

STAFF RECOMMENDATION

C. Kelly

NCPC File No. 6896



U.S. COAST GUARD TELECOMMUNICATION AND INFORMATION SYSTEMS COMMAND (TISCOM) ANTENNA TEST PLATFORM

7372 Telegraph Road
Fairfax County, Virginia

Submitted by the United States Coast Guard

December 31, 2008

Abstract

The United States Coast Guard is seeking approval for an antenna test platform at the U.S. Coast Guard Telecommunication and Information Systems Command in Fairfax County, Virginia. The platform will be used to test radio antennas, for approximately six to eight weeks at a time, to determine if the antennas meet operational needs for cutters and other ships. Previously, antennas were placed on the side of buildings for these tests; the platform will allow the antennas to be tested in one location away from buildings.

Commission Action Requested by Applicant

Approval of preliminary and final site development plans, pursuant to 40 U.S. C. § 8722(b)(1).

Executive Director's Recommendation

The Commission:

Approves the installation of an antenna test platform at United States Coast Guard Station Alexandria – Telecommunication and Information Systems Command (TISCOM), Fairfax County, Virginia, as shown on NCPC Map File No. 2204.21(05.00)42666.

Requires TISCOM to submit additional information on the types of antennas prior to installing such antennas on the platform, consistent with the Commission's applicable Guidelines and Submission Requirements for Antennas.

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PROJECT DESCRIPTION

Site

The United States Coast Guard Station Alexandria is home to the Telecommunication and Information Systems Command (TISCOM) and the Navigation Center (NAVCEN). The Coast Guard Station occupies over 200 acres at 7323 Telegraph Road in Fairfax County, Virginia, north of Fort Belvoir. The proposed platform is to be located in the developed portion of the U.S. Coast Guard property.

Background

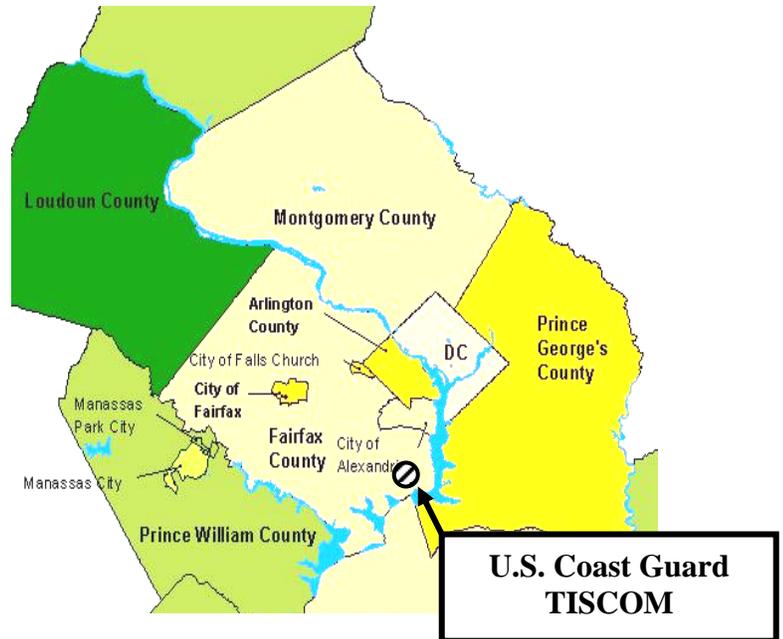
Recent actions of the Commission involving antennas at TISCOM were:

- In September 2008, the Commission approved the preliminary and final site plans for the installation of one Rescue 21 top-mounted Direction Finder antenna and three side-mounted antennas on an existing communications tower as well as the installation of supporting equipment, as shown on NCPC Map File No. 2204.21(38.30)42616, for a period not to exceed ten years.
- In March 2007, NCPC reviewed multiple renewals for antennas as delegated actions. One renewal consisted of an INMARSAT Standard B radome with enclosed dish antenna installed on a 20-foot-high tower adjacent to the west side of Building L04.
- Also renewed in March 2007, were five antennas on two towers. The existing installation consisted of a 70-foot-high tower, Z01, located northeast of Building L08, with three whip antennas for VHF and UHF, and a 30-foot-high tower, Z07, attached to the southeast corner of Building L08, with a twin-boom satellite antenna installed on top. The antennas and towers were approved for a period not to exceed five years.

Proposal

The U.S. Coast Guard has submitted preliminary and final site development plans for a proposed antenna test platform north of the lab deck in Mid-south building (L11) at the USCG TISCOM facility in Fairfax County, Virginia. The Enterprise Networks Division of the Product Line Department is responsible for engineering cutter underway communications systems. These communication systems use radios to extend Ethernet to the Coast Guard Data Network. The proposed platform will provide the ability to create the maritime architectures necessary to continue improving enterprise underway cutter connectivity. The platform will be used to test radio antennas for a short period of time, roughly six to eight weeks, to see if the radio meets

REGIONAL LOCATION



operational needs for cutters and ships. Previously, antennas were placed on the side of buildings for test; the platform will allow the antennas to be tested in one location and away from buildings.

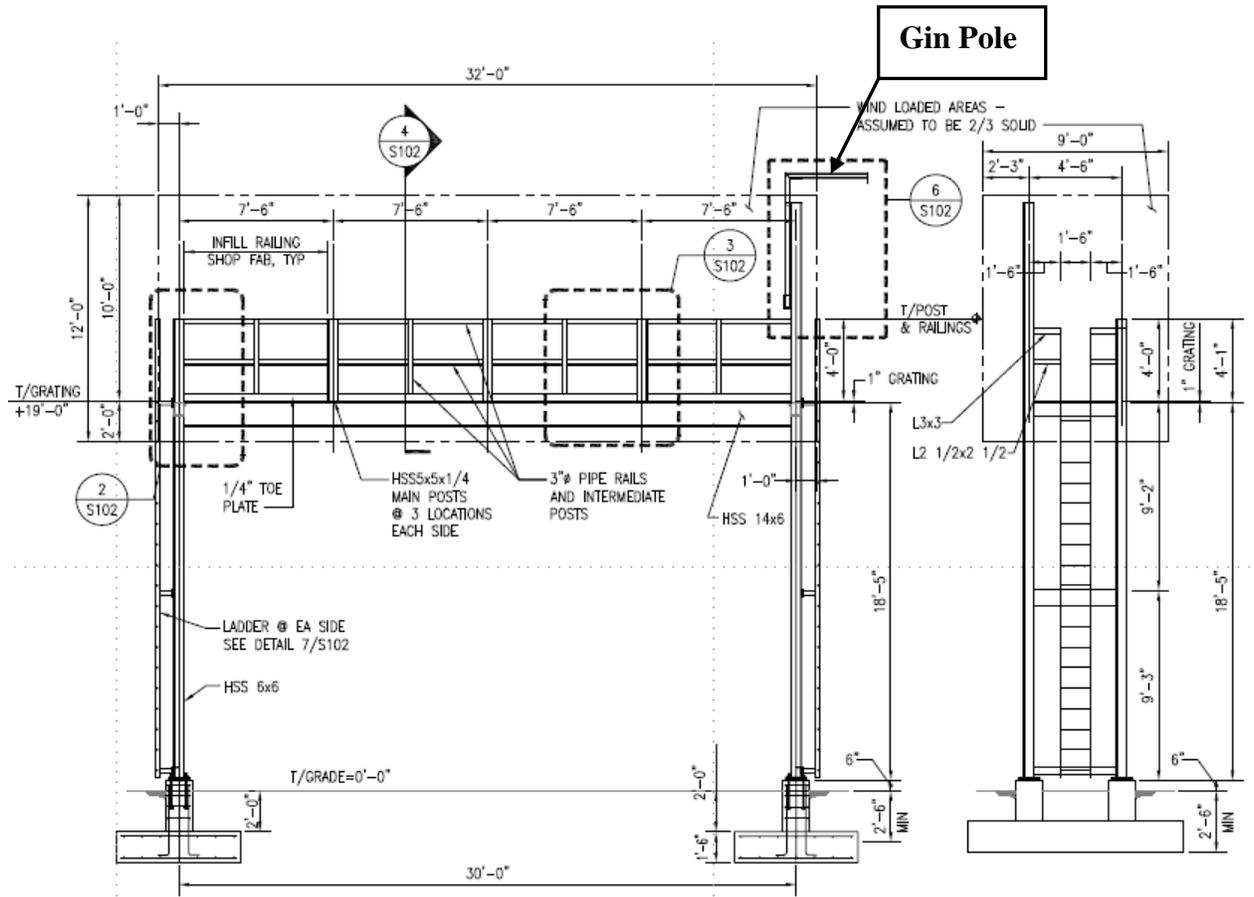
**LOCATION OF PROPOSED PLATFORM
WITHIN THE TISCOM COMPLEX**

The platform will be constructed of hot galvanized steel towers, topped with gin poles, which will support a four foot wide 30 foot long catwalk. A four foot high safety rail shall be installed on each side of the catwalk that will enable standard scaffolding to take advantage of Commercial of the Shelf (COTS) hardware for antenna mounting. The gin poles will be able to lift 250 pounds and have the ability to place a 200 pound antenna on a mount within eight feet off the end of the tower. The towers will be grounded.



**Telegraph
Road**

**Platform
Location**



Gin Pole

PLATFORM ELEVATIONS

PROJECT ANALYSIS

Executive Summary

Staff recommends that the Commission **approve** the installation of the antenna test platform at United States Coast Guard Station Alexandria – Telecommunications and Information Systems Command, Fairfax County, Virginia. Staff also recommends that the Commission **require** the Coast Guard to submit information on the types of antennas, consistent with the Commission's applicable Guidelines and Submission Requirements for Antennas, prior to their installation.

Currently, the Coast Guard knows of only one type of antenna to be tested on the platform, a dome NERA B and therefore, staff was only able to review the impacts of the NERA B antenna. As the Coast Guard determines which antennas will be test on the platform, they will submit the antennas for NCPC review before installation of the antennas.

Radiofrequency Radiation Analysis

The U.S. Coast Guard has submitted information about the NERA B dome antenna, consistent with the Commission's applicable Guidelines and Submission Requirements for Antennas. Documents show the testing antennas will not adversely affect human health and safety. The antennas are highly directional and will radiate most of the power toward the horizon rather than towards the ground. The NERA B dome antennas radiates at a minimum 30 degrees above the horizon; with the antenna being located about 20 feet off the ground no adverse emission levels will be encountered by people located at ground level.

The NERA B dome enables communication for marine vessels via telephone, telex, data and fax, using the Inmarsat global satellite system. This system is a satellite communications operation that operates at high frequencies and oriented to the high-sky region (73 degrees above the horizon) and which signals present no hazard to persons on the ground in the vicinity of the dome.

The satellite communications payload has two transponders, providing outbound (C- to L-band) and inbound (L- to C-band) links with mobile terminals in the 6.4/1.5 and 1.6/3.6 GHz bands. The effective L-band isotropic radiated power (EIRP) is 39 dBW to 48 dBW. Each satellite's global beam covers roughly one-third of the Earth's surface.

CONFORMANCE

Comprehensive Plan for the National Capital

Staff finds the proposed project is not inconsistent with the goals and objectives of the Comprehensive Plan for the National Capital. The following polices adopted by the Commission in the Federal Environment Element indicate federal actions in the region should conform to the following policy:

Utilize advances in technology, such as fiber optics, cooperative antenna technologies, and teleports; and monitor changes in standards and guidelines for the installations of antennas.

The antenna testing platform allows the Coast Guard to test new technology for use on their cutters and other ships.

Master Plan

The Commission approved a master plan for TISCOM in 1997. The antenna test platform is not inconsistent with the master plan, which identifies antenna testing as a function of TISCOM.

National Environmental Policy Act (NEPA)

The U.S. Coast Guard has found the proposed action to be categorically excluded under the National Environmental Policy Act (NEPA) by U.S. Coast Guard Categorical Exclusion #11, new construction on heavily developed portions of Coast Guard property, when construction, use, and operation will comply with regulatory requirements and constraints. As a result of the project being located outside the District of Columbia, NCPC does not have independent NEPA responsibility for the action.

National Historic Preservation Act (NHPA)

The U.S. Coast Guard has determined that the project will not affect any buildings listed on the National Register of Historic Places. The Virginia Department of Historic Resources has concurred with the Coast Guard that the action will not have an adverse effect. As a result of the location of the project outside the District of Columbia, NCPC does not have independent Section 106 responsibility.