

# The U.S. Naval Seafloor Cable Protection Office “Call Before You Dig!”

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The U.S. Navy has a long history of working with seafloor cables and continues with that work today. The Navy's most recent development is the establishment of the Naval Seafloor Cable Protection Office (NSCPO). This article is intended to inform the readers in industry and government about the NSCPO and its role within the submarine cable community. *The views expressed here are solely the author's and do not necessarily reflect the policy of the U.S. Department of Defense (DoD), the U.S. Navy, or its components.*

## U.S. Navy Cable History

The U.S. Navy's history with communications cables began with the first attempts to lay a trans-Atlantic telegraph cable, according to the records of the U.S. Naval Historical Society. The *USS Niagara*, a 5540-ton steam screw frigate built at the New York Navy Yard, was commissioned in April 1857. Designed for speed, she was the Navy's largest ship when built. Soon after entering service *Niagara* was sent to England to help *HMS Agamemnon* lay the world's first trans-Atlantic telegraph cable.

Though this effort failed when the cable broke in August 1857, a repeat attempt succeeded a

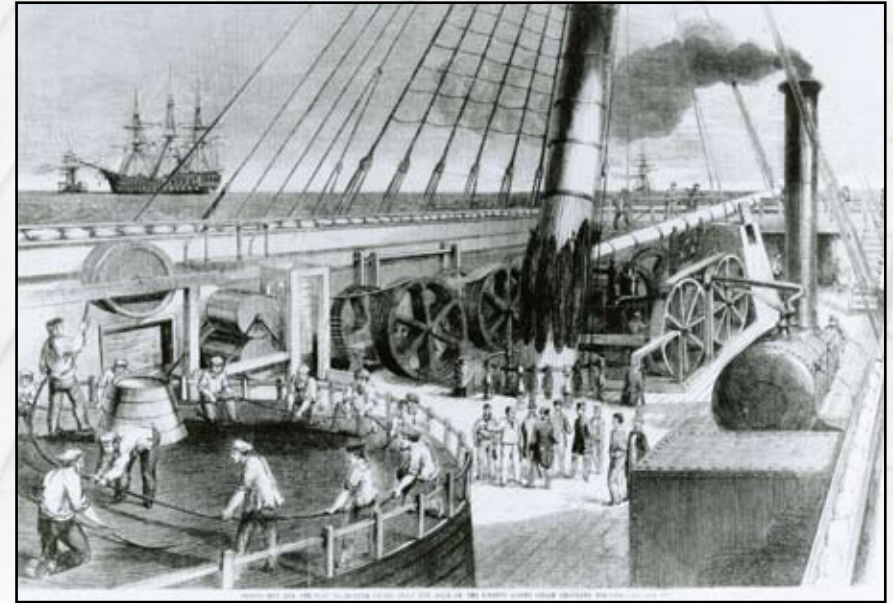


Figure 1. Paying out the Atlantic Telegraph Cable from the deck of the United States Steam Corvette *NIAGARA*. Photo courtesy of the U.S. Naval Historical Center at [www.history.navy.mil](http://www.history.navy.mil)

year later, again with *Niagara's* participation. During its few weeks of operation, this cable provided virtually instant communication between Europe and North America, an achievement much celebrated at that time, and for decades to come.

## Navy Cables Today

Since that early beginning, the Navy has continued to install, operate and maintain submarine cables. The DoD, often using Navy resources, has installed tens of thousands of kilometers of undersea cable. Today these cables include communications cables,



undersea training ranges, acoustic and magnetic sensor systems, power cables, and even forward-deployable range and calibration systems for our ships.

Many of these systems are built and installed by the manufacturers and contractors of the commercial telecommunications industry. Early Navy systems had custom cable designs. Industry's current products, however, work as well for some governmental applications as they do for commercial deployments. At the present time, the Navy is revitalizing several of the older generation of ranges through cable and sensor augmentations using current commercial "off the shelf" products and technology. In addition, new construction projects, like the recent FOCUS cable upgrade, also utilize off the shelf cables, jointing technology, and installation procedures.

Some older Navy cable systems have been turned over to scientific endeavors. Former Navy cables are currently used by oceanographic institutions for mammal monitoring programs, tracking oceanographic trends including global and ocean warming, and for other research programs.

#### Creation of the NSCPO

As a cable owner, the U.S. Navy shares many of the concerns of other cable owners regarding careful installation, maintenance, data management and interaction with other

seabed users. Like other cable owners, the Navy suffers from cable failures.

Prior to the commercial cable industry boom in the late 1990's, the installers most likely to operate in the vicinity of Navy cables often had business connections with the local Navy cable owners with whom they shared the seabed. Many had even been involved in the installation of the Navy cables. In other cases, they had contacts with local government agencies with knowledge of local seabed cables. The boom brought an increase in the numbers of contractors installing cables around the world and not all shared this past experience and informal knowledge base. After suffering a series of cable breaks, the U.S. Navy decided that a more visible, more easily accessible, centralized cable protection structure was required to reduce conflicts with the industry.

The Naval Seafloor Cable Protection Office (NSCPO) was created in 2000. NSCPO is now the official point of contact for all Navy cables. Its mission is to protect the Navy's interests with respect to seafloor cables by providing internal coordination and external representation of those interests to the U.S. government and the industry. Primarily this involves the Navy's existing systems, but it also works with industry to ensure the protection of existing commercial cables in the event that the Navy builds a new cable or range. NSCPO's mission was expanded in 2006 to include protection responsibilities for all DoD cables.

NSCPO is an office within the Ocean Facilities Program of the Naval Facilities Engineering Command located at the Washington Navy Yard. This structure illustrates the Navy's facility-oriented view of subsea cable systems: a cable is a critical component of a larger infrastructure designed to provide a service. This is a similar perspective to that of many other cable system owners.

#### NSCPO's Scope

Similar to commercial cables which pass through territorial seas, cross continental shelves and international waters, the Navy's interests reach beyond U.S. coastal waters. NSCPO's protection responsibilities therefore do as well. It does this through liaison with both the U.S. domestic and international cable industry, and occasionally in cooperation with other governments and their navies. The U.S. Navy has a history of working with other world navies on cable related projects. Perhaps the most notable example of this since *Niagara* and *Agamemnon* was the installation of the first Sound Surveillance System (SOSUS) array by *HMS Alert* in the 1950's, as noted on the website of the Commander, Undersea Surveillance.

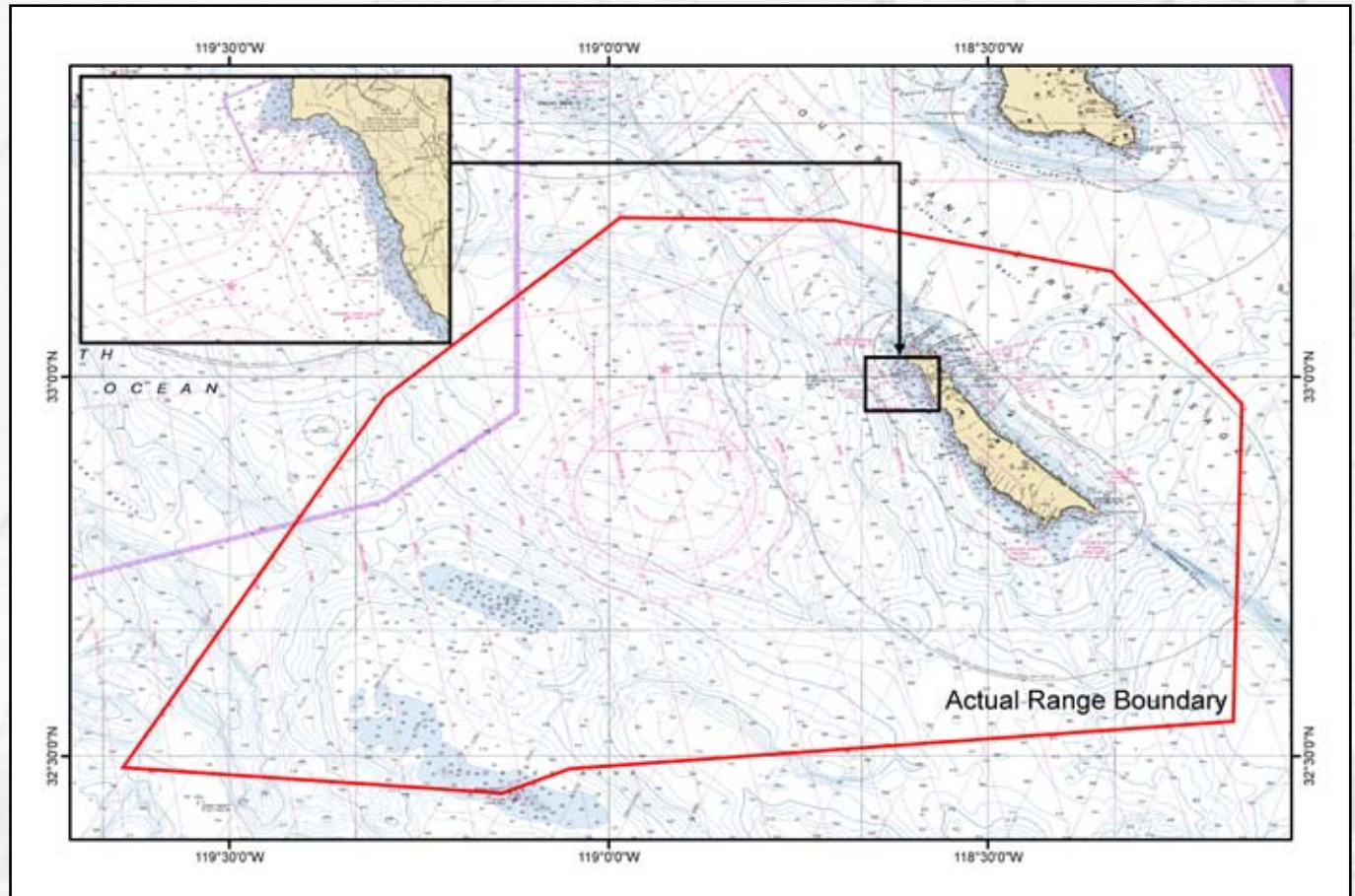
The Navy's ability to communicate with commercial industry is key to protecting our systems. NSCPO's participation in international forums is a critical part of this liaison with industry. The U.S. Navy has been a member of



the International Cable Protection Committee for almost two decades; the delegates to that organization are now from NSCPO. NSCPO also participates in information exchanges through American national cable protection forums, and in forums regarding cabled research observatories.

Most Navy installations that have waterfront have some type of seafloor cable, including short power cables and telecommunications cables. Like other locally managed projects within large organizations, these systems are documented primarily on local files. One of NSCPO's missions is to provide a central database for these files. NSCPO is in the process of consolidating this data in a geographic information system with our existing databases of governmental and commercial cables. This database provides the Navy with a central source for information. To industry, this means that they need only to remember to call one office instead of many around the country.

Internally to the U.S. government, NSCPO represents the interests of all Navy cable owners in policy discussions. This approach allows the Navy to present a single, unified, and coordinated approach to cable protection, and environmental, regulatory and other policy issues. The Navy, as a cable owner, shares many of the concerns of commercial cable owners in the U.S. In many circumstances the NSCPO is in a unique position to express these



common concerns. In other instances, like state level rulemaking procedures, NSCPO's position within the federal government limits it with more stringent constraints.

#### Working with NSCPO

Many Navy systems are accurately charted. This provides the Navy and industry with a starting point for discussion regarding repairs and construction, and an indication of potential

*Figure 2. Excerpts from NOAA charts 18740 and 18762 of San Clemente Island, CA with an overlay of the SCORE range limits.*

for conflict. The majority of our ranges, for example, are within U.S. waters and appear on coastal charts. An instance of this is a training range called the Southern California Offshore Range (SCORE) in southern California. Owners and installers familiar with San Clemente Island will have noticed boxes marked as cable areas and two cables charted with landings on the



island. These chart markings of SCORE show the portions of it which are of interest to typical mariners. This charting protocol is similar to that used by NOAA for commercial cables. The cabled arrays at San Clemente, however, extend far beyond the area documented on the NOAA charts. The attached chartlet illustrates this. This additional information has been distributed to many industry planners along with data for other older ranges. The nautical charts should be taken as preliminary guidance. Installers should contact NSCPO prior to finalizing any new construction plans in proximity to any charted range.

However, certain information regarding the Navy's systems cannot be published. In these cases, only a direct contact can determine whether or not a potential problem exists. The best way to ensure a clear route for a new cable installation is to call NSCPO early in the planning stages. Industry's best tool to avoid Navy equipment, and the easiest way for the Navy to avoid commercial systems is to communicate early about a new route. When possible, the parties will exchange detailed information. When that is not practical, NSCPO will work with the company to find a mutually acceptable route or burial plan.

NSCPO requests that system planners, surveyors, and installation contractors contact us early in the planning process of a new system. It is easier to reduce conflicts early than to make last minute changes to avoid a

system. When convenient, NSCPO would appreciate being on distribution lists of as-built information that is provided to charting organizations such as NOAA and the UK Hydrographic Office. NSCPO requests that when practical, cable owners contact it with route position list updates from repairs. The data that is provided to NSCPO will be treated as commercially proprietary and will not be releasable.



Catherine Creese was appointed as the Assistant Director of the Naval Seafloor Cable Protection Office in May 2006 after eleven years at Tyco Telecommunications (US) Inc. At Tyco, she held positions in cable system route engineering, permitting and sales. She was also Tyco's delegate on the Executive Committee of the International Cable Protection Committee for four years and was a Director of the North American Submarine Cable Association. A former Coast Guard officer, Catherine is a US Coast Guard Academy graduate with a bachelor's degree in Marine Engineering. Catherine also holds a master's degree in Technology Management from Stevens Institute of Technology. You can reach her, and the rest of the NSCPO office at +1 (202) 433-9700 or via the web at [nscpo@navy.mil](mailto:nscpo@navy.mil).