

EHIME MARU ENVIRONMENTAL ASSESSMENT

FINDING OF NO SIGNIFICANT IMPACT

AGENCY: DEPARTMENT OF DEFENSE

DEPARTMENT OF THE NAVY

ACTION: Pursuant to the Council on Environmental Quality regulations (40 Code of Federal Regulations Parts 1500-1508) implementing procedural provisions of the National Environmental Policy Act of 1969 as amended (42 United States Code Section 4321 *et seq.*), the Department of the Navy gives notice that an Environmental Assessment has been prepared for the recovery of *Ehime Maru* crewmembers, their personal effects, and certain unique characteristic components of the ship and that an Environmental Impact Statement is not required.

BACKGROUND: On February 9, 2001, USS *Greeneville*, a Los Angeles class submarine, collided with *Ehime Maru*, a Japanese fisheries high school training vessel, approximately 9 nautical miles (17 kilometers) south of Diamond Head on the island of Oahu, Hawaii. *Ehime Maru* sank in approximately 2,000 feet (600 meters) of water. At the time of the sinking, 26 of the 35 crewmembers were rescued. Following an extensive air/sea search, and a sub-sea search and remote-controlled underwater visual inspection of the vessel, it is assumed that some, or all, of the nine missing individuals became trapped inside the vessel or went overboard as the ship went down.

PURPOSE: The purpose of the Proposed Action will be the recovery of the missing crewmembers, personal effects, and certain unique characteristic components from *Ehime Maru*, while limiting the impact on the environment. The Proposed Action will be a hazardous and complex deep- and shallow-water operation, because of the depth of the current location and the size of *Ehime Maru*. The proposed operation has been structured to maximize the probability of recovering crewmembers, personal effects, and items uniquely characteristic of *Ehime Maru*, while minimizing the risk to the divers, the environment, equipment, and other personnel involved. The purpose of the Proposed Action also includes the safe removal, to the maximum extent practicable, of diesel fuel,

lubricating oil, loose debris, and any other materials that may degrade the marine environment, and the relocation of *Ehime Maru* to a deep-water site. This is not a salvage operation to recover the ship.

DESCRIPTION OF PROPOSED ACTION: The U.S. Navy proposes to recover *Ehime Maru* crewmembers, personal effects, and certain characteristic components unique to the ship (such as the anchors, forward mast, placard, and ship's wheel) by moving the vessel to a shallow-water area to permit safe diver access and recovery operations. To the extent practicable, the deck of *Ehime Maru* will be cleared of cargo nets, fishing hooks and long lines, rafts, rigging on the masts, and any other obstacles that could cause an impact to the marine environment or jeopardize the success of the recovery operations. The Navy will use a specially-equipped offshore construction vessel to attempt to lift and move *Ehime Maru* from its current location. Flexible lifting plates will be placed under *Ehime Maru* to lift it clear of the seafloor using a sophisticated rigging system attached to heavy wire cables and linear winches mounted on the heavy-lift vessel. If the lift is successful, *Ehime Maru* will then be transported, while suspended from the heavy-lift vessel, to a shallow-water recovery site near the Honolulu International Airport Reef Runway in water approximately 115 feet (35 meters) deep. *Ehime Maru* will then be placed on the seafloor, where containment booms and skimmer systems will have been pre-positioned with the purpose of containing any diesel fuel or lubricating oil that may be released. The heavy-lift vessel will detach from *Ehime Maru* and will be replaced by a diving support barge. When *Ehime Maru* is deemed stable, Navy divers and invited Japanese divers from Ship Repair Facility, Yokosuka, Japan will enter the hull and attempt recovery of crewmembers, any personal effects, and other uniquely characteristic components. They will also attempt to remove remaining diesel fuel and lubricating oil to the maximum extent practicable. *Ehime Maru* will then be lifted from the seafloor and relocated to a deep-water site at a depth of at least 1,000 fathoms (6,000 feet [1,800 meters]) and outside U.S. territorial waters.

Although this recovery operation has been deemed technically feasible, the proposed engineering solutions are untested in this type of operation. Engineers and salvage experts have based their feasibility assessment upon estimates and calculations on the size of the hole in *Ehime Maru* and their considered opinion on the anticipated structural integrity of *Ehime Maru*. However, since they have done these calculations and estimates without having seen the damage to *Ehime Maru* because the vessel sits

upright in 2,000 feet (600 meters) of water, there is some uncertainty as to the exact level of damage. Unplanned occurrences such as structural failure could preclude continuation of the mission at any point during the operation. Such occurrences will cause the Navy to reevaluate whether recovery operations should be continued or terminated, based on the existing situation at the given time and the probability of successfully completing the proposed recovery operations. The Navy will attempt to recover as many crewmembers, personal effects, and other objects as possible.

ALTERNATIVES CONSIDERED: Three alternative methods of recovering the crewmembers were considered but determined not to be technically feasible or safe. Thus, they were not studied in detail for analysis in the Environmental Assessment. These alternatives included deep-water recovery at the present site, recovery while the vessel was lifted and suspended from the offshore recovery vessel, and recovery out of water. Four additional shallow-water recovery sites were also considered but were not analyzed fully because of their inability to meet mission requirements and because of safety and environmental concerns. Per the requirements of the National Environmental Policy Act, a Recovery-not-possible Alternative, or the “No Action Alternative” was also considered that would leave *Ehime Maru* in its current location and condition.

ENVIRONMENTAL EFFECTS: Consistent with the Council on Environmental Quality regulations, the scope of the analysis presented in the Environmental Assessment was defined by the range of potential environmental impacts that could result from implementation of the Proposed Action or the Recovery-not-possible Alternative. The criterion for inclusion or exclusion of particular environmental components and their attributes was whether the Proposed Action or the Recovery-not-possible Alternative could potentially impact, directly or indirectly, that environmental component and its attributes. The Environmental Assessment evaluated the following resource areas in detail: water quality; marine biological resources, including coral reefs; health and safety; hazardous materials and hazardous wastes; and airspace use. Ocean areas outside U.S. territorial waters were addressed as required by Executive Order 12114.

In terms of air quality, while there will be mobile emissions from the ships, barges, spotter planes, and helicopters involved in the operation, there will be no stationary source emissions. Furthermore, there will be no hazardous or toxic air pollutants from stationary emissions not covered by the National Ambient Air Quality Standards or the National Emission Standards for hazardous air pollutants. Terrestrial biological

resources will not be affected since all activities will be confined to either deep-water or shallow-water areas off the coast of Oahu. There are no areas of concern for cultural and archaeological resources, historic buildings and structures, or traditional cultural properties. There are no areas of ethnic importance that could be affected.

Similarly, there will be no adverse impacts to land, geology (local physiography, topography, geological resources), or soils. There will be no impacts to land use, or any conflicts with land use plans, policies, or controls. There may be some noise associated with the operations, but any noise will be short-term, intermittent, and no different from regular ongoing vessel and aircraft noise in the area. With such a short time frame for implementing the Proposed Action, the potential for adverse socioeconomic impacts to income, population, housing, community services, and infrastructure will not exist. No transportation-related impacts to road, rail, air, or water modes are expected, and the Proposed Action will have no effect on local utilities in terms of their energy, potable water, wastewater or solid waste processing and distribution capacities, storage capacities, average daily consumption, or peak demand loads. Lastly, no permanent change to the existing character of the landscape or scenic viewshed will occur, and thus there will be no impacts to visual and aesthetic resources.

Due to the limited scope and nature of the recovery operation, only water quality, marine biological resources, public health and safety, and airspace are likely to be affected by recovery activities. The greatest potential for effects to water quality, marine biology, and health and safety is from hazardous materials such as diesel fuel or lubricating oil escaping from *Ehime Maru* during lifting, transit, or shallow-water recovery operations. These potential environmental effects are summarized below for the Proposed Action and the Recovery-not-possible Alternative.

Water Quality: The Proposed Action is not expected to measurably alter biologically important parameters of water quality including salinity, temperature, pH, density, and dissolved gases except in the immediate area of a potential diesel fuel or lubricating oil release. Potential effects to physical and chemical water quality are judged to be minimal because they will be localized and transitory and subject to planned response actions and weathering. Additionally, if the Proposed Action is successful, by removing as much diesel fuel and lubricating oil as practicable from the ship, there will be a long-term beneficial effect on marine water quality.

Marine Biological Resources: The Proposed Action is not expected to adversely impact the Essential Fish Habitat for pelagic management unit species or any other designated Essential Fish Habitat. The greatest potential for impacts will come with the lifting of *Ehime Maru* from the seafloor and as it is relocated from the current location to the shallow-water recovery site. Any release of this type is expected to rise to the surface, spread out, and rapidly evaporate. In addition, boom systems and skimmer vessels will already be deployed in accordance with the Proposed Action with the intent of containing the potential release of diesel fuel and lubricating oil. The execution of the Proposed Action, including measures incorporated to address anticipated releases of diesel fuel and lubricating oil, will minimize the potential for impacts to marine fish and Essential Fish Habitat.

For the recovery operations, the Navy will also take every precaution to minimize impacts to marine biological resources. These steps include notifying the appropriate resource agencies to attempt to administer necessary assistance if birds, marine mammals, or sea turtles should come in contact with a diesel fuel or lubricating oil release. The U.S. Fish and Wildlife Service will conduct pre-recovery and post-recovery surveys of three areas on Oahu and one on the island of Kauai to identify any oiled birds. In addition, U.S. Fish and Wildlife Service and/or National Marine Fisheries Service observers will be stationed on the skimmer vessel to identify any birds, mammals, or sea turtles that may come in contact with the diesel fuel or lubricating oil from a release.

In accordance with the Proposed Action, if it is possible, oiled birds will be stabilized and delivered to a rehabilitation facility. Notifications will be made to the National Marine Fisheries Service should mammals or sea turtles be oiled. The International Bird Rescue Research Center will be contracted for technical assistance with rescue and rehabilitation of oiled birds. Overall potential impacts to migratory seabirds are unlikely. The threatened green sea turtle may be in the area of the current location only as a transient from one island to another. The endangered hawksbill turtle may also be in Hawaiian waters in very low numbers. Because of the low probability for either of these species to be in the area of the current location at any particular time, the activities of lifting *Ehime Maru* at the current location are expected to have no effect on the green sea turtle or the hawksbill sea turtle. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service concur with this assessment.

Health and Safety: The potential impacts to both public and worker health and safety associated with underwater recovery operations will occur on the sea and on the shore. Any release of diesel fuel or lubricating oil will be quickly responded to, thus minimizing risk to public health and safety. Both the U.S. Navy and the contractors associated with the recovery of *Ehime Maru* have safety policies and procedures relating to the performance of all activities within the scope of their operations. Inclement weather conditions could also pose a potential safety hazard. The Navy's Recovery Officer will determine if the weather conditions are potentially hazardous and will utilize available information, past experience, and the operational limits of the heavy-lift vessel to minimize safety risks as a result of inclement weather.

The recovery operation may generate interest from the public. To ensure the protection of all persons and property, a surface safety zone with a radius of 3 nautical miles (approximately 6 kilometers) will be established for operations at the current location and the deep-water relocation site. For the transit areas and the shallow-water recovery site, the surface safety zone will have a radius of 1 nautical mile (approximately 2 kilometers) centered on the operations. Therefore, there will be minimal risk to the public during the activities. To ensure diver safety, all diving operations will be conducted in accordance with *The U.S. Navy Diving Manual*. Voice communication integrity for the diving recovery operations will be maintained by requesting Honolulu Control Facility minimize air traffic in an area at and below 2,000 feet (approximately 600 meters) with a radius the same as that of the surface safety zone. The vessel will be moved only during daylight hours and during favorable weather conditions to ensure the safety of operation personnel, to minimize the potential for mishaps, and to ensure detection of any "sheen" resulting from the release of diesel fuel or lubricating oil.

A Site Safety and Health Plan has been prepared for all personnel associated with the cleanup of any release of diesel fuel or lubricating oil. The Site Safety and Health Plan focuses on the protection of personnel from serious risks to their physical safety and health while responding to a marine discharge. This plan identifies the potential hazard conditions and outlines the specific safety and health training together with the job skills and procedures appropriate to the responder's role in the response operations. Appropriate personnel involved in the cleanup operation will receive training to ensure their awareness of the Site Safety and Health Plan.

Airspace: As part of the Proposed Action, the Federal Aviation Administration will impose a temporary flight restriction in the airspace above the recovery effort operations at the current location, the transit routes, and the deep-water relocation site within U.S. territory. Further, the Federal Aviation Administration may impose a temporary flight restriction in the airspace above the shallow-water recovery site. The temporary flight restrictions, in accordance with federal aviation regulations, will prevent an unsafe congestion of sightseeing aircraft above the operations. It will also ensure that aircraft will not interfere with communications during the operations. A Notice to Airmen will be issued to alert pilots of the temporary flight restrictions. Establishing the temporary flight restrictions and releasing the Notice to Airmen will effectively control the airspace above the operations. It will temporarily change the nature of the airspace above the Proposed Action locations but will not adversely impact navigable airspace and operations at Honolulu International Airport. Similarly, the U.S. Coast Guard will enforce surface safety zones as published in the *Federal Register* and in Notices to Mariners.

Hazardous Materials and Hazardous Waste: As a result of the Proposed Action, the potential impacts from hazardous materials released could occur during transit and recovery operations. These impacts will be associated with any release of diesel fuel or lubricating oil from *Ehime Maru*; however, the resulting “sheen” could be readily detected since transient recovery would only occur during daylight hours. Such a release could affect water quality, biological resources, and land areas used for a variety of public and private activities. The recovery plan anticipates some release of diesel fuel and lubricating oil and provides measures for control of these anticipated releases. These measures include the use of skimmers, absorbent booms, and aircraft spotters. Incident Action Plans have also been prepared and approved to address unanticipated releases. Additionally, a Unified Command with representatives from the State of Hawaii, the U.S. Coast Guard, and the Navy will be established consistent with the Incident Command System during the lift and movement phase of the operation in order to monitor the execution of the recovery plan and to assist the Navy in the case of an unanticipated release. Overall, given the procedures and equipment that will be in place to respond to a release, only minor impacts are expected.

To assist the Navy in forecasting favorable wind and current conditions, the Navy’s plan is to monitor real-time surface and subsurface currents by data buoys. Buoys will be placed at the edge of the coral fringe, 2 to 3 nautical miles (approximately 4 to 6

kilometers) from the shallow-water recovery site, and at the shallow-water recovery site. The buoys will monitor wind speed and direction, air temperature, surface or subsurface current speed and direction in the water column, and wave height and period. These buoys will be in place approximately 30 days before the start of recovery operations. Data from the buoys will help ensure that operations will take place only during weather conditions most favorable for containing a release.

Modeling conducted by the National Oceanic and Atmospheric Administration determined optimal sea-state and wind conditions for transit. These models assumed an average wind speed of 10 knots (approximately 20 kilometers per hour) for the shallow-water recovery site during ebb and flood tide. The models did not consider the extensive preventative measures such as booming; they only modeled the likely place that diesel fuel would travel should no intervention occur. Overall, these models showed that winds from the east would very likely push some diesel fuel toward the beach during both tidal conditions over a 24-hour period with no intervention. Again with no intervention, winds from the east/northeast could also potentially push diesel fuel toward the beach during either tidal condition over a 24-hour period. Winds from the north or northeast would push the diesel fuel out to sea.

Infrequently, light trade wind conditions in the morning can cause a local onshore wind, or seabreeze, in the afternoon. During an uncontained diesel fuel or lubricating oil release, such a seabreeze could potentially result in the substance washing onshore.

Therefore, during the transit to the shallow-water recovery site, the heavy-lift vessel will remain approximately 3 nautical miles (approximately 6 kilometers) from the shallow-water recovery site and wait for optimal sea and weather conditions before proceeding. This, coupled with the extensive preventative measures that the Navy will employ, will minimize the potential for any releases to be pushed toward the shore. The potential for transit during easterly winds exists. However, this will only occur when other sea conditions (tide, current, sea state) are predicted to be as

favorable as possible. Skimmer systems and containment booms will be in place if decisions must be made to transit with easterly winds, thus minimizing potential impacts to the environment.

Because there is the potential that not all the diesel fuel and lubricating oil can be removed during the recovery effort, skimmer vessels will be on standby and periodic aircraft overflights will be made to identify any surface sheens. Discovery of such releases is enhanced by operations occurring only during daylight hours, so the Navy will only move the ship during daylight hours. During transit to the deep-water relocation site, the nearby South Oahu Ocean Dredged Material Disposal Site will be avoided. Because of the procedures and equipment that will be in place, no adverse impacts are expected.

Recovery-not-possible Alternative: If the Recovery-not-possible Alternative is chosen, *Ehime Maru* will remain at its current location and in its present condition. This alternative will not allow for the recovery of crewmembers, their personal effects, and certain characteristic components unique to *Ehime Maru*, such as the anchors, forward mast, placard, and ship's wheel. There will be no removal of diesel fuel and lubricating oil. The deck will not be cleared of cargo nets, fishing hooks and long lines, rafts, rigging on the masts, and any other obstacles that could cause a future impact to the marine environment.

However, this alternative will eliminate the potential for a release of diesel fuel or lubricating oil close to shore because the ship will not be moved. No impacts to marine resources including Essential Fish Habitat, migratory birds, marine mammals, or threatened or endangered species are expected from this alternative. Under this alternative, because of the current location at 2,000 feet (600 meters), there will be no increased risk to public health and safety. Under this alternative, no temporary flight restrictions will be required. Consequently, there will be no impacts to controlled/uncontrolled airspace, enroute low altitude airways, or airports or airfields in the general airspace use region. This alternative will not allow for the recovery of potentially remaining hazardous materials that could affect the environment.

CONCLUSION: Based on the information gathered during preparation of the Environmental Assessment, the Department of the Navy finds that the Proposed Action

will not result in significant environmental impacts. Therefore, an Environmental Impact Statement is not required.

To request a copy of the Environmental Assessment, please call toll free 866-617-0797 and leave a message with your name and mailing address. A limited number of copies of the Environmental Assessment are available to fill single-copy requests. The Environmental Assessment may be viewed on the internet (www.cpf.navy.mil), at public libraries in the City of Honolulu, and at the University of Hawaii library.

Dated: June 15, 2001

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EXECUTIVE SUMMARY
