

# WWII Antenna Replaced

## Strategic Communications Doesn't Miss a Beat

Story by YN2 Chad Boone, CYBERFOR Public Affairs

Photos by Robin D. Hicks



**OSO, WA** – Chief Warrant Officer 4 Robert Studyvin, officer in charge for Naval Radio Station (NRS) (T – for transmitter) Jim Creek, drives his truck along winding foothills, every turn revealing another pristine and majestic view of wildlife and 1,400 hundred

year-old trees. With a view like that, how could anyone complain about working at a site that operates 24/7/365?

He and Mr. Ron Chase, supervisor in charge of maintenance and operation repair

of the AN/FRT-3 one megawatt Very Low Frequency (VLF) transmitter located at NRS (T – for transmitter) Jim Creek, worked together as several antenna spans of the circa World War II cabling were recently replaced under a U.S. Fleet Cyber Command/10th Fleet and Navy Cyber Forces (NCF) Memorandum of Agreement.

Serving as a vital communication node for Commander, Submarine Pacific Fleet, Jim Creek has been transmitting since 1953, when its very first key broadcast went over the air waves. Jim Creek

recently completed the antenna replacement project funded by NCF to repair antenna cabling spans the Navy originally constructed in 1948.

“We are the first and most reliable VLF radio stations allowing for strategic communications for the Navy,” said Studyvin. “We’re proud of our 99.98 percent of effective on-air time providing continuous support to the Pacific Fleet submarine community.

Located just north of Seattle in a 5,000 acre forest, the communication network consists of 35 towers - 13 buss towers and 10 pull off towers sitting between the shadows of two 2,800 foot mountains and 12 200-foot main towers, six on top of each mountain. Additionally there are approximately 360 miles of cable laid on the ground floor of the valley going up each side of the two mountains. As a full megawatt capable station, Jim Creek’s transmitting capability is about 20 times that of most radio stations in major cities.

According to Studyvin, the antenna replacement project was vital because Jim Creek is part of a network of transmitter

sites around the world that work together to ensure worldwide coverage for our subs.

Driving home the strategic

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importance of this near six decade-old transmitter, Chase adds, “The properties of VLF allows for submarines to remain submerged and still communicate and are not adversely affected by sunspot activity like satellite communications.”

With the successful completion of the antenna replacement project, the antenna’s lifespan has been extended 25 years, according to Earl Pohl, antenna maintenance division supervisor.

“Repairs have occurred as recent as 10 years ago, but all recent upgrades

have replaced antenna spans as old as 60 years,” according to Pohl. Spans refer to the length of cable lines that connect the towers together over the 5,000 acre work site.

A 21-member permanent staff of military and civilians is tasked with various aspects of maintaining the transmitter and antenna equipment. Thirteen operators and maintainers work on the VLF radio itself, a crew of six is responsible for the antenna and ground maintenance and then there are two fulltime military personnel.

Seventeen additional contractors helped complete the replacement project and

have now gone, but continual operational support and year round maintenance is still required.

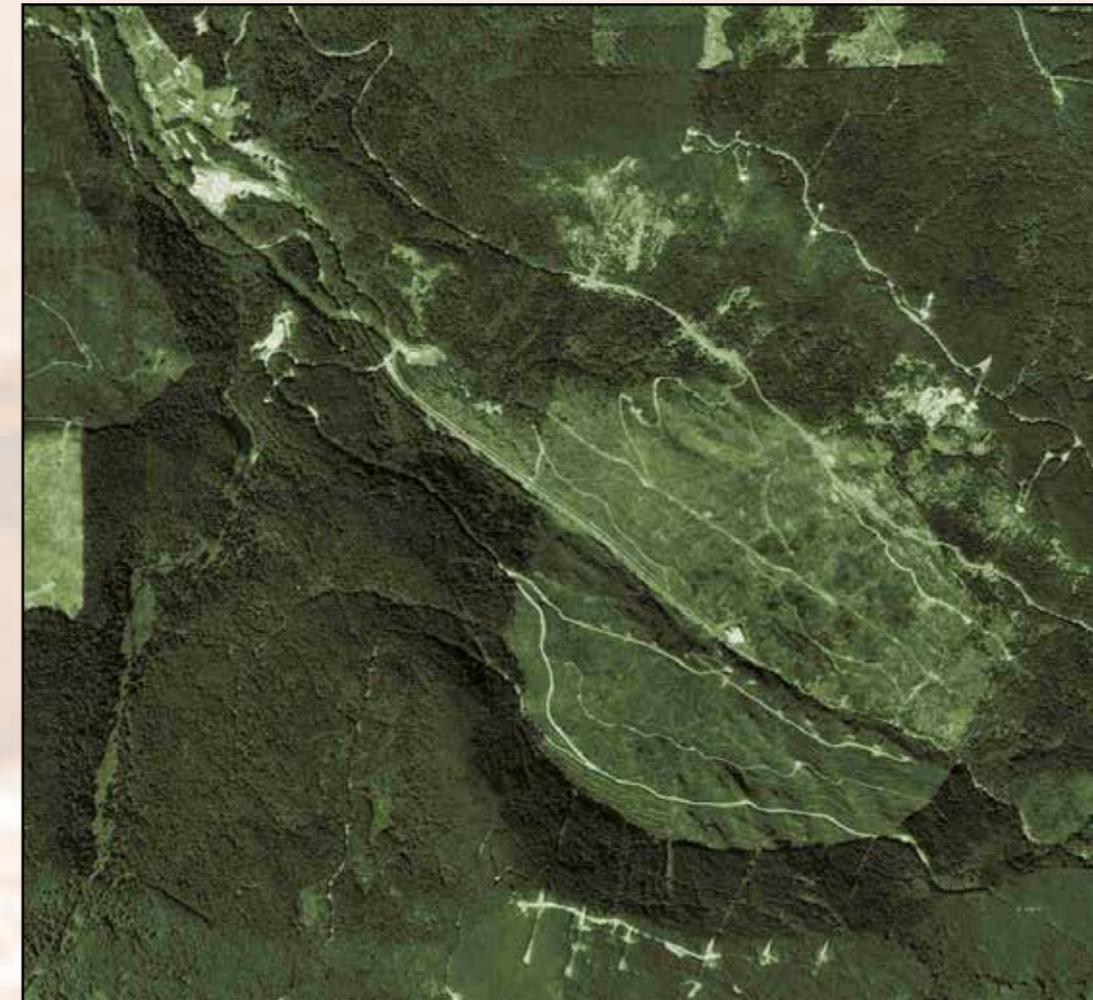
In particular, the crew works daily to clear the growing dense brush, called clear cutting, and maintain that brush to a height of no more than ten feet so the antennas work properly and optimize VLF transmission.

“The ground field is comprised of over 988 acres of mountainous terrain, 600 of which are clear cut,” Studyvin. “The six crew members are not only responsible to clear cutting the vegetation on two mountains, but also maintaining the 35 towers as well as the antenna

spans themselves.”

As part of this replacement project, twelve of the main towers needed to be prepped, primed and painted. On a regular basis however, inspecting, cleaning, painting and upgrading electrical components ensures the antenna continues to function as a vital communication hub for the Navy and its world-wide efforts.

With the successful completion of the antenna replacement project, Jim Creek will continue to provide operational command and control communications for the Pacific Submarine Fleet many years into the future.



(Clockwise) Two of the Station’s 21-member staff physically check an antenna cable line. Naval Radio Station Jim Creek’s transmitter. A satellite view of Jim Creek’s 5,000 acre site constructed in 1948. A hiker’s view of the Naval Radio Station Jim Creek, located just north of Seattle in a 5,000 acre forest, the communication network, consists of 35 towers - 13 buss towers and 10 pull off towers sitting between the shadows of two 2,800 foot mountains and 12, 200-foot main towers, six on top of each mountain.

(Official U.S. Navy Photos)

