First, marine mammals, if they are present and are not detected during pre-test monitoring within about 1.85 km (1 nmi) of the detonation point, may be killed or injured. Second, marine mammals at greater distances [up to 15.7 km (8.5 nmi) for odontocetes and 23.5 km (12.7 nmi) for mysticetes] may experience auditory effects such as temporary threshold shift (TTS). At still greater distances, some marine mammals may hear the detonations and exhibit a momentary, minor behavioral response. Criteria for marine mammal lethality, injury, and harassment were developed through extensive literature review and modeling and were fully discussed in the FEIS.

Because the proposed action may result in mortality, injury, or harassment of marine mammals, the Navy submitted a request for "incidental take" authorization from the NMFS concurrently with the release of the DEIS. The MMPA allows the incidental (but not intentional) taking of marine mammals upon request if the taking will (1) have a negligible impact on the species or stock(s); and (2) not have an

unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses. In response to the Navy's incidental take request, the NMFS published a Proposed Rule in the **Federal Register** on August 2, 1996 (61 FR 40377). A Final Rule must be issued before shock testing can proceed. In addition, because listed (endangered and threatened) species of marine mammals and sea turtles may occur at the Mayport area, formal consultation with the NMFS was required under the ESA. The DEIS served as the Biological Opinion submitted to the NMFS. The NMFS issued a Biological Opinion taking into account the cumulative impacts of all activities potentially affecting listed marine mammal and turtle populations which concluded that, with mitigation included in the proposed action, shock testing is not likely to jeopardize the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitat.

To provide numbers for the incidental take request submitted to the NMFS, it was necessary for Navy to estimate numbers of potentially affected animals. The analysis performed by the Navy deliberately overestimated numbers of affected animals in order to provide an upper bound on potential impacts. The number of marine mammals potentially killed, injured, or harassed as a result of the proposed detonations was estimated using a series of steps and assumptions described in the FEIS. Maximum ranges for mortality, injury, and harassment were defined using criteria developed in the FEIS. The mortality and injury criteria were based on tests conducted with terrestrial mammals, the harassment criterion was based on temporary threshold shift (TTS) in bottlenose dolphins. Mean densities of each species were multiplied by the area of the mortality, injury, and harassment ranges to estimate the number of mammals and turtles affected "without mitigation". The mitigation effectiveness was then estimated for each species, taking into account the probability of detection by aerial and surface observers and passive acoustic monitoring. For mortality and injury, the "without mitigation" numbers for each species were then multiplied by (1 minus mitigation effectiveness), which is the probability of not detecting that species during pre-detonation monitoring. The resulting values are the expected number of undetected animals of each species within the mortality and injury range. For harassment, the "with mitigation" numbers were assumed to

be equal to the "without mitigation" numbers, because only a small proportion of the harassment radius is within the Safety Range.

The criterion by which the mortality range was defined in the FEIS was onset of extensive lung hemorrhage. The range varies depending on mammal weight, with the smallest mammals having the greatest range. The maximum predicted range for a small marine mammal (a calf dolphin) was 1.1 km (0.6 nmi). The FEIS analysis assumed that 100% of the marine mammals within this radius would be killed, even though the probability of mortality from the onset of extensive lung hemorrhage was estimated to be only 1% at the outer edge of this range.

The measure of non-lethal injury used in the FEIS to define the injury range was 50% probability of eardrum rupture. The greatest range, calculated for a mammal at the bottom, was 1.85 km (1 nmi). The FEIS assumed that 100% of marine mammals within this radius would be injured even though the probability of eardrum rupture at the outer edge of this range is only 50% (and less in near-surface waters).

The 1994 amendments to the MMPA defined harassment, but do not define threshold sound levels sufficient to cause it. The NMFS has not formally defined a threshold for harassment, but has cited temporary threshold shift (TTS) as an example (FR 60[104]:28379-28386, 31 May 1995). TTS is a change in the threshold of hearing (the quietest sound that an animal can hear), which could temporarily affect an animal's ability to hear calls, echolocation sounds, and other ambient sounds. In the FEIS, TTS was used as the criterion for acoustic harassment of marine mammals. Based on the results of TTS experiments in bottlenose dolphins, an energy density TTS criterion of 182 dB re  $1\mu\text{Pa}^2\cdot\text{sec}$  was used. Separate ranges were calculated for odontocetes and mysticetes based on their differing sensitivity to low frequencies. For odontocetes, which are "high frequency specialists," all frequencies greater than or equal to 10 Hz were included. The harassment range is predicted to be 15.7 km (8.5 nmi) for odontocetes and 23.5 km (12.7 nmi) for mysticetes.

Detailed calculations of range distances, estimates of marine mammal densities, and mitigation effectiveness can be found in the FEIS. While the Navy does not anticipate any lethal or injurious takes will result from the five-detonation shock test, the theoretical calculations based on the previously described criteria indicate the potential for 1 lethal take, 5 injurious takes, and 1,788 harassment takes of marine

mammals. These numbers have several levels of conservatism built into them. Calculations were done using data from both the 1995 and 1997 surveys with the largest resulting numbers being chosen. The numbers were then compared to the results from the DEIS method of calculation, with the largest numbers again being selected.

There is comparatively little experimental or theoretical data upon which to base mortality and injury ranges for sea turtles. Therefore, the FEIS used the corresponding ranges for marine mammals. While these ranges were based on experiments with mammals, it is reasonable to assume sea turtle lungs and other gas-containing organs would be similarly affected by shock waves. Calculations indicate the maximum potential for 8 mortalities, 30 injuries, and 1,679 harassments. Calculations in the FEIS were done using data from both the 1995 and 1997 surveys with the largest resulting numbers (1997) being chosen. The numbers were then compared to the results from the DEIS method of calculation, with the largest numbers again being selected. Loggerheads and leatherbacks, listed as threatened and endangered respectively, are the two species that may potentially be killed or injured. Loggerheads make up most of the population and are the species most likely to be killed or injured. The three other sea turtle species (green, hawksbill, and Kemp's ridley) are also endangered or threatened, but are primarily inshore species which were not seen during the 1995 or 1997 aerial surveys. Therefore, no mortalities or injuries of these species are expected.

Navy also analyzed the impacts on minority and low-income populations pursuant to Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, reprinted in 42 U.S.C. 4321. The proposed action would not have any adverse impacts on the human population and would not have a disproportionately high effect on any minority or low-income group.

#### Mitigation

Mitigation, as defined by the Council on Environmental Quality, includes measures to minimize impacts by limiting the degree or magnitude of a proposed action and its implementation. The shock test at Mayport includes the following mitigation measures: (1) A schedule shift to avoid high densities of sea turtles; (2) a vessel exclusion zone for operational security; (3) measures to deal with unexploded ordnance in the unlikely event of a misfire, and (4) a

marine mammal and sea turtle mitigation plan to minimize the risk of impacts to these animals.

The schedule shift will allow testing at Mayport only between May 1 and September 30. No testing will occur in April when turtle densities are highest. This mitigation measure is based on the results of aerial surveys conducted between April and September 1995. Based on the 1995 data and the likely concentration of loggerhead turtles in offshore waters prior to nesting season, exclusion of April from the test schedule is considered a reasonable precaution.

An exclusion zone of 9.3 km (5 nmi) radius will be established around the detonation point to exclude all non-test ship, submarine, and aircraft traffic. Any traffic within an 18.5 km (10 nmi) radius will be warned to alter course or will be escorted from the site. Notices to Airmen and Mariners will be published in advance of each test. An immediate HOLD on the test will be ordered if any unauthorized craft enters the exclusion zone and cannot be contacted. The HOLD will continue until the exclusion zone was clear of unauthorized vessels. The size of the exclusion zone is necessary to ensure that commercial ships have no impact on operational security and to allow large vessels sufficient time to change course.

The probability of a charge not detonating during a test is remote. Should a charge fail to explode, the Navy will attempt to identify the problem and detonate the charge (with all marine mammal and sea turtle mitigation measures in place as described below). If these attempts fail, the Navy will recover the explosive and disarm it. Only in case of an extreme emergency or to safeguard human life, will the Navy dispose of the charge at sea. The possibility of disposing the explosive charge at sea is very remote. However, if disposal at sea is necessary, the charge will be disposed in a manner that will not pose a hazard to the public.

A detailed marine mammal and sea turtle mitigation plan has been developed to reduce or eliminate the effects of shock testing on these animals. The plan includes the same type of monitoring and mitigation efforts successfully used during the shock trial of the USS JOHN PAUL JONES in 1994 off the coast of southern California where marine mammal densities are about 25 times higher than at Mayport. The mitigation plan would build upon previous efforts to avoid or reduce potential environmental impacts (i.e., choice of Mayport based on the lower density of marine mammals). The mitigation plan is designed to address

mitigation requirements specified by the NMFS.

The NMFS Biological Opinion included reasonable and prudent measures and terms and conditions to minimize the impact of the take on listed species as a result of the proposed action. The measures include: (1) aerial surveys must be conducted in sea states having conditions no greater than 33–50% whitecaps on the surface and wave height of 2–3 feet; (2) the charge shall not be detonated if visibility is less than 3 nmi; (3) detonations must not occur within 2 nmi of large sargassum rafts or aggregations of jellyfish. If sargassum rafts persist within the safety zone and cannot be avoided, the Navy should attempt to collect hatchlings from observed rafts; (4) the Navy must use satellite telemetry images of sea surface temperature and aerial survey indicators to identify the western wall of the Gulf Stream. Detonations must be confined to waters within the Gulf Stream, no closer than 2 nmi of the western boundary; (5) detonation would be postponed if a Northern Right Whale is sighted within the safety or buffer zone; (6) if listed marine mammals (other than the Northern Right Whale) are detected within the buffer zone and subsequently cannot be detected, sighting and acoustic teams will search the area for 2½ hours before assuming the animal has left the buffer zone; and (7) if during post-detonation monitoring any sea turtles or marine mammals are observed in the safety area immediately after detonation, the Navy must review its pre-detonation monitoring procedures with NMFS prior to the next detonation. To minimize impacts to endangered marine mammals, the Navy should implement all mitigation, monitoring and reporting requirements outlined in the final rule to authorize the taking of a small number of marine mammals incidental to the underwater detonation of conventional explosives in the waters off Mayport (50 CFR 216.161–216.166), in compliance with section 101(a)(5) of the MMPA. Additional requirements may also be specified in a Letter of Authorization issued under these regulations.

Integral to the mitigation plan is the concept of a Safety Range. For the SEAWOLF shock test, a 3.7 km (2 nmi) radius Safety Range will be established around the detonation point. The Safety Range takes into consideration the estimated ranges for various levels of injury and/or mortality associated with detonation of a 4,536 kg (10,000 lb) explosive. Based on analyses presented in the FEIS, the maximum distance for injury (50% probability of eardrum rupture) to a marine mammal or turtle

is 1.85 km or about 1 nmi from the detonation. The 50% eardrum rupture range has been doubled to established a 3.7 km (2 nmi) Safety Range. The probability of eardrum rupture is believed to be less than 10%.

For mitigation monitoring purposes, a 1.85 km (1 nmi) Buffer Zone will be added to the 3.7 km (2 nmi) Safety Range to accommodate the possible movement of marine mammals and turtles toward the Safety Range. Specifically, the area encompassed within a 5.6 km (3 nmi) radius from the detonation point would be monitored in an effort to detect any marine mammals or turtles approaching the 3.7 km (2 nmi) Safety Range.

The mitigation plan includes three components: (1) aerial surveys and monitoring; (2) shipboard monitoring from the operations vessel and the Marine Animal Recovery Team (MART) vessel; and (3) passive acoustic monitoring using the Marine Mammal Acoustic Tracking System (MMATS). Aerial and shipboard monitoring teams would identify and locate cetaceans and turtles on the surface, whereas the acoustic monitoring team would detect and locate calls from surfaced and submerged cetaceans. All mitigation team members will be qualified, experienced professionals. Specific minimum qualifications were outlined in the FEIS.

The mitigation plan consists of three phases: specific test site selection surveys, pre-detonation monitoring, and post-detonation monitoring. The specific test site selection surveys begin three weeks prior to detonation, when an aerial survey will be flown to select one primary and two secondary test sites, based primarily on the lowest relative abundance of marine mammals and turtles. An aerial survey will be conducted at the three sites two to three days prior to each detonation in order to rank the sites by scarcity of marine mammals. Through the comparison of data collected during this survey, the selection of the primary and two secondary sites will be confirmed.

The pre-detonation monitoring will ensure the site is free of visually or acoustically detectable marine mammals, as well as visible sea turtles, large sargassum rafts, large jellyfish concentrations, large schools of fish, and large flocks of seabirds. The morning of a test day, a mitigation team comprised of 12–15 observers, experienced in marine mammal survey or acoustic detection will assist the Lead Scientist in evaluating test site conditions. The Lead Scientist will have the flexibility to move the test site should the mitigation team find

unacceptable levels of marine life in the area. Beginning two and one half hours prior to and up to detonation, the mitigation team will monitor the safety range for the presence of marine mammals and sea turtles or large concentrations of sargassum, jellyfish, fish, or seabirds. The Lead Scientist will have the authority to hold the detonation or recommend moving to one of the secondary sites if the presence of marine life persists within the safety range.

Post-detonation monitoring will be conducted by the MART vessel for 48 hours after each detonation where a subsequent detonation is planned. Aerial and shipboard monitoring are intended to locate and identify any dead or injured animals. The MART vessel will be assisted by the aerial mitigation team for up to three hours per day during the 48-hour period. After the last detonation, monitoring by the aerial team and the MART will continue for seven days to detect any potentially injured or dead animals moving in the predominant direction and speed of the Gulf Stream. Coordination with stranding networks and necropsy specialists will be maintained through the SEAWOLF test period as well as after.

#### **Comment Received on the FEIS**

After the Final Environmental Impact Statement (FEIS) was distributed to the public for a 30-day review period ending on July 6, 1998, the Navy received seven comment letters. One letter came from a regulatory agency, and six from individual citizens. The comments did not raise any new issues concerning the environmental analysis or discuss any mitigation measures other than those addressed in the FEIS. Generally, concern centered on the perception that a better way to accomplish the objectives of this test must exist. However, all alternatives offered had been previously considered.

The U.S. Environmental Protection Agency (EPA) Region Four letter commented on the extensive efforts that will be employed by the Navy to reduce risk to mammals and turtles as well as significant concentrations of other marine biota. EPA further commented that while the mitigation appeared impressive, its efficacy will become apparent only after the first detonation has been evaluated. For that reason, they continue to have some environmental concerns and await with interest the outcome of the test.

Six letters from individuals were also received. All six individuals expressed opposition to the test as currently planned. The letters recommended that

alternative methods, location, or time be chosen for the test. Concerns were also expressed about the impacts to marine life that might occur. These concerns focused on stress, loss of hearing, and loss of life, particularly among endangered species. Each of these concerns is considered and evaluated in the FEIS.

### Regulations Governing the Testing Decision

The proposed action, shock testing the SEAWOLF submarine at an offshore site is consistent with Section 2366, Title 10, United States Code (10 U.S.C. 2366), which states that a covered system, such as a submarine, cannot proceed beyond initial production until realistic survivability testing of the system is completed. Realistic survivability testing means testing for the vulnerability of the system in combat by firing munitions likely to be encountered in combat with the test system configured for combat.

The National Environmental Policy Act (NEPA) of 1969 and Executive Order 12114, "Environmental Effects Abroad of Major Federal Actions" require full evaluation of the impacts resulting from major federal actions. NEPA applies to federal actions within U.S. territory while Executive Order 12114 applies to activities and impacts outside territorial seas. The FEIS was prepared in accordance with NEPA and Executive Order 12114.

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" is intended to identify and address disproportionately high and adverse human health or environmental effects on members of minority or low-income populations. Shock testing and associated mitigation operations will occur well offshore and would result in minor and/or temporary impacts to the test site with no significant direct or indirect impacts on the human population.

The Endangered Species Act (ESA) of 1973 prohibits jeopardizing endangered and threatened species or adversely modifying critical habitats essential to their survival. Section 7 of the Act requires consultation with the NMFS and the U.S. Fish and Wildlife Service (USFWS) to determine whether any endangered or threatened species under their jurisdiction may be affected by the proposed action. No formal consultation with USFWS was required because USFWS determined that there are no species or critical habitat under their jurisdiction that could be affected. Formal consultation with NMFS was completed when the NMFS issued a

Biological Opinion on December 12, 1996.

The Marine Mammal Protection Act (MMPA) of 1972 establishes a national policy designed to protect and conserve marine mammals and their habitat. Section 101(a)(5) of the MMPA allows, upon request, the incidental (but not intentional) taking of marine mammals if certain findings are made and regulations issued. Permission may be granted if the taking will have a negligible impact on the species or stock and not have an unmitigable adverse impact on the availability of the species or stock for subsistence uses. Concurrent with the release of the DEIS, the Navy submitted an incidental small take application to the NMFS. Based on this application, the NMFA published a Proposed Rule on August 2, 1996 (61 FR 40377) and participated in joint public hearings. The Proposed Rule specified take limits as well as mitigation, monitoring and reporting requirements. A Final Rule must be issued before the shock test can proceed.

The Marine Protection, Research and Sanctuaries Act (Ocean Dumping Act) of 1972 makes it illegal for any person to transport material from the U.S. for the purpose of dumping it into ocean waters. The term "dumping" as defined under the Act does not include intentional placement of any device in ocean waters for a purpose other than disposal.

### Conclusion

Shock testing the SEAWOLF submarine in an area offshore of Mayport, Florida is the alternative that best meets the project purpose and need, satisfies operational criteria, and minimizes environmental impacts. Potentially significant direct impacts resulting from the test include mortality, injury, and acoustic harassment of marine mammals and sea turtles. While numbers have been calculated to define the potential lethal, injurious, and harassment take that might occur, it is expected that the mitigation and monitoring program will minimize the risk to marine mammals and sea turtles. Therefore, while the Navy has submitted an application for incidental take as previously discussed, no mortalities or injuries are expected to occur.

The alternative to performing the shock test at an area offshore of Mayport, Florida is to perform the test at an area offshore of Norfolk, Virginia. Most environmental impacts of shock testing were determined to be similar at Mayport or Norfolk. However, the two areas differ significantly with respect to potential impacts on marine mammals

and sea turtles. The most significant environmental difference between the areas is the much lower risk of impacts to marine mammals at the Mayport area. This comparison also indicates that Mayport has the lowest overall risk of significant environmental impacts. Considering all components of the physical, biological, and socioeconomic environment, potential impacts would be less at the Mayport area.

The "No Action" alternative would avoid all environmental impacts of shock testing. It does not, however, support the development of the best assessment of the survivability characteristics of the submarine. For that reason, it was dropped from further consideration.

Accordingly, the Navy selects the area off Mayport, Florida for the shock test of the SEAWOLF submarine. The SEAWOLF submarine would be shock tested in a manner consistent with the requirements stated by the NMFS and the description of the test in the FEIS. However, the Department of Defense Appropriations Act, 1999 (H.R. 4103) deletes the funding necessary to support shock testing in FY00. In light of this development, the Navy must reassess when, if ever, the shock test can be budgeted and conducted.

Dated: January 11, 1999.

**H. Lee Buchanan,**

*Assistant Secretary of the Navy (RD&A).*

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## DEPARTMENT OF EDUCATION

### Notice of Proposed Information Collection Requests

**AGENCY:** Department of Education.

**SUMMARY:** The Leader, Information Management Group, Office of the Chief Financial and Chief Information Officer, invites comments on the proposed information collection requests as required by the Paperwork Reduction Act of 1995.

**DATES:** Interested persons are invited to submit comments on or before March 22, 1999.

**ADDRESSES:** Written comments and requests for copies of the proposed information collection requests should be addressed to Patrick J. Sherrill, Department of Education, 600 Independence Avenue, SW, Room 5624, Regional Office Building 3, Washington, DC 20202-4651, or should be electronically mailed to the internet address [Pat.Sherrill@ed.gov](mailto:Pat.Sherrill@ed.gov), or should be faxed to 202-708-9346.