

NAVSEA  
STANDARD ITEM

FY-23

ITEM NO: 009-67

DATE: 01 OCT 2021

CATEGORY: I

1. SCOPE:

1.1 Title: Integrated Total Ship Testing; manage

2. REFERENCES:

2.1 Standard Items

2.2 S9AA0-AB-GOS-010, General Specifications for Overhaul of Surface Ships (GSO)

2.3 S9095-AD-TRQ-010/TSTP, Total Ship Test Program Manual

2.4 MIL-STD-2106 (SH), Development of Shipboard Industrial Test Procedures

2.5 Joint Fleet Maintenance Manual (JFMM)

3. REQUIREMENTS:

3.1 Develop an Integrated Total Ship Test Plan (ITSTP), using contracted work package and available GFI.

3.1.1 Prepare and manage a Comprehensive Test Plan (CTP) in accordance with Section 092c of 2.2; using 009-04 and 009-60 of 2.1, and 2.3 for guidance.

3.1.1.1 Define and document the responsibility, lines of authority, and interrelation of personnel who manage, assist, perform, or verify work.

3.1.1.2 Include provisions for completion of total ship testing through Stage 6 in accordance with section 092c of 2.2 and 2.3 prior to dock trials using data from 009-60 of 2.1 (See 4.1 for examples).

3.1.1.3 Submit one legible copy, in approved transferrable media, of the CTP to the SUPERVISOR no later than 15 days prior to availability start date.

3.1.2 Include a Test Schedule (TS). (See 4.3 and 4.4)

3.1.3 Include a list of special purpose test equipment and software, with required dates and responsible provider (See 4.6).

3.1.3.1 Provide the requirements for special purpose test equipment, weapon test shapes, dummy loads, and test weights, to accomplish total ship testing. Identify known and anticipated deficiencies in required type, quantity, calibration, or availability to support the production or test schedule.

3.1.4 Include organizational responsibility for equipment operation, start up, and accomplishment of testing, including manning requirements.

3.1.5 Include a list of SUPERVISOR, contractor, Alteration Installation Team (AIT), and Ship's Force key test team personnel, with test sign-off authority.

3.1.6 Include administrative procedures for submittal of Test Problem Reports (TPRs), Test Failure Reports (TFRs), and test status.

3.1.7 Submit one legible copy, in approved transferrable media, of the ITSTP to the SUPERVISOR no later than the start of the availability.

3.2 Accomplish Test Procedures (TP) for all Stage 3 through 7 Tests as specified in the work item.

3.2.1 Reuse existing Government approved test procedures when available. Test and Evaluation Automated Management Information System (TEAMIS), the government's Non-Nuclear Surface Ship Test procedure management program, must be the primary source for approved Government test procedures per 2.3.

3.2.1.1 Modify existing test procedures to limit scope to match repair and/or update to match current equipment or revised specifications for the test requirements using 2.4 for guidance.

3.2.2 Develop new test procedures when reusable product is not available for the required tests using 2.4 for guidance.

3.2.2.1 Cover sheet must designate ship or ship class and system or component, and provide completed review signatures.

3.2.3 Submit one legible copy, in approved transferrable media, of each test procedure to the SUPERVISOR for review and approval. Submission must be no later than 14 days prior to start of the required test or as otherwise designated by the SUPERVISOR.

3.2.4 Submit one legible copy, in approved transferrable media, of each updated or changed test procedure to the SUPERVISOR at least 3 days prior to implementation.

3.2.5 Make pen-and-ink editorial changes to the test procedure when required after

testing commences. Editorial changes are limited to those correcting typographical errors. All other changes are considered technical and require SUPERVISOR approval. Technical changes are adjudicated by the SUPERVISOR's Engineering Support Desk by annotating on the test procedure prior to proceeding with the affected procedural steps.

3.2.5.1 Submit one legible copy, in approved transferrable media, of any editorial or SUPERVISOR approved technical changes made to the test procedure to the SUPERVISOR within one day of making the change.

3.2.6 Submit one legible copy, in approved transferrable media, of the completed test procedure no later than 1 day after test completion.

3.3 Manage the Total Ship Testing Task Group (TSTTG) to coordinate the test program in accordance with Section 092c of 2.2.

3.3.1 The group must consist of representatives of the SUPERVISOR (acts as Chairman), Contractor, AIT Team(s) on scene, Ship's Force, and others as requested by the SUPERVISOR or LMA (See 4.8) and must meet weekly unless otherwise directed by the SUPERVISOR.

3.3.2 Evaluate and document all problems impacting schedule and/or satisfying technical requirements.

3.3.3 Maintain agendas and minutes. Agendas must include tests completed since last meeting, tests not completed as scheduled with explanation and plan to resolve, issues impacting testing, and tests scheduled within the next 2 weeks. Minutes must include a list of attendees, action items with assignments, highlights of proceedings, and identified problems with potential impact.

3.3.4 Distribute minutes and changes to the CTP and ITSTP to TSTTG members no later than 2 business days after each meeting.

3.4 Manage Total Ship Testing.

3.4.1 Accomplish the requirements of the ITSTP of 3.1.

3.4.2 Incorporate all updates to ITSTP and status of Total Ship Testing including growth and new work no later than 48 hours after each TSTTG meeting.

3.4.3 Coordinate testing in accordance with the ITSTP.

3.4.4 Coordinate stationing of test personnel in accordance with the ITSTP. Provide test procedures and test data sheets to test personnel.

3.4.5 Coordinate the performance of each test procedure and record test results.

#### 4. NOTES:

##### 4.1 Test stage examples, not all inclusive.

###### Stage 1 – Material Receipt Inspection and Shop Tests:

- Physical inspection of new material, equipment and systems, and associated documentation.
- Ensure receipt of equipment is in good physical condition.
- Formal test procedure not required typically.

###### Stage 2 – Shipboard Installation Inspection and Tests:

- Cable integrity verification and insulation resistance checks.
- Hydrostatic tests of piping systems.
- Coolant flushing.
- Pre-energizing tests.

###### Stage 3 – Equipment Tests:

- Equipment element level initial light off, diagnostic and functional tests.
- Hinged/retractable mast operational test.
- Shaft torsion meter performance test.

###### Stage 4 – Intra-System Tests:

- Propulsion seawater cooling system operational test.
- Auxiliary propulsion system operational test.
- Diesel generator parallel and reverse power load bank test.
- System local area network interface test.
- Navigation system alignment verification.

###### Stage 5 – Inter-System Tests:

- Search radar distribution & display interface test.
- SPS-73 external interface test.
- AN/SPQ-9B video and trigger verification.
- AN/SPN-41A stabilization verification.
- Integrated propulsion test.

###### Stage 6 – Special Tests:

- EMI Phase I test (dockside).
- Hull generated IMI test.
- Data Link operational demonstrations dockside.
- SSDS MK 2 MOD 4B Combat System Integration test (dockside).

###### Stage 7 - Trials Tests:

- Radar set operational test (at sea).
- EMI Phase I test (at sea).
- Landing system correlation verification test (at-sea).
- Propulsion plant performance tests.
- SSDS MK 2 MOD 4B detect to engage demonstration (at sea).

4.2 GFI required to develop the ITSTP may include: Portions of Integrated Test Package (ITP), FMA/FMR Work Schedule, Ships Force Work List (SFWL), IDIQ, Test Index, and known AIT test requirements unavailable to the contractor.

4.3 Coordination of preparations for Sea Trials, including the test schedule for all planned underway testing will be included with the requirements of 009-60 of 2.1.

4.4 The Test Schedule is composed of the export of Integrated Production Schedule (IPS) data elements, developed in accordance with 009-60 of 2.1, sorted to include only test work activities.

4.5 The ship's Commanding Officer will provide personnel for recording data during testing.

4.6 Special purpose test equipment and software are defined as having unique functions and whose use is controlled and managed by an outside activity.

4.7 This standard item interfaces with 009-01 and 009-04 of 2.1 for test and inspection records.

4.8 The Lead Maintenance Activity (LMA) is defined in 2.5. MSRA/ABR contractors tasked with availability schedule management under 009-60/009-111 of 2.1 are considered the LMA.