

Thin Line Towed Array Handling System (TLTAHS)
Shipset 4 Roller Boxes & Tow Point Sensor Assembly
Contract # 10000051019 (June 2023)
Subcontract Flowdowns_Revision 0

Any questions, please contact Subcontract Manager, Susan Caromano (susan.caromano@lmco.com) or Subcontract Program Manager, Ken Peter (kenneth.j.peter@lmco.com).

These Subcontract Flowdowns listed below in addition to the CorpDocs terms and conditions contained in your purchase order for this program.

A. INCORPORATION OF FAR AND DFARS CLAUSES

The FAR and DFARS clauses referenced below are incorporated herein by reference, with the same force and effect as if they were given in full text, and are applicable, including any notes following the clause citation, to this Contract. If the date or



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NONDESTRUCTIVE TEST AND ALLOY IDENTIFICATION PROCEDURE APPROVAL

THE REQUIREMENTS CONTAINED HEREIN SHALL APPLY TO THE SELLERS AND ANY SUB TIER SUPPLIERS NONDESTRUCTIVE TEST NDT PROCEDURES USED IN FULFILLING THE REQUIREMENTS OF THIS PURCHASE ORDER THIS STANDARD CLAUSE IS ALSO APPLICABLE TO ALLOY IDENTIFICATION PROCEDURES.

A GENERAL REQUIREMENTS FOR NDT PROCEDURES

1. ALL RADIOGRAPHY, MAGNETIC PARTICLE, LIQUID PENETRANT, ULTRASONIC, EDDY CURRENT, AND VISUAL TESTING MUST BE PERFORMED IN ACCORDANCE WITH WRITTEN PROCEDURES APPROVED BY THE BUYER

VISUAL TESTING, AS IT PERTAINS TO THIS STANDARD CLAUSE, IS ONLY APPLICABLE TO THE INSPECTION OF COMPLETED FABRICATION WELDMENTS.

2. ALL PROCEDURES SHALL BE UNIQUELY IDENTIFIED BY A PROCEDURE NUMBER WITH A REVISION AND DATE

3. PROCEDURES SHOULD BE SUBMITTED FOR BUYER APPROVAL WITHIN THIRTY (30) DAYS OF THE SELLERS RECEIPT OF THE ORDER. PROCEDURES THAT WILL BE USED DURING THE MANUFACTURE OF THE PURCHASED ITEMS SHALL BE APPROVED PRIOR TO THE PERFORMANCE OF ANY SUCH INSPECTIONS. NDT PROCEDURES THAT WERE PREVIOUSLY USED TO INSPECT AND CERTIFY BASE MATERIAL PROCURED FROM A L M SE PER 2 B THD B3 THD B3 TH

**NAVSEA 250 1500 1 SHALL BE REMISION 17.
ML SID 2132 SHALL BE REMISION D
NSIR 99 SHALL BE REMISION 4**

IF AN ELECTRIC BOAT COMPONENT SPECIFICATION NAVSEA APPROVED INVOKES SPECIFICATION REMISIONS THAT CONFLICT WITH THE ABOVE, THE COMPONENT SPECIFICATION SHALL TAKE PRECEDENCE

**2 THE USE OF PROCEDURES PREVIOUSLY APPROVED TO THE REQUIREMENTS OF ML SID 271, REMISION F IS STILL PERMITTED PROVIDED THE GUIDELINES OF SECTION I ARE MET. HOWEVER, ANY SUBMITTAL OF NEW OR REVISED PROCEDURES SHALL COMPLY WITH NAVSEA TECHNICAL PUBLICATION T9074 AS GIB 010/271 EVEN IF ML SID 271 IS INVOKED
C VENDOR PROCEDURE APPROVAL REQUEST, VPAR**

1. ALL SELLER AND SUB TIER SUPPLIER NOT PROCEDURES SHALL BE FORWARDED TO THE BUYER VIA A PROPERLY COMPLETED VENDOR PROCEDURE APPROVAL REQUEST VPAR, EB FORM 84 01-2974. EACH PROCEDURE SHALL BE SUBMITTED SEPARATELY. THE SELLER SHALL SEND THE VPAR AND A COPY OF THE PROCEDURE TO THE BUYER DESIGNATED ON THIS PURCHASE ORDER. THE VPAR SHALL BE DISPOSITIONED BY THE BUYER'S DESIGNATED REPRESENTATIVE AND SHALL SERVE AS THE SELLER'S PROCESS APPROVAL, WHEN APPROVED.

2. TO EXPEDITE PROCEDURE APPROVAL, THE SELLER SHOULD ASSURE THAT THE VPAR FORM IS COMPLETED PROPERLY AND ALL PERTINENT INFORMATION IS INCLUDED. PARTICULAR ATTENTION SHOULD BE APPLIED TO THE FOLLOWING SECTIONS

A BLOCK 10 THIS BLOCK IS INTENDED TO IDENTIFY THE APPLICABLE DRAWING. WITHOUT THIS INFORMATION THE BUYER CANNOT VERIFY THE APPLICATION FOR WHICH THE VPAR IS BEING SUBMITTED. IF THE SAME TECHNIQUE WILL BE APPLIED TO NUMEROUS DRAWINGS, VARIANTS SHOULD BE ENTERED IN THIS BLOCK AND AN EXPLANATION ENTERED IN BLOCK 13. IF DRAWINGS ARE NOT APPLICABLE TO THIS ORDER, N/A SHOULD BE ENTERED.

B BLOCK 11 THIS BLOCK IS INTENDED TO IDENTIFY THE PIECE MARK ON THE DRAWING IDENTIFIED IN BLOCK 10 FOR WHICH THE PROCEDURE APPROVAL IS BEING REQUESTED. IF A PIECE MARK IS NOT APPLICABLE, ENTER N/A. WHERE THE PURCHASE ORDER REFERENCES A BUYER'S PART NUMBER FOR RAW MATERIAL, THAT NUMBER SHOULD BE ENTERED.

**C BLOCK 12 THIS BLOCK SHOULD REFERENCE THE PERFORMANCE SPECIFICATION AND ACCEPTANCE SPECIFICATION FOR WHICH THE PROCEDURE APPROVAL IS BEING REQUESTED.
FOR EXAMPLE, T9074**

**MAGNETIC PARTICLE TESTING
LIGHTING REQUIREMENTS
FINAL CLEANING**

**LIQUID PENETRANT TESTING
MATERIAL TO BE TESTED E.G., WELDS, WELD REPAIRS, CASTINGS, ETC
SURFACE PREPARATION
LIGHTING REQUIREMENTS
ALL PENETRANTS, EMULSIFIERS, REMOVERS, AND DEVELOPERS SHALL BE
INCLUDED ON THE QUALIFIED PRODUCTS LIST OF THE LATEST REVISION OF AMS
2644**

**ULTRASONIC TESTING
THE INSTRUMENT MODEL/S ALLOWED FOR THE INSPECTION
EQUIPMENT QUALIFICATION METHOD OR REFERENCE TO A QUALIFICATION
PROCEDURE
DESCRIPTION OF THE REFERENCE CALIBRATION STANDARD**

**VISUAL TESTING
TYPE OF WELDS OR SURFACES TO BE INSPECTED
NOTE UNLESS OTHERWISE STATED IN THE ORDERING DATA OR DOCUMENT/S
INVOKED THIS REQUIREMENT CAN BE SATISFIED BY SIMPLY OFFERING AN
OPENING STATEMENT TO THE EFFECT THAT THIS PROCEDURE SPECIFIES THE
REQUIREMENTS FOR PERFORMING THE VISUAL INSPECTION OF COMPLETED
FABRICATION WELDMENTS IN ACCORDANCE WITH EITHER APPLICABLE
SPECIFICATION**

F. ELECTRIC BOAT APPROVAL

**1. PROVIDED THE METHODOLOGY AND ACCEPTANCE CRITERIA CONTAINED IN AN
NDT PROCEDURE ARE ACCEPTABLE, THE BUYERS APPROVAL WILL BE GRANTED FOR
THE SPECIFIC APPLICATIONS REQUESTED BY THE SELLER FOR EXAMPLE, IF A
PENETRANT PROCEDURE IS SUBMITTED FOR THE INSPECTION OF MIL-S-1222H
NICKEL BOLTS, THE BUYERS EVALUATION SHOULD STATE THIS PROCEDURE HAS BEEN
REVIEWED AND APPROVED FOR THE PENETRANT TESTING LIST THE TYPE AND
METHOD OF MIL-S-1222H FASTENERS IN ACCORDANCE WITH NAVSEA TECHNICAL
PUBLICATION T9074 AS-GIB 010/271 WITH ACCEPTANCE TO SAE J123C IF THE
VENDOR PROCEDURE ALSO CONTAINS ACCEPTANCE CRITERIA FOR OTHER
APPLICATIONS SUCH AS FORGINGS OR CASTINGS, BUT APPROVAL IS NOT
REQUESTED IN BLOCK 13 OF THE VPAR AND NOT REQUIRED BY THIS PURCHASE
ORDER, PROCEDURE APPROVAL FOR THESE OTHER APPLICATIONS WILL NOT BE
GRANTED THE SELLER MUST THEN RESUBMIT THIS PROCEDURE TO OBTAIN BUYER
APPROVAL PRIOR TO USAGE ON ANY OTHER APPLICATIONS.**

20 P SELLER MUST FILL IN.

4. PROCEDURES PREVIOUSLY APPROVED BY EITHER ELECTRIC BOAT OR NEWPORT NEWS SHIPBUILDING ARE ACCEPTED BY BOTH SHIPBUILDERS FOR VIRGINIA CLASS PROCUREMENTS ONLY.

J. TEST REPORTS FOR PERFORMANCE OF NDT

1. WHEN SPECIFIED REPORTS SHOWING THE RESULTS OF EACH TEST PERFORMED WITHIN THE SPECIFIED NONDESTRUCTIVE TEST METHOD ARE REQUIRED GUIDELINES FOR PROPER TEST REPORT REQUIREMENTS ARE AS DETAILED IN



NewSearch

SECTION XIII - EB TRANSFER OF WPS OR PQR ALLOWANCE
SECTION XIV - USE OF AWS NAWSEA SVPS-N PROCEDURES
SECTION XV - COMPLIANCE REQUIREMENT STATEMENT

I) GENERAL REQUIREMENTS:

A) WELDED PROCEDURES SHALL BE APPROVED BY THE BUYER PRIOR TO PERFORMANCE OF WELDING OR BRAZING AND SHALL BE SUBMITTED FOR APPROVAL WITHIN THIRTY (30) DAYS OF SUPPLIER'S RECEIPT OF A PURCHASE ORDER. THE PRIME SUPPLIER WILL BE RESPONSIBLE FOR SUBMITTING FOR APPROVAL THEIR SUBCONTRACTOR'S WELDED PROCEDURES AND ONCE APPROVED BY EB, THE APPROVAL DOCUMENT SHALL BE FLOWED DOWN TO THE SUBCONTRACTOR.

B) FOR CASES WHERE THE SUPPLIER IS NOT ABLE TO SUBMIT PROCEDURES WITHIN THE THIRTY DAY REQUIREMENT, THE SUPPLIER IS REQUIRED TO NOTIFY THE BUYER AND PROVIDE A SCHEDULE FOR WHEN THE PROCEDURES WILL BE SUBMITTED FOR APPROVAL.

C) FOR PURCHASE ORDERS THAT ORIGINATE FROM HUNTINGTON INGALLS INDUSTRIES NEWPORT NEWS SHIPBUILDING (HI

A) VPS OR BPS WRITTEN IN ACCORDANCE WITH NAVSEA TECHNICAL PUBLICATIONS (I. E. NAVSEA T9074 AD GIB 010/1688 OR S9074 AR GIB 010/278) OR MILITARY STANDARDS (I. E. MIL STD 278) ARE TYPICALLY APPROVED FOR GENERAL USE WITHOUT RESTRICTION

B) APPROVAL OF VPS OR BPS FOR NON CRITICAL APPLICATIONS (AS DEFINED BY PARAGRAPH 4.2 OF SEAWLF PFD 802 6335694 AND/OR PARAGRAPH 4.2.1.1 OF MIL STD 278 OR M

A) WELDING OR BRAZING OF UNLISTED BASE MATERIALS OR WITH UNLISTED FILLER MATERIAL/ELECTRODE IS PROHIBITED EXCEPT AS SPECIFIED BELOW

1) WELDING ALL BASE METALS (SPECIFICATION TYPE AND CLASS OR GRADE) THAT ARE NOT LISTED S- GROUP NUMBERS IN NAVSEA S9074 AQ GIB 010/248 TABLE I OR NAVSEA S9074 AR GIB 010/278 TABLE I MUST HAVE NAVSEA OR NAVSEA AUTHORIZED REPRESENTATIVE APPROVAL PRIOR TO WELDING

2) BRAZING ALL BASE METALS (SPECIFICATION TYPE AND CLASS OR GRADE) THAT ARE NOT LISTED P- GROUP NUMBERS IN NAVSEA 0900 LP 001-7000 TABLE 4.4 OR NAVSEA S9074 AQ GIB 010/248 TABLE XIII MUST HAVE NAVSEA OR NAVSEA AUTHORIZED REPRESENTATIVE APPROVAL PRIOR TO BRAZING

3) FILLER MATERIAL/ELECTRODE SPECIFICATION AND TYPE ALL FILLER MATERIALS/ELECTRODES THAT ARE NOT LISTED A /F- GROUP NUMBERS IN NAVSEA S9074 AR GIB 010/278 TABLE II, NAVSEA T9074 AD GIB 010/1688 TABLES 10.1, 10.2, 10.3, 10.4, NAVSEA S9074 AQ GIB 010/248 TABLE II OR TABLE XIV, OR NAVSEA 0900 LP 001-7000 TABLE 4.2 MUST HAVE NAVSEA OR NAVSEA AUTHORIZED REPRESENTATIVE APPROVAL PRIOR TO WELDING OR BRAZING

B) IF THE SUPPLIER DOES NOT HAVE AN APPROVAL FOR A BASE OR FILLER MATERIAL/ELECTRODE, THE SUPPLIER MUST REQUEST APPROVAL VIA A V/R. THE V/R MUST PROVIDE THE MATERIAL SPECIFICATION, TYPE, CONDITION, AND APPLICATION WHERE THE MATERIAL IS BEING USED

C) IN ADDITION IF A LISTED MATERIAL SPECIFICATION IS FOUND TO BE OBSOLETE AND POINTS TO A REPLACEMENT SPECIFICATION, THE REPLACEMENT SPECIFICATION SHALL NOT BE USED UNLESS THAT MATERIAL SPECIFICATION IS APPROVED AS AN S- /P- /A- /F- GROUP MATERIAL

D) THE NAVWELD SOFTWARE, DISCUSSED IN SECTION VII, CONTAINS A LISTING OF MATERIALS APPROVED TO BE LISTED BY GROUP NUMBERS.

NOTE: APPROVAL TO CLASSIFY A MATERIAL TO AN S-, P-

2) SUPPLIER'S OWN EXISTING FORMS:

VI) WPS, BPS AND PQR REQUIREMENTS:

A) THE FOLLOWING SECTION PROVIDES CLARIFICATION OF SPECIFICATION REQUIREMENTS AS WELL AS ADDITIONAL REQUIREMENTS INVOKED BY THE BUYER

B) ALL NEW WELDING PROCEDURES SHALL BE LIMITED TO ONE FABRICATION SPECIFICATION. WELDING PROCEDURES WRITTEN AND QUALIFIED TO MULTIPLE SPECIFICATIONS WILL NOT BE ACCEPTED. THE EXCEPTION TO THIS IS WHEN NAVSEA S9074 OR Q1B

- 2) NON DESTRUCTIVE TESTS FOR PQR & WPQ
- 3) DESTRUCTIVE TESTS FOR PQR & WPQ
- 4) QUALIFIED RANGES OF THE ESSENTIAL ELEMENTS FOR PQR & WPQ
- 5) REQUIREMENTS OF THE FABRICATION DOCUMENT FOR PQR & WPS/BPS
- 6) PREHEAT & INTERPASS TEMPERATURES
- 7) BASE & FILLER COMBINATIONS

G) ADDITIONAL FEATURES INCLUDE

- 1) LOCATIONS FOR ENTRIES ARE MARKED "AS REQUIRED" OR "OPTIONAL", AND DOCUMENTS ARE MARKED AS "COMPLETE" OR "INCOMPLETE".
- 2) NAVELD AUTOMATICALLY CREATES A WPS/BPS BASED ON THE QUALIFIED RANGES OF A PQR
- 3) PROVIDES THE ABILITY TO TRACK WISCONSIN TESTS, WORKSHOP TRAINING AND WELDING/BRAZING HISTORY FOR PERSONNEL
- 4) PROVIDES THE ABILITY TO SEARCH FOR WELDERS & BRAZERS BASED ON THEIR QUALIFICATIONS.

IX) CLARIFICATION OF REQUIREMENTS FOR SINGLE PASS WELD QUALIFICATION BUTTERING UNDER HARDFACING OR CLADDING, SUBMERGED ARC WELDING OF HE MATERIALS, AND REPAIR OF BASE MATERIALS

A) SINGLE PASS WELD QUALIFICATION

1) MULTI PASS WELD QUALIFICATIONS CAN QUALIFY SINGLE PASS WELDING FOR THE FOLLOWING CONDITIONS, PROVIDED THE REQUIREMENTS OF NAVSEA S9074 AQ GIB 010/248 ARE MET

I. FILLET WELDS

II. BUILD UP OR REPAIR WELDING

III. JOINT DESIGNS LISTED IN MIL STD 22 WHICH ARE RESTRICTED TO BASE MATERIAL THICKNESSES LESS THAN 1/4 INCH E.G. BIS. 1, BIS. 2, CIS. 1, ETC

B) BUTTERING UNDER HARDFACING OR CLADDING (SOME DRAWINGS REFER TO THIS AS A BUFFER LAYER):

- 1) IF A PROCEDURE IS QUALIFIED WITHOUT BUTTERING, THE ADDITION OF BUTTERING SHALL REQUIRE REQUALIFICATION
- 2) THE MINIMUM QUALIFIED THICKNESS OF THE BUTTERING LAYER IS T (THE THICKNESS USED FOR THE QUALIFICATION WELD). THE MAXIMUM QUALIFIED THICKNESS OF THE BUTTERING LAYER IS 2T.
- 3) THE MINIMUM QUALIFIED NUMBER OF BUTTERING LAYERS IS EQUAL TO THE NUMBER OF BUTTERING LAYERS UTILIZED FOR THE QUALIFICATION TEST ASSEMBLY (RECORD NUMBER OF LAYERS ON PQR).
- 4) ELIMINATION OF BUTTERING SHALL REQUIRE REQUALIFICATION
- 5) M I F I C ° E M I T T E R I N G S H A L L I S R O M I N A A L L R E Q U U

1) WEN REQUIRED BY EB 4186 PERMISSION TO PERFORM REPAIR WELDING

NAWSEA MAINTAIN A PROCEDURE LIBRARY OF PUBLISHED AWS NAWSEA SVWS NS. THEY CAN BE FOUND BY SEARCHING "AWS NAWSEA" AT THE AWS ONLINE BOOKSTORE HTTP://PUBS.AWS.ORG NEW "AWS NAWSEA" PROCEDURES CONTINUE TO BE ADDED THEREFORE, THIS WEBSITE SHOULD BE CHECKED OFTEN FOR NEW PROCEDURES. THE SUPPLIER SHOULD REQUEST THE BUYER TO PROVIDE EB SPECIFICATION EB 5877 FOR SPECIFIC GUIDANCE ON THE USE OF AWS NAWSEA SVWS N PROCEDURES FOR THESE PRE-QUALIFIED WELDING PROCEDURES.

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XV) COMPLIANCE REQUIREMENT STATEMENT

A) THE ABOVE REQUIREMENTS DO NOT RELIEVE THE SUPPLIER OF ITS RESPONSIBILITY TO COMPLY WITH THE REQUIREMENTS OF THE PURCHASE ORDER ANY DEMANDS FROM OR REQUESTS FOR CHANGES TO THE PURCHASE ORDER REQUIREMENTS MUST BE CLEARLY IDENTIFIED AND JUSTIFIED AS SUCH BY THE SUPPLIER AND MUST BE SUBMITTED FOR APPROVAL VIA A VIR AND APPROVED AS SOON AS POSSIBLE PRIOR TO THE START OF PRODUCTION

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