

Department of Defense
Department of the Navy
Naval Sea Systems Command

FINDING OF NO SIGNIFICANT IMPACT FOR THE INSTALLATION AND OPERATION OF A FIXED SURFACE SHIP RADIATED NOISE MEASUREMENT SYSTEM AT THE FLEET TEST AND EVALUATION CENTER, BARBERS POINT O'AHU, HAWAI'I AND SURROUNDING OCEAN

Introduction: Pursuant to section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality Regulations (40 Code of Federal Regulations Parts 1500-1508) implementing the procedural provisions of NEPA, The Commanding Officer, Naval Undersea Warfare Center, Division Keyport (NUWC Keyport), gives notice that an Environmental Assessment (EA) was prepared and a Finding of No Significant Impact (FONSI) has been issued for the Installation and Operation of a Fixed Surface Ship Radiated Noise Measurement (SSRNM) System at the Fleet Test and Evaluation Center (FTEC) Barbers Point, O'ahu, Hawai'i and surrounding ocean. Based on the EA it has been determined that an Environmental Impact Statement (EIS) is not required for the proposed action.

Purpose and Need: The purpose of the Proposed Action is to provide a safe, reliable, low-maintenance, high-fidelity SSRNM system to serve the Middle Pacific (MIDPAC) Surface Group and visiting vessels in close proximity to Joint Base Pearl Harbor-Hickam. The need for the Proposed Action is to improve SSRNM testing efficiency, effectiveness, safety, and to minimize fleet fuel consumption related to SSRNM testing.

Proposed Action: The Proposed Action is to upgrade and modernize existing MIDPAC Surface Group SSRNM testing and operations. The Preferred Alternative would install and operate a fixed SSRNM system, consisting of a hydrophone array, an undersea data transmission cable (trunk cable) in the ocean off Nānākuli, O'ahu, Hawai'i, and a shore station cable landing at the FTEC, Barbers Point, O'ahu, Hawai'i, Honolulu County. The hydrophone array would be located about 3.5 mi (5.6 km) offshore within an existing Navy operating area named the Fleet Operational Readiness Accuracy Check Site. The hydrophones would receive noise (i.e., propulsion, ship machinery and flow noise) coming from vessels as they operate. Data from the hydrophones would be transmitted to shore through a trunk cable for analysis. The

Enclosure (1)

cable would be installed into a shore bypass conduit under the shoreline, intertidal and near shore zones. The United State Coast Guard (USCG) is the landowner of the FTEC property where the SSRNM Cable landing would terminate for the Preferred Alternative, and in accordance with 40 CFR 1501.6, is a cooperating agency for the EA. Construction activities for SSRNM installation would involve three vessels in the affected area offshore for a period of about three weeks and construction activities for a period of about three days ashore at the FTEC.

In addition to the Preferred Alternative described above, the EA analyzed two additional alternatives. Under the Alternative Action, the same fixed array system described in the Preferred Alternative would utilize an anchored buoy that has radio data transmission capability in place of the shore station cable landing. Under the No Action Alternative, SSRNM testing would continue to occur as follows: test personnel would use either a portable hydrophone array deployed over the side of a small support vessel or sonobuoys deployed from the fleet vessel being tested to take noise measurements and transmit via radio data transmission.

Alternative to be Implemented: The Preferred Alternative is selected for the implementation of the Proposed Action since it is the alternative that best meets the purpose and need of the Proposed Action and the EA concludes that its implementation would not significantly impact the human or natural environment.

Public Participation and Consultation: During preparation of the EA, a draft version of the EA was made available for public review in November 2014 and stakeholders were notified; no comments were received from the public.

The Navy coordinated or consulted with State and federal regulatory agencies. These consultations included the following:

- A Biological Assessment was submitted to the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) to support informal consultation for threatened and endangered species under Section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531 et seq.).
- An essential fish habitat (EFH) assessment was submitted to the NMFS in support of consultation on EFH under the Magnuson-Stevens Fishery Conservation and Management Act of 1976 (16 U.S.C. § 1801 et seq.).

- A Consistency Determination was submitted to the State of Hawai'i Office of Planning in support of consultation under the Coastal Zone Management Act of 1972 (16 U.S.C. § 1451 et seq.).
- Consultation with the State of Hawai'i State Historic Preservation Officer (SHPO) regarding potential impacts to archeological and historic properties was completed in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. § 470 et seq.)

Environmental Effects: The EA presents a review and analysis of the potential environmental impacts associated with the Proposed Action Alternatives and No Action Alternative. Impacts to relevant resources that were evaluated include cultural resources; physical resources; biological resources; socioeconomics, recreation, and coastal zone resources.

Cultural Resources: Several shipwrecks are located off the leeward O'ahu coast within the study area; however, none of these sites are near the proposed trunk cable route. Because there is no potential for the presence of significant archeological artifacts at the FTEC and no shipwrecks along the trunk cable route or at the hydrophone array site, there would be no effect on historic marine archeology resources.

The FTEC construction site is located approximately 100 ft. (30 m) west of the Barbers Point Lighthouse. The Barbers Point Lighthouse is listed in the National Park Services' Maritime Properties Inventory of historic maritime resources, but is still an active lighthouse. Construction during the three-week construction period would not directly affect the Barbers Point lighthouse, but views of the lighthouse from the west to northwest might be obscured by construction equipment. Because of the temporary nature of view effects, the Navy determined there would be no adverse historic effect under the NHPA. The SHPO concurred with this determination through the consultation process. Pursuant to NEPA, there would be no significant impact to cultural resources under NEPA.

Physical Resources:

Climate and Air Quality - The level of air pollutants and greenhouse gases in the affected environment are low, as O'ahu is in attainment with the National Ambient Air Quality

Standards. Therefore the General Conformity Rule does not apply. Installation and operation of the hydrophone array, bypass conduit, trunk cable and operations and maintenance would affect air quality to a small degree through petroleum fueled vehicles and construction equipment use. However, estimated emissions would be a small fraction of a de minimis threshold of 100 tons per year for non-attainment areas. The Preferred Alternative is anticipated to release minor amounts of greenhouse gases to the atmosphere since internal combustion engines are used during the installation and maintenance of the SSRNM system. Pursuant to NEPA, there would be no significant impact to air quality.

Water Quality - Construction of the Preferred Alternative at sea would involve the use of petroleum-based fuel, oil and lubricants onboard support vessels with the potential to affect water quality during installation. Contractors would be required to adhere to spill prevention and countermeasures planning to avoid adverse effects from these products during normal use or inadvertent spills. Adherence to contractor spill prevention and countermeasures planning would avoid substantial impact from these products during normal use or inadvertent spills.

Construction at the FTEC would not require dewatering, surface water discharge, or discharge of water or materials from the FTEC construction site into the ocean. No impervious structures would be constructed above ground that might increase surface storm water runoff after construction. Temporary sediments would increase due to laying of the truck cable. Sediments suspended by the horizontal directional drilling (HDD) conduit exit, diver activity and cable laying would rapidly disperse and/or settle back to the seabed. The minor resuspension of clean, native sediments in the ocean and the lack of water quality effects from on-shore construction are indicative of negligible, insignificant impacts to water quality. Pursuant to NEPA, there would be no significant impacts to water resources.

Geology and Soils - Installing cable underground and the HDD method of installing the shore bypass conduit could affect marine geologic features because it would pass under the shoreline, intertidal and nearshore subtidal zones seaward to about 2,000 ft. (610 m). The HDD drill operation would produce about 10 tons of cuttings mixed with bentonite drill fluid.

This material would be contained on site and disposed of at the Waimanalo Gulch Sanitary Landfill, Kapolei.

The Preferred Alternative would return the topography to its original grade and landscape the construction area consistent with the USCG management plan. Operations would not affect geology or soils because the installed equipment operates electronically. Pursuant to NEPA, there would be no significant impacts to geology or soils.

Noise - Construction noise at the FTEC shore station site from the HDD and associated construction equipment would cause negligible effects. Construction would end by 5:30 PM and therefore, the timeframes would comply with the City and County of Honolulu noise ordinance which limits construction activities from 7:00 AM to 6:00 PM during the work week and 9:00 AM to 6:00 PM on Saturdays.

Construction noise ashore would be caused by shore construction equipment including the HDD drill rig and a backhoe excavator for only the duration of construction and working hours prescribed by local noise ordinances. Noise produced by these types of equipment is common in urban and industrial environments during normal work hours and is generally not obtrusive. The HDD equipment would generate noise levels that require permitting by the Hawai'i Department of Health. The anticipated noise levels can be authorized when subject to time restrictions and the use of muffled equipment. Since construction noise would be limited to working hours and would be attenuated to a level beneath a typical comfort level threshold of 65 dB, there would be no significant impacts from noise under NEPA.

Biological Resources:

Marine Vegetation - Seagrasses are only present in water depths to about 6.6 ft. (2 m) below mean lower low water (MLLW). Therefore no seagrass would be expected to be present within the affected environment under the Preferred Alternative because all the system components are located at least 20 ft. (18 m) below MLLW. The trunk cable and hydrophone array would be located entirely outside of seagrass habitat.

In Hawaii, there is a wide variety of larger algae forms (macroalgae), including at least 204 species of red algae, 59 species of brown algae, and 92 species of green algae. Because

the HDD exit and diver-assisted cable laying would avoid live coral heads, impacts to macroalgae would be avoided. Planktonic algae, including dinoflagellates, blue-green algae and diatoms, are generally higher in density in shallow, well-lit ocean zones. The short duration and small footprint of the Preferred Alternative suggest that planktonic communities would not be indirectly affected by degradation in water quality during installation of the trunk cable and hydrophone array. Due to the temporary nature of any potential indirect impacts to planktonic algae, the few macroalgae near the HDD bore exit, and avoidance of live coral heads, construction of the SSRNM would have no significant impacts to marine vegetation under NEPA.

Marine Invertebrates - Construction of the hydrophone array and trunk cable could temporarily affect planktonic, demersal, and benthic invertebrates. Physical movement of vessels, cables, anchors and divers might adversely affect a few planktonic individuals, but the great majority would simply be swept aside unharmed as the ship or body passes through the water. Due to the lack of meaningful physical and water quality impacts, there would be no significant impact to planktonic invertebrates under NEPA.

The extent and duration of construction poses negligible impacts to larger crustaceans, arthropods, mollusks and echinoderms in the affected environment. Because the Preferred Alternative would cover a relatively small footprint in the affected environment, direct impacts to benthic invertebrates would not be significant. Demersal invertebrates would avoid installation of cables and anchors. All invertebrate forms, including pelagic, benthic and demersal would be potentially affected by water quality in the form of increased cloudiness of the water caused by suspended sediments at the site of the disturbance. The minor resuspension of clean, native sediments during construction in an area that is normally turbid with wave-suspended sediments indicates negligible, insignificant impacts to water quality. Due to the lack of meaningful physical and water quality impacts, there would be no significant impact to demersal and benthic invertebrates under NEPA.

Under the Preferred Alternative, the project would pose negligible risk to the adjacent coral reef ecosystem. The live corals along the southwest coast of O'ahu and in the vicinity of Barber's Point are described as a patch reef; a reef that is mostly comprised of limestone with corals growing on the

limestone of the reef and frequently separated by areas of sediment or sand channels. The use of diver-assisted cable laying from the shore bypass conduit exit to the reef ledge would insure that the cable would be placed a sufficient distance from any live coral colonies. In addition, the cable would be weighted to prevent it drifting along the seafloor during operations, thereby reducing the potential to scour the adjacent corals. Therefore, direct effects to corals would be avoided. Indirect effects from suspended native sediments are anticipated to be short-term and negligible, and would only occur during construction. Once installed, during operations of the SSRNM System, no long-term adverse impacts to coral in the affected environment are anticipated. Therefore, pursuant to NEPA, there would be no significant impact on corals from the Preferred Alternative.

Fishes - Fish hearing does not extend to the acoustic bands used by the positioning modems. Because the acoustic source levels are low, no effect is expected on any fish species from the active acoustic signals used for installing and locating the array. The cable supporting the array within the water column is flexible and the hydrophones and mounting brackets contain no hooks or nets that could pose a snagging hazard to fish. The primary short-term impacts to marine fish from the construction of this system would be related to the presence of divers, minor increases in turbidity during construction of the shore bypass conduit and trunk cable laying. Effects on fish would be minimized by manually placing the trunk cable around coral heads, avoiding the coral and higher fish density and diversity associated with the coral reef ecosystem. Because of the limited construction timeframe and limited effect caused by construction activities coupled with the small size of the trunk cable footprint and limited impacts to prey species (e.g., invertebrates), the Preferred Alternatives not expected to significantly impact pelagic and demersal fish populations in the affected environment. Pursuant to NEPA, there would be no significant impacts to fish.

EFH - The affected environment coincides with the EFH for all five fishery management units in the Hawaiian Islands: pelagics, bottomfish, crustaceans, deep sea and precious corals, and coral reef ecosystems. Further, the affected environment coincides with a bottomfish Habitat Area of Particular Concern (HAPC) on the seafloor bottom.

Trunk cable laying would generate minor bottom disturbances and localized increases in turbidity, affecting pelagic, bottomfish, crustacean, precious coral and coral reef ecosystem EFH. Installation of the shore bypass conduit and diver-assisted cable laying would similarly generate bottom disturbance, affecting pelagic, bottomfish, crustacean (spiny lobster) and coral reef ecosystem EFH. Installation of the hydrophone array anchors would cover portions of the bottom, potentially affecting precious coral EFH. Direct effects to habitat generated by laying the trunk cable would be temporary, limited to the three-week construction period. This habitat effect would not be adverse because of the limited duration and footprint.

The remainder of the vessel-laid trunk cable and hydrophone array is not expected to have an adverse effect on pelagic, bottomfish, crustacean and precious coral EFHs because of the small footprint and the stability of the trunk cable. Pelagic EFH might be affected by the array itself during installation and while in place. However, the array is unlikely to create an entrapment or entanglement risk to pelagic fish because of its benign structure. Because to the deep seafloor depth at which the array would be located, bottomfish EFH or HAPC and crustacean EFH and coral reef ecosystem EFH would not be affected.

The Navy determined that the Preferred Alternative would not adversely affect EFH because of the implementation of the best management practices listed in Chapter 4 of the EA, the limited duration of the installation, limited footprint, location and placement of the trunk cable, and trunk cable stability. The NMFS concurred with this determination through the consultation process. Pursuant to NEPA, there would be no significant impacts to EFH.

Marine Mammals and Sea Turtles - There are 18 marine mammal species not listed under the ESA with known potential occurrence within the affected environment. ESA-listed marine species that might occur within the affected environment and during the given timeframe are the Hawaiian monk seal (*Monachus schauinslandi*), humpback whale (*Megaptera novaeangliae*), Main Hawaiian Island false killer whale (*Pseudorca crassidens*), green sea turtle (*Chelonia mydas*), and hawksbill sea turtle (*Eretmochelys imbricata*). Critical habitat for the Hawaiian monk seal has been proposed within the project area, but is not yet finalized.

The primary impacts to marine mammals from construction of the Preferred Alternative would include the physical presence of support vessels, construction equipment and divers. Because of the short duration of construction, there would be negligible effects to marine mammals and sea turtles that might be present. ESA-listed marine mammals and sea turtles may avoid, but continue normal activity in the immediate vicinity of construction due to the increased human activity. Because construction vessels would operate at low speeds within the relatively small construction zone and access routes during the short, three-week in-water construction period, no strikes are anticipated. Implementation of best management practices would serve to minimize the potential of effect to ESA-listed species and critical habitat. Navy vessels use lookouts that watch for marine mammals and sea turtles to detect and take action to avoid direct strikes. The likelihood of a vessel strike to these species is low and any behavioral changes that would occur would be negligible and discountable.

During operation, sea turtles and marine mammals are at potential risk of collision, entrapment or entanglement with the hydrophone array in the water column, or with the anchoring system on the seafloor. There is less risk that smaller species such as ESA-listed turtles and monk seal could become entangled in hydrophone cables compared to the large whales, such as the humpback whale. Because of the small size of the hydrophone array, the lack of hooks and nets, and the small size of the supporting cable relative to the ocean habitat, the array is not expected to pose a risk of entrapment, or pose a physical barrier or collision potential that would adversely affect foraging sea turtles, monk seals, or transiting whales.

During installation of the SSRNM array, a marine mammal would have to stay within an approximately 328 ft. (100 m) radius of the array throughout the entire installation process in order to accumulate enough energy to cause a physiological effect. The likelihood of this scenario occurring is negligible. During the routine operation of the SSRNM, the energy output of these devices is very low, and highly unlikely to impact any marine mammal. Acoustic transmissions are outside of the hearing range of sea turtles. Pursuant to the Marine Mammal Protection Act, the Preferred Alternative would not result in takes of marine mammals. Pursuant to NEPA, there would be no significant impacts to marine mammals or sea turtles.

The Navy determined that the Preferred Alternative may affect, but is not likely adversely affect ESA-listed marine species or critical habitat. The NMFS concurred with this determination through the informal consultation process.

Sea Birds - The Hawaiian Islands are important habitat for seabirds. Despite low levels of localized production, recent research estimates that 15 million seabirds inhabit the Hawaiian Islands; 22 species of seabirds regularly nest in the Hawaiian Islands, and many more pass through during migration to and from their breeding grounds elsewhere in the Pacific. The ESA-listed Short Tailed Albatross, Newell's Shearwaters, and Hawaiian Petrels are very rare in near-shore and coastal areas of Oahu and would not be expected to occur within the project area, and were therefore not carried forward for detailed analysis.

There should be no effect to diving seabirds from the active acoustic signals generated by the positioning modems. The seabirds in the Hawaii area do not spend any appreciable time underwater, and seabird hearing is not considered as sensitive as marine mammals when underwater. Due to the short duration of construction and widespread availability of open ocean foraging habitat, potential physical impacts from construction vessels would be short-term and negligible. Because the components are located on the seafloor, installing the hydrophone array, the trunk cable (both diver-assisted and cable ship laying) and HDD conduit installation could temporarily disrupt foraging behavior at the surface while lowering equipment to the bottom. Operating hydrophone array and electronic systems would not impact seabirds.

Because water quality and fish would not be significantly affected, there would be no impact to seabird prey species indirectly affecting seabirds. Pursuant to NEPA, due to the negligible potential for disruption of feeding behavior during the three-week construction duration, the lack of indirect prey impacts, and no anticipated acoustic impacts, the Preferred Alternative would have no significant impact on seabirds.

Migratory Birds - A variety of bird species would be encountered in the affected environment including those listed under the Migratory Bird Treaty Act (MBTA). Because of the short duration of the proposed underwater construction, including using divers laying the trunk cable from the shore bypass conduit exit to the

reef fringe, collision with surface birds pursuing prey underwater with construction machinery is unlikely. Therefore, the Preferred Alternative would have no significant impact on migratory bird species and there would be no incidental take of migratory birds under the MBTA.

Terrestrial Plants and Animals - Most vegetation in, and immediately surrounding the FTEC has been removed. Fauna include feral cats and dogs, Indian mongoose (*Herpestes javanicus*), rodents and small reptiles, and arthropods. ESA-listed terrestrial species that might occur within the affected environment include the Hawaiian hoary bat (*Ōpe'ape'a*) and round-leaved chaff-flower ('Ewa hinahina). The 'Ewa hinahina has been identified near the FTEC in the past, although no individuals of this plant have been observed in the affected area since the mid 1990's. The 4 ac (2 ha) O'ahu critical habitat Coastal Unit 14 has been designated as critical habitat for the 'Ewa hinahina and several other threatened or endangered species.

During construction, some vegetation would be removed within the construction site. SSRNM system operations are electronic and would not affect terrestrial plants or animals. The presence of construction activities, personnel and equipment at the FTEC would be temporary, lasting for the three-week construction duration. Feral animals, mongoose and rodents would avoid the construction site during the day. Open excavations might trap individuals. However, as these species are aware of their surroundings and adapted to the industrial land use, direct effects during construction would be inconsequential. Pursuant to NEPA, there would be no significant impacts to terrestrial plants and animals.

The HDD construction site would be located at an area that is mostly cleared of vegetation and has been used for construction access in the past. A negligible amount of additional vegetation would be cleared for the Preferred Alternative. The existing vegetation is not conducive to recovery of 'Ewa hinahina such that its removal would not necessarily damage critical habitat. Clearing the existing vegetation might offer a positive effect because the existing vegetation is degrading the habitat by outcompeting 'Ewa hinahina. Soil compaction by construction equipment might damage the habitat and hinder species recovery. Restorative landscaping after construction in accordance with the Coast Guard's Management Plan could rectify

the potential damage from construction work. Trees suitable for Ōpe'ape'a roosting are present near the FTEC, but not within the FTEC or area of vegetation clearing. No trees would be removed during construction. Implementation of best management practices would serve to minimize the potential of effect to ESA-listed species and critical habitat

The Navy determined that the Preferred Alternative may affect, but is not likely to adversely affect ESA-listed terrestrial species or critical habitat. The USFWS concurred with this determination through the informal consultation process.

Socioeconomics: Construction activities would occur only in an area surrounded by the Campbell Industrial Park and adjacent to, or within existing Navy and USCG facilities. Construction would be short term, lasting only three weeks and involve a single construction contractor to install the shore bypass conduit. After construction, the SSRNM system would not provide new employment opportunities potentially affecting the local economy. Because of the location inside an industrial area, the short duration of construction and no additional employment opportunities, the Preferred Alternative would have no significant impact the local economy.

The Preferred Alternative would not affect minority groups, children, or schools primarily because the FTEC is an industrial facility located within the Campbell Industrial Park. The nearest residential areas are located about two miles to the north. Thus, the potentially affected population would not constitute a resident minority or low-income population that could be disproportionately affected. The Preferred Alternative meets the requirements of EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, and pursuant to NEPA, would have no significant impact on socioeconomic resources.

Recreation: Offshore construction vessels under the Preferred Alternative would be similar to the existing views of the bulk petroleum anchorages; recreational activities in the Barbers Point area would not be disrupted. Temporary construction at the FTEC would be consistent with the industrial viewshed. The areas to the west and north of the Preferred Alternative site are either industrial or covered with native and non-native vegetation, with no recreational opportunities. The shore immediately beyond the FTEC fenceline is accessible to the

public. Because the construction site would be situated 145 feet beyond the shoreline and would not block public roads in the area, the Preferred Alternative construction would not affect shoreline access. The construction activity at the HDD bore entry site would be readily apparent from Germaine's Luau. Limiting construction to the day time reduces potential effects to luau patrons since the luau is an evening attraction.

The overall profile for recreational boating and fishing along the leeward shore of O'ahu indicates the locations of the hydrophone array and trunk cable within the affected area are not a recreational resource. These sites are not popular fishing or boating sites. There are no nearby ramps or marinas where small boats would put in. Larger sport vessels originating from Kalaeloa Barbers Point Harbor or Honolulu harbors would go well offshore beyond the installation sites in search of pelagic fish. Therefore the Preferred Alternative would not disrupt recreational boating or fishing. Pursuant to NEPA, because there would be no conflict with existing recreation opportunities, there would be no significant impacts on recreation resources.

Coastal Zone Resources: Land use during construction would involve both terrestrial and marine construction for three-weeks. Shore station construction equipment would be similar to current and existing industrial land use character surrounding the affected environment. When viewed from Germaine's Luau, the construction equipment would be screened by existing vegetation and not easily visible. At sea, the temporary presence of vessels would not differ from the existing ocean vessel movements, which include Naval, bulk fuel, commercial and pleasure craft.

Navy assesses potential impacts on coastal land use as a matter of consistency with the State's coastal zone management objectives and policies. The State Office of Planning concurred with the Navy's determination of consistency. Pursuant to NEPA, there would be no significant impacts to coastal zone use.

Cumulative Impacts: Cumulative effects of the Proposed Action in combination with other past, present, or reasonably foreseeable future actions were analyzed and determined not to be significant.

Finding: Based on the analysis in this EA, the Department of the Navy finds that the Proposed Action (as identified in the Preferred Alternative), and as mitigated by the best management practices listed in Chapter 4, would not significantly affect the quality of the human environment pursuant to NEPA. Therefore, an EIS will not be prepared.

The EA addressing this action may be obtained by interested parties by contacting Mr. Marcom C. Leonillo, NUWC Keyport, Pacific Detachment, at (808) 472-1702.

07/01/2015
Date:



S. H. Smoot
By Direction