



ENGINEERING CHECKS

MHC 51 CLASS

AUXILIARIES (AX) PRE-UNDERWAY PHASE

5811	ANCHOR WINDLASS (Inport Drop Test)		
Component/Sub-Component	Proposed Procedure	Accepted Procedure	
Inspect Tech Manual Support			
Inspect PMS Support			
Inspect posted operating/safety instructions and lubrication data			
Inspect fluid samples			
Inspect for proper HPU fluid levels			
Inspect for proper lubrication of mechanical components			
Inspect Gauge Calibration			
Inspect relief valve data is properly posted			
Inspect all flex hoses are properly tested and labeled			
Inspect mechanical brake operator linkages			
Inspect stroke control linkages			
Inspect flange shields			
Inspect for adequate nitrogen charge for windlass			
Inspect speed limiter			
Inspect for adequate LP air pressure for chain compressor			
Inspect capstan/wildcat brake assembly – mechanical brake components (worm gear end cap as required).			
Inspect electric brake			
Inspect filter differential indications			
Inspect HPU mechanical seal leakage			
Test Compensating Relief Valve is properly set			
Test - Conduct Inport Anchor Drop test			
- Inspect Servo/Replenishment Pressures during wildcat operation			
- Inspect Chain Compressor operation			
- Inspect Anchor drops from the hawsepipe			
- Test electric brake operation			
- Inspect reduction gear lubrication (gauges/sight flows/dipsticks)			
Test crossover valve operation			

Test wildcat/windlass solenoid switch		
Test Main Relief Valve lifts correctly		

5600 / 5611	STEERING (Inport System Verification)		
Component/Sub-Component	Proposed Procedure	Accepted Procedure	
Inspect Tech Manual and EOSS Support			
Inspect PMS Support			
Inspect operating/safety instructions and hydraulic system/electrical wiring diagrams are posted			
Inspect proper fluid levels			
Inspect hydraulic oil fill connections are properly labeled			
Inspect fluid samples			
Inspect Gauge Calibration			
Inspect rudder stock grounding straps			
Inspect filter indicators			
Inspect Servo/Replenishment Pressures are correct			
Inspect all flex hoses are properly tested/labeled			
Inspect flange shields are properly installed			
Test N2 accumulators are properly charged			
Test the trick wheel stops			
Inspect the crush block clearances			
Test the rudder follow up error (1 deg increments at 0 to 5 deg; 5 deg increments at 5 to 25 deg)			
Test ABT operation			
Test compensator relief valve settings			
Test main relief valve settings			
Test (inport) rudder swing checks			
Test (inport) blocking valve			
Test auxiliary emergency steering pump			
Test manual emergency steering system			
Inspect ram for scoring			
Test steering casualty alarm			
Test pump remote operation and transfer of controls to pilot house			
Test for static rudder split (pilot house in control)			
Test for indicator error (pilot house in control)			

A-002/105-11	EMERGENCY/SHIP'S SERVICE DIESEL GENERATORS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Engine Sump Level		
Inspect Turbocharger Sump Level		
Inspect Start Air Lubricator Oil Level		
Inspect Governor Oil Level		
Inspect Lube Oil Sample		
Inspect J/W Expansion Tank Level		
Inspect "Do not open access..." and Expansion Tank warning "Poison..." are posted		
Inspect/test fuel valve trip		
Inspect Relief Valves		
Inspect Flange Shielding		
Inspect For Exhaust Leaks		
Inspect Filters, Strainers		
Inspect Governor and Fuel Linkage for Binding		
Inspect J/W Standby Pump		
Test Blow In Damper		
Test pre-lube system operation		
Test Jacket Water High Temp Alarm		
Test Lube Oil Filter High DP Alarm		
Test low lube oil pressure alarm		
Test Remote Shut Down		
Test Local Shut Down		
Test Barring Device Interlock		
Test Engine Blow Down		
Test Local Pneumatic start		
Test dead bus auto start		
Test Overspeed Trip		
Test 80% load for 15 minutes		
Inspect for fuel/lube oil leaks		
Inspect pyrometer operation		
Inspect manometer		
Inspect sea water cooling pump		
Test high water/generator bearing temp alarm		

5512 / 5513 / 5515	LOW and MEDIUM PRESSURE AIR SYSTEM	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect operating/safety instructions are posted		
Inspect compressor oil level and oil samples		
Test compressor pressures and temperatures		
Test compressor capacity control system		
Inspect compressor belt condition		
Test compressor auto control and safety switches		
a. Operational control switches (115/120/125)		
b. Low oil pressure		
c. High discharge pressure		
d. High air and water temp		
Inspect all relief valve testing is within periodicity		
Inspect location of intake/vent supply		
Inspect receiver flask certification		
Test priority valve operation		
Inspect sea water cooling system		
Inspect 50/50 mixture of ethylene glycol		
Test type I and type II dehydrator operation		
a. Gauge calibration		
b. Tower operation		
c. Purge air pressure		
d. Automatic drain operation		
e. Dew point		
f. Inspect PMS and Tech Manual support		

5511 / 5515	HIGH PRESSURE AIR SYSTEM	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect operating/safety instructions are posted		
Inspect compressor oil level and oil samples		
Test compressor auto control and safety switches		
a. Start / Stop switch		
b. Low oil pressure switch		
c. Jacket water temp switch		
d. Compressor temp/pressure monitor operation		
Inspect compressor pressures and temperatures		
Inspect compressor drive belt condition		
Inspect condensate monitoring/drain system		
Inspect all flex hoses are properly tested/labeled		
Inspect all relief valve testing is within periodicity		
Inspect HP air flask certification		
Inspect sea water cooling system		
Inspect air intake/ventilation supply location		
Inspect all HP/LP air reducing stations		
Inspect fresh water pump belts		
Inspect capacity		
Inspect oil wipers		
Inspect pressure regulator valve		
Inspect 50/50 mixture of ethylene glycol		
Inspect seals for oil leaks		

5210	FIRE PUMPS (ELECTRIC and STEAM)	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect Transducer Calibration		
Inspect Coupling Guard		
Inspect relief valves are within periodicity		
Test remote start/stop functions		
Test local start/stop functions		
Inspect pump operation/design discharge pressure, unusual noise, bearing temps, etc.		
Test the over speed trip (STEAM)		
Test the speed limiting governor (STEAM)		
Test the turbine auxiliary lube oil pump low-pressure automatic start switch operation (STEAM)		
Inspect lube oil filter indications and oil level (STEAM)		
Test combination exhaust and relief valve (STEAM)		
Inspect the packing and mechanical seal leakage		
Inspect for ferrous fasteners		
Inspect the resilient mounts		
Inspect condition of expansion joints		
Inspect all flex hoses are properly tested/labeled		
Inspect piping lagging		
Inspect grounding straps		
Test remote operated suction/discharge valves		
Inspect the suction strainer		

5240	SEAWATER SERVICE PUMPS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect Transducer Calibration		
Inspect Coupling Guard		
Test remote start/stop functions		
Test local start/stop functions		
Inspect pump operation/design discharge pressure, unusual noise, bearing temps, etc.		
Inspect packing and mechanical seal leakage		
Inspect for ferrous fasteners		
Inspect foundation and resilient mounts		
Inspect condition of expansion joints		
Inspect all flex hoses are properly tested/labeled		
Inspect piping lagging		
Inspect grounding straps		
Test remote operated suction/discharge valves		
Inspect the suction strainer		
Test the firemain to seawater reducing station operation, condition and relief valve test periodicity		

5140	AIR CONDITIONING PLANTS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect EPA certifications		
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect operating/safety instructions are posted		
Inspect compressor oil level and oil samples		
Inspect warning at entrance (Freon usage) posted		
Inspect Refrigerant logs		
Test halocarbon monitor operation		
Test capacity control system operation		
Test calibration of safety shutdowns/alarms		
a. HP/LP pressure switches		
b. C/W, S/W flow/press/temp switches		
c. Low refrigerant temp switch		
d. Low oil pressure switch		
Inspect moisture indicators		
Test compressor operation (parameters, suct/disch valves)		
Test for leaks (oil/freon/water)		
Inspect chilled water pump		
a. suction valve		
b. discharge valve		
c. mechanical seal		
Inspect chilled water expansion tank		
a. Proper operating level		
b. Filling pipe air gap		
c. Relief valves and vacuum breakers		
d. Hose disconnects and warning sign		
Test PPU		
Inspect recovery unit (Inventory Item)		
Inspect for available vacuum pump		
Inspect sea water system		
a. Pump operation		
b. Zincs and nylon tube inserts present		
c. Condenser header condition		
d. Seawater Regulating valve		
Inspect motor controller		
Inspect coupling guard		
Inspect resilient mounts		

Inspect flex hoses		
AUXILIARIES (AX) UNDERWAY DEMO PHASE		
5811	ANCHOR WINDLASS DROP AND RETRIEVAL DEMONSTRATION	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Test - Conduct Anchor Drop and Retrieval test		
- Inspect Servo/Replenishment and Main Relief Pressures during wildcat operation		
- Inspect Anchor drops from the hawsepipes		

5600 / 5611	STEERING DEMONSTRATION	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect proper fluid levels		
Inspect correct Servo/Replenishment pressures		
Test - Demonstrate timed rudder swing checks/blocking valve test Ahead (as per provided procedure)		
Test - Demonstrate timed rudder swing checks/blocking valve test Astern (as per provided procedure)		
Inspect for dynamic rudder split from helm indicator		

5331	WATER HEATERS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect list of heaters onboard and spaces hot water services (berthing/laundry/galley)		
Inspect gauge calibration		
Inspect outlet temp at heater (verify operation)		
Inspect relief valve test data		
Inspect relief valve drain piping		
Inspect cold water inlet pipe for check valve		
Test high temp switch setting		
Test high temp switch warning light		
Inspect lagging condition		
Inspect for steam / water leaks		
Inspect Temp Reg Valve for locking device		
Inspect heater foundation		
Test water temp at basin/spigot		

5331	POTABLE WATER PUMPS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect Transducer Calibration		
Inspect Coupling Guard		
Test local start/stop functions		
Inspect pump operation/design discharge pressure, unusual noise, bearing temps, etc.		
Inspect packing and mechanical seal leakage		
Inspect for ferrous fasteners		
Inspect foundation and resilient mounts		
Inspect all flex hoses are properly tested/labeled		
Inspect grounding straps		

5315	WATER PRODUCTION DEMONSTRATION – REVERSE OSMOSIS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual Support		
Inspect PMS Support		
Inspect relief valves are within periodicity		
Inspect HP pump oil level		
Inspect flexible hose condition and test tag		
Test salinity dump valves		
Test salinity panel		
Inspect Accumulator Pressure		
Test the operation of the product and brine flowmeters		
Test – Demonstrate 80% water production capability during the 4 Hour Water Production Demonstration		
- Inspect RO to ensure the unit has not been set to produce above maximum recommended capacity (discharge pressure setting, production and sea water injection temperature diagram curve and tables)		
- Inspect the operating panel for alarm / unusual conditions.		
- Inspect 3 and 20 micron filter differential pressure		
- Inspect all fittings and connections for leaks		
- Inspect demineralizer operation		
Inspect freshwater flush		

5311	WATER PRODUCTION DEMONSTRATION – FLASH TYPE EVAPS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect PMS and Tech Manual support		
Inspect gauge calibration		
Test flow meter		
Inspect evaporator shell (sight glasses, diffuser cap and scale buildup)		
Test salinity dump valves		
Test interlock device between potable water and feed water valves		
Inspect feed pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect brine pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect distillate pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect brine pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect heater drain pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect flexible hose condition and test tag		
Inspect feedwater strainer (foundation and basket)		
Inspect pipe labeling and lagging condition		
Test - Demonstrate 80% water production capability during the 4 Hour Water Production Demonstration		

8543	DUMBWAITER	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect posted operating/safety instructions at each station		
Inspect posted lubrication chart at top station		
Inspect trunk bi-parting doors		
Inspect machinery access cover bolts & nuts		
Inspect machinery oil level		
Inspect hoist machinery mounting hardware		
Inspect hoist drum		
Inspect hoist wire rope and end fittings		
Test slack rope device and limit switch		
Test the hoist brake		
Test the up over travel limit switch		
Test the up deck level limit switch		
Test trunk bi-parting door limit switch		
Inspect car broken rope device		
Inspect car bi-parting door assembly		
Inspect car for missing components		
Test lower level trunk bi-parting doors and limit switch		
Test down over travel limit switch		
Test down level limit switch		
Inspect trunk buffer springs		
Test E-call and sound powered phone system when installed		
Inspect clean out cover mounting hardware		
Inspect motor controller for loose leads, posted placards, grounds and correct fuses		
Inspect dumbwaiter trunk for preservation and cleanliness		
Inspect guide rails		
Test each control station E-stop button		

8543	PACKAGE CONVEYOR	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect posted operating/safety instructions (two man rule/ do not ride) at each station		
Inspect posted lubrication chart at top station		
Test for audible warning when starting conveyor		
Inspect that all station doors are locked		
Inspect that all station controllers are locked		
Test door interlock system		
Inspect load/unloader at each station		
Test door cannot close when loader/unloader is in horizontal or 30 deg inclined position		
Test loader/unloader down interlock switch at each station below upper most level		
Test jam limit switch at each station		
Inspect safety shields are properly installed		
Test up-over travel switch/device operation		
Test clean out door interlock switch if applicable		
Test down overtravel device and switch		
Test indexing feature		
Test E-stop and run/stop buttons at all stations		
Inspect proper florescent lighting at each station		
Inspect trunk shielding and mounting hardware		
Inspect trunk guide rails		
Inspect conveyor trunk for preservation/cleanliness		
Inspect all carrier trays are installed and tight		
Test all station growlers and phone circuits are functional and headsets are present		
Inspect conveyor has been load tested within the last five years to include weight test data		
Inspect speed reducer is filled to proper level with oil		
Inspect drive, driven and carrier chains are properly tensioned		
Test bite panel for correct components and proper operation		
Inspect motor controller for loose leads, posted placards, grounds and correct fuses		
Inspect drive machinery for missing/loose components		

5161	REFRIGERATION PLANTS		
Components/Sub-Components	Proposed Procedure	Accepted Procedure	
Inspect EPA certifications			
Inspect Tech Manual and EOSS Support			
Inspect PMS Support			
Inspect Gauge Calibration			
Inspect operating/safety instructions are posted			
Inspect compressor oil level and oil samples			
Inspect warning at entrance (Freon usage) posted			
Inspect Refrigerant logs			
Test halocarbon monitor operation			
Test capacity control system operation (vent plug)			
Test calibration of alarm / shutdowns			
a. HP / LP pressure switches			
b. Sea water flow / pressure switch			
Test compressor operation (parameters, suction/discharge valves)			
Inspect for piping suppressors			
Inspect for leaks (oil/freon/sea water)			
Inspect refrigerant recovery system/vacuum pumps			
Inspect sea water system (pump operation, zincs, nylon tube inserts, and condenser header)			
Test chill/freezer boxes for fan operation, lighting, coil condition and curtains			
Inspect ventilation (flow/location/indicators and alarms)			

**ELECTRICAL (EL)
PRE-UNDERWAY PHASE
MHC 51**

3241 / 3112	SHIPS SERVICE DIESEL GENERATORS
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test dead bus pick-up	S-2
Test reverse power relays	S-1R
Test parallel operation	IAW EOP
Test manual load shedding	24M-2
400 HERTZ DISTRIBUTION SYSTEM (MOTOR GENERATORS)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test split and parallel operation	IAW EOP/CSOSS
4221	TELL-TALE PANEL/NAVIGATION SIGNAL LIGHT PANEL
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test navigational lighting panel	R-2
Measure insulation resistance of signal lighting panel.	S-1
Measure insulation resistance of Navigational lighting panel.	S-1
4331	ANNOUNCING SYSTEMS
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test general, chemical, and collision alarms from all stations	Q-1R
Test 1MC from all stations	Q-1R
Measure speaker group insulation resistance.	A-1
Test 1 MC oscillator, amplifier	Q-1R

4751	DEGAUSSING SYSTEM
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Conduct Linearity Test	TECH MAN S9475-AG- MMO-010/2990
Measure Insulation Resistance	TECH MAN S9475-AG- MMO-010/2990
Inspect degaussing folder	NAVSEA TECH MANUAL
3241	AUTOMATIC BUS TRANSFER EQUIPMENT
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test all Engineering ABT's.	S-1R/R-3
Test all remaining ABT's. (Day 2)	S-1R
4731	EVAPORATORS
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test dump valve operation	S-2
Test alarm settings	S-2
4373	WIND INDICATING SYSTEM
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test System For Proper Operation	R-1M
5081	THERMAL IMAGING SURVEY
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Commence Thermal Imaging Throughout The Ship NOTE: Any equipment surveyed that has a temperature rise of 40 degrees centigrade or above (3 or 4 star) must be repaired or tagged out prior to getting underway. The items will not be available until repairs are completed and re-shot for verification	R-1 / R-2

ELECTRICAL (EL) UNDERWAY PHASE

NOTE: Electrical Underway Checks Consist Mainly Of Space Walk-Through Throughout The Ship.

In each space inspect the following if applicable:

(INSPECT) FUSE BOXES

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Are fuses pulled from designated circuits without danger tags affixed?	NSTM 300 - 2.4.1
Are there loose or missing locking nuts or gear adrift?	NSTM 300 – 4.8.1
Are circuits properly labeled for easy identification?	GSO 305E
Are there any bent, twisted, misaligned, or broken fuse clips?	NSTM 300 4.8.1
Is the interior rusty or dirty?	NSTM 300 – 4.8.1/5.2.4
Are fuses of the correct amperage and voltage installed?	GSO 303F NSTM 320 – 1.7.4
Are circuits fed from one set of fuses (except battle lantern circuits) multiple?	GSO 331C
Are fuse clips phosphor-bronze instead of silver plated?	NSTM 300 – 4.8.1.2
Were door hinges broken?	5100.19 SERIES NSTM 300
Are non-silver ferruled fuses installed?	NSTM 300 - 2.5.4
Are circuits over fused?	NSTM 300 – 2.5.4
Is clearance provided to permit complete accessibility for maintenance, repair, renewal of fuses, and testing?	GSO 300D

(INSPECT) BATTLE LANTERNS

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were relay-operated lanterns installed in sufficient number?	NSTM 330 – 1.6.4.3.3.1
Are lanterns installed with suitable bracket assemblies to prevent removal of lantern?	NAVSEA 0964-000-2000 NSTM 300
Were lanterns inoperative?	NSTM 330 – 3.6.2
Were test switches and relay frames grounded?	NSTM 330 – 2.1.8

(INSPECT) BATTLE LANTERNS (CON'T)

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were lanterns located in explosion proof enclosures (prohibit)?	NSTM 330 – 1.6.4.3.2.2
Were NEALS lanterns installed and were they charged (red indicator)?	NSTM 330 – 1.6.4.3.2
Were relay operated lanterns fused?	NSTM 330 – 1.6.4.3.3.3
(INSPECT / TEST) SHORE POWER SYSTEM	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Is shore power being properly rigged?	NSTM 320-2.2.7
Did shore power shunt trip interlocks trip its associated breakers when tested?	IAW PMS IAW EOSS GSO 320D
Was shore power system cabling between the receptacles and the ship's switchboard insulation resistance within EOSS or PMS Limits	SPRU NSTM 300/320
Were shore power indicating lights operative, white in color, and all screws installed?	NSTM 320 – 2.2.9
Were warning signs posted?	GSO 070H
Was there pigtail stowage installed?	GSO 320D
Does the shore power system meet the current standards:	GSO 320D
<ul style="list-style-type: none"> - Have a Viking Connector System - Have AQB-LF400 Amp Circuit Breaker with shunt trip - Have a phase sequencing and phase orientation devices. - Have installed ammeter and selector switch to monitor total shore power current. 	

(INSPECT) CATHODIC PROTECTION SYSTEM	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was the installed Cathodic Protection System operative and adjusted	GSO 633C
Were the rudder grounding straps made of 1-1/2 inch wide braided copper and brazed to the rudder stock and the hull?	NSTM 633 – 3.3.2.7 GSO 633C
Has the system been turned off greater than 15 days?	GSO 633G
Was brush rigging correctly installed?	NSTM 633- 3.3.2.6
Were shaft grounding brushes correctly installed?	NSTM 633 ICCP Tech Manual
Did shaft grounding brushes exhibit full contact with the slip ring?	NSTM 633 – 3.3.2.6 ICCP TECH MANUAL
(INSPECT / TEST) ALARM SYSTEMS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test alarm switchboards and panels.	4351/Q-2
Were any alarm and warning systems inoperative or missing parts?	GSO 433J
(INSPECT) ORDER/INDICATING/METERING SYSTEMS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were Tank Level Indicators (TLI's) out of calibration or inoperative?	GSO 437 E
Were valve position indicator circuits misadjusted or inoperative?	GSO 430H
Were there missing or inoperative salinity cells?	GSO 531B IAW PMS
MOTOR CONTROLLERS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were interiors dirty, rusty, deteriorated, or contained gear adrift?	NSTM 302-3.3.2 GSO 320F
Were wiring diagrams, schematics or overload heater tables missing?	NSTM 302-3.3.1

MOTOR CONTROLLERS (CON'T)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was controller electrical wiring properly banded?	ELECT PLT. INST. STD METHODS/GSO 302F
Were Start, Stop, "Emergency Run" or Reset buttons seized, missing or inoperative?	3001/S-1/18M-1
Were rubber boots cracked, torn or missing?	NSTM 300-3.2.2 3001/S-1/18M-1
Were overload relay heaters properly sized and adjusted to provide adequate protection for the motor?	NSTM 302-3.3.2 GSO 302G
Were switches protected against inadvertent activation?	GSO 070H
Were controllers with multiple power sources properly labeled?	GSO 305C
Were motor foundations properly preserved?	GSO 631J
Were controllers and remote operating stations properly labeled?	GSO 305C
Is clearance provided to permit complete accessibility for operation, maintenance, repair, renewal of fuses, and testing?	GSO 300D
WORKBENCHES	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
- Does the workbench conform to standards set forth in NSTM 300 APP H? (Insulation, ground straps, disconnect switches, labeling, ground connections, etc)	NSTM 300 GSO 320E GSO 665 GSO 650
(INSPECT) ELECTRICAL SAFETY	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were flat irons a high-grade commercial type with a three pronged cord?	NSTM 300-2.7.3.6 GSO 640G

Were Ironing Board Stations in berthing space modified to remove spotlight and fill the access hole? Ensure irons are not hardwired.	GSO 640G
(INSPECT) ELECTRICAL SAFETY (CON'T)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Have shorting probes been modified by installing a nylon screw in the end of the probe and soldering the clip to the conductor?	NAVELEX 0101, 110A FIG 1-3 IAW PMS
Are portable tools/devices not stamped "Double Insulated" or equipped with a three pronged cord?	NSTM 300-2.7.3.3 IAW PMS
Were Hospital grade plugs used on portable equipment?	NSTM 300-2.7.3.2.8
Were light fixtures, guards, and covers securely mounted?	NSTM 300-4.3.3
Were over-sized lamps installed in lighting fixtures?	NSTM 330-2.2.4 NSTM 330-2.2.9
Were light fixtures missing lenses, protective guards, or faceplates?	NSTM 330-2.1.4 NSTM 330-2.2.6
Did diesel module room have adequate lighting?	GSO 331B GSO 332E
Were spray-tight fixtures adequately protected against water intrusion?	NAVSEA 0964-000-2000
Was bunk lighting cable hanging, or not routed through the inside of bunk stanchions?	NAVSEA 0964-000-2000
(INSPECT) CABLING	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was PVC cabling installed (new construction only)?	GSO 304D
Were dead-ended cables properly identified/terminated?	NSTM 300-4.6.7 GSO 304E NSTM 300-4.6.9 DOD-STD-2003-1
Were useless or improperly installed cables removed?	NSTM 300-4.6.7.1 GSO 304E
Was cabling properly supported, routed or were nylon wire ties being utilized?	GSO 304E

(INSPECT) CABLING (CON'T)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were cables pulling out of equipment?	GSO 331E
Were cables improperly spliced?	GSO 304E NSTM 300-4.6.8 DOD-STD-2003-1
Were cables protected against being handholds or being stepped on?	GSO 304E
Was cabling run through beams without the use of chaffing rings?	NSTM 300 TABLE 300-4-4 GSO 304E
Was cabling running through metal partitions equipped with grommets?	GSO 304E NSTM 320-1.6.11
Were cable stuffing tubes properly assembled ?	NSTM 300-4.6.10.1 NSTM 300 TABLE 300-4-4 NSTM 320-1.6.11 GSO 304E
Were multiple cables running through one stuffing tube?	GSO 304E NSTM 300 TAB. 300-4-4
Were multi-cable penetrators installed in Flammable Liquid Storerooms?	GSO 304E MIL-STD-1310
(INSPECT) BUS TRANSFER EQUIPMENT	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were ABT's installed for the following: <ul style="list-style-type: none"> - Emergency Lighting. - IC Switchboard and panels. - Steering power panel. - Pumps associated with the main and auxiliary machinery plant having Low Voltage Release (LVR) control. - Fire pumps. - Fire extinguishing auxiliaries and controls. 	NSTM 320-1.3.2 GSO 320D
Did ASCO ABT transfer switches have an electrical charge on the metal screw on the manual operator?	NAVSEA FSC SER 03E2/03E2-234
Was the sliding interlock on manual bus transfer switches effective at preventing both breakers from being closed at the same time?	NSTM 300-4.8.4.2

Are feeder circuit breaker megger holes blanked off?	NAVSEA 230319ZNOV 98
Were Normal/Alternate source indicating lights operative?	NSTM 320-2.2.6.4
(INSPECT) SHIP TELEPHONE SYSTEM	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was the system unreliable due to unresolved software or hardware deficiencies?	NSTM 430-3 GSO 432
Test battery back-up for telephone system	NSTM 313-2.5 GSO 313J
(INSPECT) MOTORS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were motor foundations properly preserved?	NSTM 300- 5.4.3.10 GSO 631J
Was resilient mounted electrical equipment grounded to the ships hull through ground straps?	NSTM 300- 2.2.1
Did electrical rotating machinery have ball check grease fittings (zerk fittings) installed?	NSTM 244
Were coupling, belt, or chain guards effective?	GSO 320E
POWER PANELS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Do labels specify the proper information?	GSO 305E
Do Breaker ratings match the circuit label current rating?	GSO 305E
Are multi-phase circuits missing breaker connecting handles?	GSO 324C
Were power panels located inside galley spaces?	GSO 320E
Is clearance provided to permit complete accessibility?	GSO 300D
CASUALTY POWER CABLES	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were cable ends properly terminated?	GSO 304E NSTM 320-3.4.1 DOD-STD-2003
Were cables deteriorated from age, heat, and humidity?	NSTM 079-47.4.2.2.10
Were normally energized power terminals labeled?	NSTM 320-1-2-8-2 GSO 320G

Were racks properly identified as to number/length of cables assigned to the rack?	GSO 305F
CASUALTY POWER CABLES (CON'T)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Is there a label attached at the end of the cable to indicate the length and stowage rack number?	GSO 305F DOD-STD-2003
Are cable leads properly identified for phase identification?	NSTM 320-1.2.8.2
Were cable ferrules missing or heavily oxidized?	NSTM 079-47.4.2.2.6
Was an improper number/length of cable installed on a cable rack?	NSTM 079-47.5.6.1 GSO 320G
Were wrenches missing from terminals?	NSTM 079-47.4.2.3.3
Were covers installed on power terminals?	NSTM 079-47.4.2.3.4 NSTM 079-47.4.2.3.6 GSO 320G
ELECTRICAL DISTRIBUTION EQUIPMENT	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was electrical distribution equipment securely mounted?	NSTM 300-4.3.3 GSO 300D
Electrical distribution equipment have loose or missing covers?	NSTM 300-4.3.3
Were control knobs or fasteners missing from electrical equipment?	NSTM 300-4.3.3
Was electrical equipment protected from water intrusion?	NSTM 300-4.4.1 NSTM 300-4.4.5
Is electrical properly mounted or was it suspended solely by electrical cables?	NSTM 300-4.3.3
Were 440 multipurpose outlets properly phased?	NSTM 320-1.4.1
Did Standard Navy Receptacles (SNR) and Multi-Purpose Outlets (MPO) have an interlock switch or was the switch function such that the plug could not be removed from an energized receptacle?	NSTM 320-1.4.1
Were electrical receptacles broken or damaged?	NSTM 300-2.7.6
Were 400HZ AC, 60HZ AC, and DC convenience	GSO 320

outlets labeled to prevent equipment being used with the wrong frequency?	
SOUND POWERED TELEPHONE SYSTEMS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were any Sound Powered Circuits below 50,000 ohms resistance to ground?	GSO 432I
Were Sound Powered Call Signal Stations (growlers) inoperative, corroded, damaged or missing parts?	NSTM 430
Were Sound Powered Jackboxes improperly labeled, corroded, damaged, or missing parts?	NSTM 430-3.2
(INSPECT) LIGHTING	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were darken ship switches operative and adjusted properly? Ship provide list of darken ship switches for survey.	DOD-HDBK-289 NSTM 330-3.6.5
Were light fixtures, guards, and covers securely mounted?	NSTM 300-4
Were over-sized lamps installed in lighting fixtures?	NSTM 330-2
Were light fixtures missing lenses, protective guards, or faceplates?	NSTM 330-2
Were spray-tight fixtures adequately protected against water intrusion?	NSTM 300-4
Did diesel module room have adequate lighting?	GSO 331B/332E
(INSPECT) BATTERY LOCKERS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was a Battery Log maintained?	NSTM 313-2 GSO 313F
Is there an electrical interlock between exhaust ventilation and battery charger?	5100.19C C0904 NSTM 313
Test ventilation interlocks	3131/S-2
Are Alkaline and Lead Acid Batteries being serviced in the same facility?	5100.19 C0904 GSO F
Is each locker provided with: - Rubber Gloves and Aprons. - Goggles. - Two battery fillers. - Two battery test sets. - One soda water container.	5100.19 GSO 313F NSTM 313

Does the locker contain an eye wash station and a deluge shower?	NSTM 313-2
(INSPECT) BATTERY LOCKERS (CON'T)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Are battery storage racks greater than 12 inches between tiers?	GSO 313F
Were battery hold-down clamps provided?	GSO 313F
Are Acids stored in appropriate protective containers?	GSO 313F
Are battery charger plugs and jacks marked NEG. and POS.?	GSO 313F
(INSPECT) MISCELLANEOUS EQUIPMENT	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Is permanently mounted electrical equipment hardwired to the ships electrical system?	NSTM 330-1
Is hardwired electrical equipment permanently mounted?	NSTM 330-1
Was more than 1 multi-purpose power strip connected to one isolated receptacle circuit?	NSTM 300-2.7
Is electrical equipment mounted on non-conducted surfaces properly grounded?	3000 / A-5
Were Surge Protectors of the approved type?	3000 / A-4R
Are portable electric device power cords properly tinned?	3000 / Q-1R
Are permanent-type safety precautions, operating instructions, high voltage warning signs, and resuscitation instructions installed where required?	NSTM -H.5, I-2
Did electrical connection boxes have knockouts pushed in leaving access holes In the side?	NSTM 300-2.
Are non-watertight connection boxes being used in engineering spaces?	GSO 300D
Was rubber matting oil soaked, cracked, punctured, perforated or had imbedded metal or conductive particles?	GSO 634B

(INSPECT) MISCELLANEOUS EQUIPMENT (CON'T)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Did dress ship lights have broken, missing, or incorrect guards?	NSTM 330-1 3000/ R2
Were dress ship light receptacles labeled "Dress Ship Light Streamers. Not to be used for any other purpose"?	NSTM 330-1-
Were panel switches controlling circuits that are de-energized during darkened ship operation marked DARKENED SHIP?	NSTM 330-1
Had the float charge on the UPS batteries been reduced from 135vdc to 129vdc?	IAW PMS
Was UPS electronic cabinet bottom sealed to prevent water of oil entry from lower level engine room?	GS0 300D/324D NSTM 300-4

ELECTRICAL (EL) POST-UNDERWAY MHC 51	
OPEN AND INSPECT AS REQUIRED BY THE INSPECTION	
COMPONENT/SYSTEM	PROPOSED PROCEDURE

MAIN PROPULSION (MP) PRE-UNDERWAY PHASE MHC 51

MAIN ENGINES

Component/Sub-Component	Proposed Procedure
Inspect Sump Level	MEDA
Inspect Lube Oil Condition	MIP 2331/013 MRC R-25D, R-24D, R60D, R-61, R-62D
Inspect Intake Plenum and Filter	MIP 2331/013 MRC A-27R
Inspect Intake Dirty Side	MFR Tech Manual
Test blow-in doors	MIP 2513 MRC R-1
Inspect Start Air Lubricator Oil Level	MIP 2331 MRC M-2
Verify Governor linkage & fuel rack stop settings	S9233c4MMA0100106
Check schedule screen while pulling down gov fuel rack to ensure rack value Y=100% X= \geq 66	EGB-2P
Inspect Coolant Level	MEDA
Test Overspeed Trip	MIP 2331 MRC 24M-2R
Test AMOT alarm	Ship's procedure. The best way I've seen is to pull the card and flip the card 180 deg reinstall and alarm should sound.
Test Prelube Pump	MEDA
Test Jacket Water High Temp Alarm	MIP 2331/013 MRC 24M-3R
Test Lube Oil Filter High DP Alarm	MIP 2331/013 MRC 24M-3R
Test Remote Shutdown	EOP CAMDS
Test Local Shutdown	MIP 2331/013 MRC S-2
Test Electric Low Lube Oil Shutdown	MIP 2331 MRC S-2
Test Mechanical Low Lube Oil Shutdown	MIP 2331 MRC S-2
Test Low Start Air Alarm	Local Procedure
Test Local Pneumatic Start	EOP
Test ASW Emergency Cooling	MEDA
Test Lube Gallery Low Pressure Alarm	MIP 2331/13 MRC 24M-3R
Inspect Governor and Fuel Linkage for Binding	EGB-2P

INTEGRATED FLUID VARIABLE GEARBOX

Component/Sub-Component	Proposed Procedure
Sump Level	MEDA

Inspect Lube Oil Condition	NSTM 241-3.2.4; 262-5.1; MIP 2000/001 R-1
Inspect Casing Exterior	NSTM 233
Test Dump Valve	MIP 2411 MRC A-3R
Test Scoop Tube	S9324-EP-MMA-010
Test Get Home Device	MIP 2411 MRC Q-4
Test in Transit Mode	OBSERVATION
Test IFVG L.O. Pump Auto Start and Alarm	MIP 2411 MRC A-1R
Engage/Disengage Clutch	MEDA
Test Barring Device	

VOITH-SCHNEIDER PROPELLERS

Component/Sub-Component	Proposed Procedure
Inspect Sump Level and Oil Condition	NSTM 241-3.2.4; 262-5.1; MIP 2000/001 R-1, VSPV
Inspect lube oil duplex filter	MIP 2451 MRC R-1
Test low lube oil pressure alarm and auto standby pump operation. (MHC 51-53 only)	MIP 2451 MRC 18M-2
Test low control oil pressure alarm and auto standby pump operation. (MHC 51-53 only)	MIP 2451 MRC 18M-3
Test propeller pitch control and EOT	CPPT

LINE SHAFT BEARINGS

Component/Sub-Component	Proposed Procedure
Inspect Sump Level	MIP 2000/001 R-1; NSTM 262; MLOC
Inspect Sump Drain Valve	NSTM 244-2.4.3
Inspect Seals	NSTM 244-2.6.30
Inspect Thermometer	NSTM 241-3.4.3.13
Inspect Lubricator	NSTM 244-2.4.3.7
Inspect Dip Stick	NSTM 244-2.6.7
Inspect Lock Wires	NSTM 241-4.2.3
Inspect Bearing Depth Mic Surface	NSTM 241-4.2.3

FUEL OIL SYSTEMS

Component/Sub-Component	Proposed Procedure
Inspect Purifier	EOP FOPO
Inspect Filters/Strainers	MFR Tech Manual
Inspect Filters	MFR Tech Manual

Test Service Tank Suction Valves	MIP 5000 MRC S-2
Test Service Tank Recirc Valves	MIP 5000 MRC S-2
Test Quick Closing Valves	MIP 5000 MRC S-2

CONTROLS	
Component/Sub-Component	Proposed Procedure
Test EOCC Alarms and Indicators	CAST
Test LOSP Alarms and Indicators	CAST
Inspect UPS for corrosion	OPEN DOOR LOOK
Check UPS splits	UPS 1 and 2 should be 13.0 VDC +/- 1 VDC from (+) & (-) to UPS cabinet or E1 ground.
Check for dedicated laptop and diagnostic cable for off line bite.	Used to trouble shoot all sub systems (DAU's consoles etc.
Reboot DAU1, DAU2 and DAU3 to check status of circuit cards.	MFR Tech Manual
Check MCCP Mimic page for alarm conditions	MFR Tech Manual
SQQ 109 Check bite results for errors (on line check)	MFR Tech Manual
Check DACBUS status page. Read schedule description guide.	All should be up(TDC may have one down)

HULL STRUCTURE	
Component/Sub-Component	Proposed Procedure
Inspect Bilges	NSTM 100
Inspect Bilge Suction Screens	NSTM 100
Inspect Deck Plates	NSTM 100
Inspect Equipment Foundations	NSTM 100
Inspect Paint and Preservation	NSTM 100
Inspect Pipe Brackets/Hangers	NSTM 100

FUEL OIL TRANSFER DEMONSTRATION	
Component/Sub-Component	Proposed Procedure
Demonstrate fuel oil purifier (s) operation	EOSS/PMS
Demonstrate purifier (s) emergency stop capability	EOSS/PMS/Tech manual

MAIN PROPULSION UNDERWAY PHASE MHC 51	
TEAM ARRIVAL	
Component/Sub-Component	Proposed Procedure
Check applicable equipment for correction of deficiencies.	
Tour space, ensure ready for sea.	

DEMONSTRATIONS	
Component/Sub-Component	Proposed Procedure
Demonstrate Full Power ahead (1 hour)	PMS/EOSS/POG/9094.1B
Demonstrate Quick Reversal Astern	POG/Full Power Memo/EOSS
Demonstrate Quick Reversal Ahead	POG/Full Power Memo/EOSS
Demonstrate fuel oil purifier (s) operation	EOSS/PMS
Demonstrate purifier (s) emergency stop capability	EOSS/PMS/Tech manual