



DEPARTMENT OF THE NAVY  
NAVAL SURFACE WARFARE CENTER  
CARDEROCK DIVISION

NAVAL SHIP SYSTEMS  
ENGINEERING STATION  
PHILADELPHIA, PA 19112-5083

IN REPLY REFER TO

9404  
Ser 96315/053  
28 APR 2000

**From:** Commanding Officer, Naval Ship Systems Engineering Station,  
Carderock Division, Naval Surface Warfare Center

**To:** Commander, Space and Naval Warfare Systems Command  
Headquarters San Diego (Code PMW-158-2)

**Subj:** PIERSIDE CONNECTIVITY: TEST REQUIREMENTS FOR FIBER OPTIC CABLE LINKS AFTER  
INSTALLATION

**Ref:** (a) Pierside Connectivity Mtg, Purpose: Discuss Status of/Issues with Pierside Connectivity, Fiber Optic  
Installations; of 3 April 2000  
(b) MIL-STD-2042 Part 7, Pierside Connectivity Cable Assemblies and Interconnecting Hardware, draft  
dated 21 May 99  
(c) Navy Standard Item No. 009-73: Shipboard Electrical/Electronic/Fiber Optic Cable; remove, relocate,  
repair, and install; of 6 Nov 98

**1. Purpose**

This letter addresses the requirements for performing the optical power verification tests that are a part of the pierside connectivity, fiber optic installations. During reference (a), an inquiry was made into the testing of single mode cable links for optical return loss. The requirement to do optical return loss testing on single mode cable links was generally not known. It was stated that no optical testing was done on the fiber optic cable links for pierside connectivity installed to date on the East Coast. Optical testing is to be performed as part of the System Operational Verification Test (SOVT). This letter provides guidance for optical verification tests that need to be done on fiber optic links as part of installation or the SOVT.

**2. Applicable standards that define verification tests**

Perform testing to the applicable standards.

- a. Pierside connectivity installations. Invoke the pierside connectivity installation standard, reference (b).
- b. Pierside connectivity optical tests after installation. Multimode cable links are tested for optical loss. Single mode cable links are tested for optical loss and optical return loss.
  - (1) Optical loss tests for fiber optic cable links. Conduct testing to the pierside connectivity installation standard, reference (b). One format that may be used for the optical loss data sheet is found in the fiber optic cable installation standard item, reference (c).
  - (2) Optical return loss tests for single mode, fiber optic cable links. Conduct testing to the pierside connectivity installation standard, reference (b).

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3. Points of contact

Please direct questions or comments to the Naval Surface Warfare Center Carderock Division, Ship Systems Engineering Station (NSWCCD-SSES) point of contact for fiber optic component testing, E. Bluebond. He can be contacted by FAX: (215) 897-8509 or E-mail: bluebond@spawar.navy.mil. The Naval Surface Warfare Center, Dahlgren Division (NSWC DD) point of contact for fiber optic specification requirements is G. Brown. He can be contacted by telephone: (540) 653-1579, FAX: (540) 653-8673 or E-mail: brownngd@nswc.navy.mil.



J. A. DOLAN  
By direction

Copy to:  
SPAWAR PMW-158 (CDR Ziegler)  
NSWC DD B35 (G. Brown)  
SPAWAR PMW-152 (R. Evans)  
SPAWAR PD 15Q2 (J. Bachrach)  
SPAWAR D632 (A. Maldonado)  
SPAWAR 04N-43A (D. Zsutty)  
SPAWAR 051 (C. Suggs)  
NAVSEA 05J2 (J. Moschopolous)  
NAVSEA 53Z (H. Lewis)  
DSCC-VQP (A. Eschmeyer)