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# Mobile Offshore Drilling Unit Inspector (MU)



## PQS Workbook

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# **MU Qualification Task Matrix**

TSK #	TASK	DATE
AC01	Inspect berthing accommodations.	HI
AC04	Inspect mess deck spaces.	HI
AC05	Inspect hospital spaces.	
AC06	Inspect areas where washers and dryers are installed.	
AC07	Inspect paint lockers.	
AC08	Inspect ladders, railways, and gangways.	↓
AC10	Inspect heating and cooking equipment.	SV
CS03	Inspect bulk liquid cargo system on an OSV or MODU.	OI
CS04	Inspect components installed in designated hazardous locations.	BI
DD01	Ensure that the vessel's entire underwater body is clean for examination.	HI
DD02	Determine whether structural configuration match approved plans.	HI
DD04	Conduct external exam of hull, pontoons, columns, legs, mat, spud cans.	9/24/07
DD06	Examine steel hull for damage and defects.	HI
DD10	Examine critical joint areas.	
DD11	Examine draft marks.	
DD12	Examine load line.	
DD13	Examine drydock plugs for local wastage and proper fit.	
DD14	Examine sea chests and overboard discharges.	↓
DD16	Examine propeller for damage.	OI
DD18	Inspect tailshaft(s) and stern bearings.	
DD20	Inspect the rudder installation.	
DD22	Examine anchor chains.	↓
DD23	Complete applicable structural failure reports and obtain CG-2692.	FO 25 Jun 92
DD24	Examine freeing ports and scuppers.	HI
DD25	Open sea valves for inspection.	OI
DD27	Examine thruster (bow or stern) and thruster tunnel.	24 Sep 07
DD28	Survey vessel for compliance with eligibility requirements for SEI LOD.	24 Sep 07
DD29	Conduct inspection of internal spaces and structures.	HI
DD31	Evaluate repair proposals and inspect completed repairs.	BI

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HCG168-000732  
HCG168-000731

# **MU Qualification Task Matrix**

TSK #	TASK	DATE
ED01	Observe fire and boat drills.	HI
ED04	Review logbook and ensure entries for tests and drills have been made.	↓
EE01	Inspect fireman's outfit(s).	↓
EE04	Inspect EPIRB.	↓
EE05	Test and inspect the general alarm system.	↓
EE06	Inspect line throwing equipment.	↓
EE09	Inspect pyrotechnics.	↓
ES01	Inspect switchboards.	OT
ES02	Inspect ship's service generators.	↓
ES04	Inspect emergency generators.	↓
ES05	Inspect battery installation.	↓
ES06	Inspect motor controllers.	↓
ES07	Ensure lighting systems/fixtures are adequate and meet requirements.	↓
ES09	Ensure receptacle outlets are properly grounded.	↓
ES10	Inspect distribution panels.	↓
ES12	Survey/inspect electrical cable installation.	↓
ES13	Test power operated watertight doors from local/remote control units.	HI
ES14	Test/inspect internal communication and control systems.	OT
ES16	Inspect components installed in designated hazardous locations.	↓
ES18	Inspect the general alarm system emergency batteries.	↓
ES19	Perform operational test of remote ventilation shutdowns.	HI
FF01	Determine amount, type, location of fire protection equipment required.	↓
FF02	Inspect CO <sub>2</sub> systems.	↓
FF06	Inspect Halon systems.	SV
FF08	Inspect semi-portable firefighting equipment.	SV
FF09	Inspect portable firefighting equipment.	SV
FF10	Inspect fire main and fire stations.	SV
FF13	Witness operational test of fire detection system.	HI
FF14	Examine fire doors and dampers.	↓



# **MU Qualification Task Matrix**

TSK #	TASK	DATE
FF15	Inspect fixed foam extinguishing systems.	HI
FF16	Inspect and operationally test sprinkler system.	
FF17	Review fire control and hazardous location plans.	
FF18	Inspect fire axes.	
FF19	Inspect condition of vent and duct leading from grill in galley.	
FF20	Examine fire control plan.	↓
FF21	Inspect accommodation areas for compliance with SFP requirements.	24 Sep 07
FP01	Verify that required forms, placards and notices are posted.	HI, OI
GT01	Verify ground tackle and related equipment is in satisfactory condition.	OI
II01	Review vessel documents and papers; state if each is valid or expired.	↓
II05	Discuss scope of inspection with owner's representative.	↓
II06	Obtain CG-2692 for reportable marine casualties.	FO
II07	Examine gas-free certificate.	OI
II08	Review hull gaugings and compare with original scantlings.	BI
II09	Review any outstanding CG-835s and ask if other deficiencies exist.	HI
LS01	Determine amount/type of lifesaving equipment required.	
LS05	Inspect life preservers.	
LS06	Inspect ring buoys.	
LS07	Inspect survival suits.	
LS08	Inspect lifeboat equipment (or survival capsule).	
LS09	Inspect lifeboat (or survival capsule) for hull structure and fittings.	
LS10	Witness lifeboat and davit launched raft weight test.	
LS11	Inspect and test lifeboat winches and associated equipment.	
LS12	Witness lifeboat operation.	
LS13	Inspect embarkation aids.	
LS14	Inspect davit structure.	
LS16	Inspect inflatable liferaft installations.	
LS17	Inspect rescue boat.	↓
MI01	Determine condition of the components of the steering gear assembly.	↓

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HCG168-000731

# **MU Qualification Task Matrix**

TSK #	TASK	DATE
MI04	Inspect fuel oil service and transfer system.	9/24/07
MI06	Inspect bilge pumps installation, piping, and valves.	OI
MI08	Examine refrigeration/air conditioning machinery.	↓
MI09	Examine potable water system.	↓
MI10	Observe operational tests of machinery.	BI
MI13	Inspect the diesel installation and assembly.	BI
MI16	Inspect air starting systems.	OI
MI17	Inspect hydraulic starting systems.	↓
MI18	Inspect electric starting systems.	↓
MI19	Witness operational test of main propulsion diesel automation.	↓
MI22	Internally examine UPVs requiring internal examination.	↓
MI23	Externally examine UPVs.	↓
MI24	Hydrostatically test UPVs requiring hydrostatic testing.	↓
MI25	Ensure all UPVs are properly equipped with pressure relief valves.	↓
MI26	Witness pressure relief valve test.	↓
MI30	Conduct a fireside and external exam of an auxiliary/heating boiler.	24 Sep 07
MI31	Conduct a waterside examination of an auxiliary/heating boiler.	24 Sep 07
MI32	Conduct required mountings inspections.	24 Sep 07
MI33	Conduct a hydrostatic test of the boiler(s).	24 Sep 07
MI34	Witness the lifting and reseating of safety valves.	24 Sep 07
MI38	Ensure insulation on steam piping provided to reduce personnel hazard.	24 Sep 07
NS01	Ensure radars are operable.	HI
NS02	Inspect magnetic compass.	↓
NS03	Inspect required depth sounding/recording equipment.	↓
NS04	Examine radio direction-finding equip./elect. position fixing devices.	↓
NS05	Examine radio equipment and FCC or SOLAS documents.	↓
NS06	Inspect navigation and signal lights.	↓
NS09	Inspect signaling devices.	↓
NS10	Inspect navigation publications.	↓

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# MU Qualification Task Matrix

TSK #	TASK	DATE
NS12	Ensure required navigational equipment is on board.	HI
NT01	Approve NDT method for specific applications.	BI
NT02	Check certification of NDT technician.	↓
NT03	Witness NDT in accordance with applicable standards.	↓
NT04	Evaluate NDT results.	↓
PP01	Inspect pollution prevention equipment and documentation.	HI
PP03	Ensure that MSD requirements are met.	↓
PP04	Conduct IOPP boarding and survey.	↓
PP05	Verify MARPOL V compliance.	24 Sep 97
RT01	Complete Initial Indoctrination Lesson Plan Series (IILPS).	17 Jan 92
RT02	Complete Inspection Department Course.	22 Dec 92
RT06	Complete SMI Introduction Course.	22 Dec 92
RT10	Complete Resident MODU Course or the Hull and Machinery Courses.	July 11, 2007
ST01	Examine stability letter and book.	24 Sep 97
US01	Inspect contents of diving operations manual on board.	↓
US02	Check designation of diving supervisor.	↓
US03	Check designation of person-in-charge.	↓
US04	Inspect diving equipment.	↓
US05	Ensure proper diving procedures are used in each diving mode.	↓
US06	Ensure SEILOD proposal contains required information.	↓
US07	Ensure CG accepted SEILOD proposal is on board and being followed.	↓
US08	Monitor diver video examination and evaluate results.	↓
VS02	Inspect vents to voids, ballast, and portable water tanks.	OT
VS03	Examine deck openings and vents.	HI
WI01	Inspect watertight doors.	↓
WI03	Inspect watertight bulkhead penetrations.	↓
WI05	Inspect remote-operated valves and controls.	↓
WI06	Inspect bilge wells and "rose boxes."	↓
WI07	Inspect hull and deck openings.	↓

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## MU Tasks

<u>Task</u>	<u>OJT</u>	<u>Date</u>	<u>Verifying</u>
<u>Number</u>	<u>Task</u>	<u>Completed</u>	<u>Officer</u>

AC01 Inspect berthing accommodations.

- Spaces provided of size required by regulations
- Appropriate number of berths provided
- Proper seating available for PAX's on vessels whose voyages are limited by certificate of inspection to set time periods
- Lockers of proper size provided for each berth
- Screens provided for ventilation ports on non-air conditioned vessels
- Mechanical ventilation/air-conditioning systems operating properly
- Adequate number of toilets and washrooms provided for number of persons in crew specified on certificate of inspection, kept in good repair and in a sanitary condition
- Lights provided for each berth
- Hot water heating piping within the space properly lagged
- Electrical hazards
- Two means of escape provided from each berthing space and other areas where personnel would normally be employed

*see HI page 23*

AC04 Inspect mess deck spaces.

- Reasonable sanitation standards are evident
- No excessive grease buildup has accumulated in the grill area and in the grill vent
- Chill boxes are operable and reasonably clean
- Escape latches or alarm systems on the chill boxes are functioning properly

*See HI page 23*

AC05 Inspect hospital spaces.

- Hospital space adequate in size to accommodate the portion of crew required by regulation
- Required equipment is available for use (stretcher, blankets, etc.)
- Space has head, washing and bathing facilities
- Space provided as hospital/treatment room is dedicated to that purpose; no PAX's or other persons in the crew are berthed there

*See HI page 24*

AC06 Inspect areas where washers and dryers are installed.

- Dryer unit is properly vented and no fire hazard due to lint buildup exists
- "Jury-rigged wiring" systems for units are employed
- Units securely mounted

*See HI page 24*



## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
AC07	Inspect paint lockers. <ul style="list-style-type: none"> <li>• Required fire protection equipment provided in accordance with applicable regulations and vessel's approved fire safety plan</li> <li>• Space(s) designated constructed of or wholly lined with metal</li> <li>• Space(s) well vented and means provided to secure ventilation if necessary</li> </ul>		<i>See HI page 24</i>
AC08	Inspect ladders, rails and gangways. <ul style="list-style-type: none"> <li>• An approved pilot ladder provided and maintained in good repair</li> <li>• Accommodation ladder of sufficient size provided to be used when distance from sea level to vessel's deck is more than 30 feet</li> <li>• "Rails" are provided on accommodation ladders, when used</li> </ul>		<i>See HI page 25</i>
AC10	Inspect heating and cooking equipment. <ul style="list-style-type: none"> <li>• Thermal cutouts for electric space heaters</li> <li>• Grab rails for electric ranges</li> <li>• LPG/CNG installed in accordance with regulations</li> </ul>		<i>See IV K-2</i>
CS03	Inspect bulk liquid cargo system on an OSV or MODU. <ul style="list-style-type: none"> <li>• Pumprooms and/or pumping equipment:               <ul style="list-style-type: none"> <li>– Lighting fixtures and all electrical equipment are explosion proof</li> <li>– No dead ended, loose or frayed cabling</li> <li>– No jury-rigged wiring, extension cords, etc.</li> <li>– Ventilation system</li> <li>– Pumps and controls operational</li> <li>– No leaking seals</li> <li>– Mechanical and electrical remote operating devices attached and operational</li> </ul> </li> <li>• Cargo piping:               <ul style="list-style-type: none"> <li>– Piping</li> <li>– Valves</li> <li>– Fittings</li> <li>– Gaskets</li> <li>– Supports</li> <li>– Materiel condition of all components</li> <li>– Expansion joints</li> </ul> </li> </ul>		<i>See OE page 91</i>

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
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| CS03<br>(cont'd.) | <ul style="list-style-type: none"> <li>• Gauging and venting system:               <ul style="list-style-type: none"> <li>– Type of gauging (open, closed, restricted)</li> <li>– Gauging type approved for cargo carried</li> <li>– Gauging systems operational High and low level alarms</li> <li>– Overfill controls</li> <li>– Condition of vent piping</li> <li>– Vent outlets at proper height</li> <li>– Required valves installed and operational</li> <li>– Pressure vacuum valves and headers free of corrosion or dirt</li> <li>– Flame screens installed and acceptable</li> </ul> </li> </ul> |
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See OI page 42

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| CS04 | <p>Inspect components installed in designated hazardous locations.</p> <ul style="list-style-type: none"> <li>• Cable runs inboard and clear of cargo tank openings</li> <li>• Electrical components used in cargo pumproom intrinsically safe</li> <li>• Storage batteries located in cargo handling areas</li> <li>• Lights in pump rooms use gas tight lenses or intrinsically safe units</li> <li>• Electrical components on the weather deck located within ten feet of cargo tank openings, tank vents or doors, explosion proof</li> </ul> |
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See BI page 14

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| DD01 | <p>Ensure that the vessel's entire underwater body is clean and exposed for examination (areas in way of blocking excluded).</p> |
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See HI page 32+33

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| DD02 | <p>Determine whether structural configurations match approved plans.</p> |
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See HI page 31

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| DD04 | <p>Conduct external examination of hull, pontoons, columns, legs, mat, and spud cans.</p> <ul style="list-style-type: none"> <li>• Sufficient cleaning of and examine for:               <ul style="list-style-type: none"> <li>– Erosion of welds</li> <li>– Excessive pitting, evidence of reduced thickness, set-in areas, fractures, buckling, or other damage</li> <li>– Wastage around overboard discharges</li> <li>– Wastage in the wind and water area</li> </ul> </li> <li>• Sufficient cleaning for and witness diver perform:               <ul style="list-style-type: none"> <li>– Swim by</li> <li>– NDT of critical areas detailed in SEI/LOD proposal</li> </ul> </li> </ul> |
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M60 9/24/07

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
DD04 (cont'd.)	<ul style="list-style-type: none"> <li>Examine sea chests and overboard discharges for:               <ul style="list-style-type: none"> <li>Strainers and fastenings fitted</li> <li>Deterioration and cracks</li> <li>Valve and spool piece connections</li> </ul> </li> <li>Examine propellers or thrusters (self-propelled or propulsion assist)</li> <li>Examine load lines and draft marks (placement of marks consistent with stability letter and load line certificate and properly scribed)</li> </ul>		See HT page 34
DD06	Examine steel hull for damage and defects.		See HT page 31
DD10	Examine critical joint areas. <ul style="list-style-type: none"> <li>Sheer strake</li> <li>Stringer plate</li> </ul>		See HT page 31
DD11	Examine draft marks (placement of marks consistent with stability letter and properly scribed).		See HT page 32
DD12	Examine load lines (placement of marks consistent with load line certificate and properly scribed).		See HT page 32
DD13	Examine drydock plugs for local wastage and fit.		See HT page 32
DD14	Examine sea chests and overboard discharges. <ul style="list-style-type: none"> <li>Strainers and fastenings fitted</li> <li>Deterioration and cracks</li> <li>Valve and spool piece connections</li> </ul>		See HT page 34
DD16	Examine propeller for damage.		See OF page 37
DD18	Inspect tailshaft(s) and stern bearings. <ul style="list-style-type: none"> <li>Determine tailshaft diameter</li> <li>Determine when tailshaft was last pulled and when next is due</li> <li>Examine shaft, NDT, keyway, liner, surfaces, and bearings</li> <li>Determine bearing wear down</li> </ul>		See OF page 37
DD20	Inspect the rudder installation. <ul style="list-style-type: none"> <li>Determine condition of gudgeons, pintles, and pintle locking device</li> <li>Examine rudder post, rudder frame, rudder stock and stern frame for deterioration and fractures</li> <li>Examine rudder carrier for deterioration and fractures</li> </ul>		See OF page 38



## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
DD22	Examine anchor chains and determine if links are distorted or deteriorated excessively.	See OI page 38	
DD23	Complete applicable structural failure reports and obtain CG-2692 for reportable marine casualties.	See FO Qual 25 Jun 1992	
DD24	Examine freeing ports and scuppers.	See III page 32	
DD25	Open and conduct inspection of sea valves and bilge injection valve. <ul style="list-style-type: none"> <li>• Stem, gate, and guides in good condition</li> <li>• Valves operate in power and manual modes</li> <li>• Valves have rising stems, or other means of showing valve open or closed</li> <li>• Examine condition of valve bodies, fastenings, packing glands, and spool pieces</li> <li>• Examine non-metallic expansion joints</li> </ul>	See OI page 39	
DD27	Examine thruster (bow or stern) and thruster tunnel. <ul style="list-style-type: none"> <li>• Deterioration and cracks</li> <li>• Erosion of welds</li> <li>• Shaft seal or packing gland leakage</li> </ul>	24 Sept 97 MCO	
DD28	Survey vessel for compliance with eligibility requirements for SEILOD. <ul style="list-style-type: none"> <li>• Hull markings every 100 feet</li> <li>• Sea chests' gratings hinged</li> <li>• Identification of hull penetrations</li> <li>• Means to blank off sea valves</li> <li>• Plans identifying location of:               <ul style="list-style-type: none"> <li>— Shell openings</li> <li>— Drydocking plugs</li> <li>— Bilge keels</li> <li>— Welded seams and butts</li> <li>— Appendages</li> <li>— Anodes</li> <li>— Rudder</li> <li>— Propeller</li> <li>— Reference points</li> <li>— Watertight/oiltight bulkheads</li> </ul> </li> </ul>	24 Sept 97 MCO	

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
DD29	<p>Conduct inspection of internal spaces and structures for fractured welds, fractured structural members, coating failure, deterioration, and buckled or distorted structure.</p> <ul style="list-style-type: none"> <li>• Deck beams, underdeck longitudinals, deck girders</li> <li>• Side and bottom longitudinals</li> <li>• Center vertical keel and keelsons</li> <li>• Frames, stiffeners, and brackets</li> <li>• Hatch covers</li> </ul>	<i>See HI page 31</i>	
DD31	<p>Evaluate repair proposals and inspect completed repairs.</p> <ul style="list-style-type: none"> <li>• Sketch and bill of materials</li> <li>• Materials and welding details same as original</li> <li>• Inserts properly made</li> <li>• Fit up and joint preparation</li> <li>• Back gouging</li> <li>• Weld sequencing</li> <li>• Visual inspection of completed repair</li> <li>• Pressure test repairs (hose, air, hydro)</li> </ul>	<i>See BI page 17</i>	
ED01	<p>Observe fire and boat drills.</p> <ul style="list-style-type: none"> <li>• Maximum participation by crew accomplished</li> <li>• Crew members report to their proper stations</li> <li>• During fire drills, fire pump(s) started and fire hose(s) lead out</li> <li>• Individual designated as person in charge conversant with duties and procedures to be followed</li> <li>• Emergency equipment broken out for fire drills and designated person assigned to use gear present, properly equipped and familiar with duties</li> <li>• For fire drills, communications established between control center, normally the bridge, and source of emergency</li> <li>• Proper alarm is sounded on vessel's general alarm system</li> <li>• All alarm bells function properly</li> <li>• Visual signals in machinery spaces function properly</li> <li>• Escapes are clear and unobstructed</li> <li>• For fire drills, watertight doors secured to isolate compartments</li> <li>• Crew members report to stations for drills wearing PFDs, cap and shoes</li> <li>• For boat drills - person in charge or each boat or raft has muster list</li> <li>• For boat drills - communication established between bridge and boat deck</li> <li>• Lifeboats with fleming gear - gear is operable and crew</li> </ul>	<i>See HI page 4-5</i>	

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
ED01 (cont'd.)	<ul style="list-style-type: none"> <li>familiar with use</li> <li>Lifeboats with oars - crew is exercised</li> <li>Motorized lifeboats - person in charge and engineer competent in operating the engine</li> <li>Hydraulic starting system on motorized vessels capable of making six cold starts</li> <li>Crew competent in readying vessel for launching (belly grips removed, retaining pin on counter weight removed, etc.)</li> <li>Lifeboat can be safely and efficiently released from falls by boat crew</li> </ul>		
ED04	Review logbook and ensure entries related to tests and drills have been made.		<i>See HI page 5</i>
EE01	Inspect fireman's outfit(s). <ul style="list-style-type: none"> <li>Proper number aboard vessel</li> <li>Outfits correctly stowed</li> <li>Describe what constitutes a fireman's outfit</li> <li>What spare equipment is required</li> <li>Location(s) of fireman's outfits listed on fire safety plan</li> <li>Location(s) marked in accordance with applicable regulations</li> <li>Steps been taken to thwart pilfering and do they deny legitimate access to equipment</li> <li>Communications system to the bridge necessary</li> </ul>		<i>See HI page 6</i>
EE04	Inspect EPIRB. <ul style="list-style-type: none"> <li>Right type</li> <li>Operative</li> <li>Stowed properly</li> <li>Tested as frequently and in manner required by regulations</li> <li>Battery still within date</li> </ul>		<i>See HI page 6</i>
EE05	Test and inspect the general alarm system. <ul style="list-style-type: none"> <li>Contact makers located in accordance with applicable regulations</li> <li>General alarm bells located in accordance with applicable regulations</li> <li>Sound levels produced meet the minimum criteria required by regulations (is it loud enough)</li> <li>Any of the alarm bells inoperative</li> <li>Visual signals installed in areas of high ambient noise level</li> <li>Contact makers and general alarm bells marked in accordance with regulations</li> </ul>		<i>See HI page 7</i>
EE06	Inspect line-throwing equipment. <ul style="list-style-type: none"> <li>Required equipment provided</li> <li>Equipment on board approved</li> </ul>		<i>See HI page 7</i>



## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	<ul style="list-style-type: none"> <li>• Required drills with line throwing equipment conducted and logged in accordance with applicable regulations</li> <li>• Equipment provided within time limits for service life</li> </ul>		
EE09	Inspect pyrotechnics. <ul style="list-style-type: none"> <li>• Proper type equipment provided for vessel being inspected</li> <li>• Equipment provided within time limits for service life</li> <li>• Equipment properly stowed</li> <li>• Persons in charge of lifeboats knowledgeable in use of equipment</li> </ul>	See HT page 7	
ES01	Inspect switchboards. <ul style="list-style-type: none"> <li>• Nonconductive mat on deck in front of board</li> <li>• Nonconductive rails on board face</li> <li>• Nonconductive rails at the rear and sides</li> <li>• Dripshield on the board's top</li> <li>• Ground detection indicators working with no grounds indicated</li> <li>• Meters calibrated and working</li> <li>• Synchronizing controls working.</li> <li>• Identification for controls and meters</li> <li>• Area is dry and clean</li> <li>• Working space is provided in accordance with regulations</li> <li>• Overcurrent protection properly labeled</li> </ul>	See OT page 31	
ES02	Inspect ship's service generators. <ul style="list-style-type: none"> <li>• Generators of a size or arrangement which require overspeed trips</li> <li>• Operational test of overspeed trips and alarms within specified limits</li> <li>• If the DC or AC generators operate in parallel, are the reverse power/current trips working</li> <li>• Guards installed around rotating or live machinery</li> <li>• Discoloration from overheating apparent</li> <li>• Filters on air intakes working to keep internals free from dust and dirt</li> <li>• Windings oily or dirty</li> <li>• Odd bearing noises present</li> <li>• Voltage regulated within limits specified by CFR</li> <li>• Working diesel low lube oil pressure trip and alarms</li> <li>• Working high temperature detectors and alarms for AC generators</li> <li>• Nameplates properly in place</li> </ul>	See OT page 31	
ES04	Inspect emergency generator. <ul style="list-style-type: none"> <li>• Means of starting is provided</li> <li>• The following alarms/shutdowns are operable:</li> </ul>	See OT page 32	

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	<ul style="list-style-type: none"> <li>Low lube oil pressure</li> <li>High cooling water temperature</li> <li>Overspeed</li> <li>Fixed firefighting system shutdown</li> </ul>		
ES04 (cont'd.)	<ul style="list-style-type: none"> <li>The generator auto-start circuit functions and the generator can power its full-rated load within 20 seconds and accept the final emergency load within 45 seconds of loss of the normal power supply</li> <li>Independent fuel supply is provided, with remote shut-off valve installed and properly marked</li> </ul>		
ES05	Inspect emergency batteries. <ul style="list-style-type: none"> <li>Size of installation and required ventilation</li> <li>Battery box is properly lined</li> <li>Batteries are secure in the trays</li> <li>Adequate space is provided over the cells</li> <li>A means of charging is provided</li> <li>Conductor overcurrent protection is provided</li> <li>Ventilation/charger interlocked</li> </ul>		See OI page 32
ES06	Inspect motor controllers. <ul style="list-style-type: none"> <li>Units are installed in suitable cases, or if open type, within limited access enclosure</li> <li>Wearing parts are accessible</li> <li>Controls are marked for each motor served</li> <li>Wiring diagram is affixed to the controller enclosure</li> <li>Motor controllers are drip-proof/watertight</li> </ul>		See OI page 33
ES07	Ensure lighting systems and fixtures are adequate and meet regulations. <ul style="list-style-type: none"> <li>Passageways and public areas</li> <li>Machinery spaces</li> <li>Passenger and crew spaces</li> <li>Berth lights</li> <li>Exit lights</li> <li>Pilot ladders</li> <li>Navigation</li> <li>Signaling lights</li> <li>Lifeboat and liferaft embarkation stations</li> </ul>		See OI page 33
ES09	Ensure receptacle outlets have grounding poles and are properly grounded.		See OI page 33
ES10	Inspect distribution panels. <ul style="list-style-type: none"> <li>Circuit directory provided</li> <li>Amperage ratings of the protective devices in accordance</li> </ul>		See OI page 34

## MU Tasks

Task  
Number

OJT  
Task

Date      Verifying  
Completed      Officer

- with required circuit directory  
Panelboard blanks installed, where necessary

*Sec 02 pg 34*



## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
ES12	Survey electrical cable installation and determine: <ul style="list-style-type: none"> <li>• Vertical and horizontal supports properly spaced</li> <li>• Radius of the bends exceed CFR specifications</li> <li>• Portable cables used for unauthorized purposes</li> <li>• Acceptable materials used</li> <li>• Hazardous conditions exist (jury rigs, dead end cables, splices, etc.)</li> </ul>		<i>See OI page 34</i>
ES13	Test power-operated watertight doors from local and remote control units.		<i>See HI page 27</i>
ES14	Test internal communication and control systems and ensure the following systems work properly. <ul style="list-style-type: none"> <li>• General alarms (bells and contractors)</li> <li>• Sound powered phones to all required stations</li> <li>• Engine order telegraph and wrong direction alarm</li> <li>• Public address system</li> <li>• Engineer's assistance needed alarm</li> <li>• Engineer's call system</li> <li>• Fire detection/fire alarm system</li> <li>• Refrigerated space alarm system</li> </ul>		<i>See OI page 34</i>
ES16	Inspect components installed in designated hazardous locations and ensure explosion proof installation. <ul style="list-style-type: none"> <li>• Fuel purifier rooms</li> <li>• Paint locker</li> <li>• Cargo area</li> <li>• Pumprooms</li> </ul>		<i>See AI page 35</i>
ES18	Inspect the general alarm system emergency batteries.		<i>See OI page 32</i>
ES19	Inspect ventilation systems and perform operational test of alarms and remote ventilation shutdowns.		<i>See HI page 40</i>
FF01	Determine amount, type and location of fire protection equipment required. <ul style="list-style-type: none"> <li>• By the vessel's Certificate of Inspection</li> <li>• By the respective regulations</li> </ul>		<i>See HI page 8</i>

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
FF02	Inspect fixed CO <sub>2</sub> systems. <ul style="list-style-type: none"> <li>• Test sirens and time delays</li> <li>• Obtain servicing reports</li> <li>• Bottles underweight</li> <li>• Flexible loops serviced and tested</li> <li>• Diffuser heads clear</li> <li>• Access to CO<sub>2</sub> room free of obstruction</li> <li>• Hydrostatic test required by regulations</li> <li>• Instructions posted</li> </ul>		<i>See HFI page 9</i>
FF06	Inspect Halon systems. <ul style="list-style-type: none"> <li>• Coast Guard approved</li> <li>• Markings and notices correct and properly posted</li> <li>• Controls functioning</li> <li>• Closure for protected spaces provided</li> <li>• Quantity sufficient</li> <li>• Vent and engine shutdowns functioning</li> </ul>		<i>See SVD-4</i>
FF08	Inspect semi-portable fire fighting equipment. <ul style="list-style-type: none"> <li>• Installation approved</li> <li>• System serviceable</li> <li>• Instructions posted</li> <li>• Correct type and amount on hand</li> <li>• Markings correct</li> </ul>		<i>See SVD-6</i>
FF09	Inspect portable firefighting equipment. <ul style="list-style-type: none"> <li>• Fire extinguishers approved</li> <li>• Each unit serviceable</li> <li>• Adequate spare charges provided</li> <li>• Correct type and amount on hand</li> <li>• Distributed per fire control plan</li> <li>• Markings correct</li> <li>• Servicing properly logged</li> </ul>		<i>See SV D-1</i>
FF10	Inspect fire main and fire stations. <ul style="list-style-type: none"> <li>• Correct number of fire pump(s) provided</li> <li>• Fire hoses meet acceptable standards</li> <li>• Equipment provided at each required fire station pursuant to regulations</li> <li>• Requirements for hose length and size at each fire station complied with</li> <li>• Fire pump(s) capable of providing adequate pressure to highest and most remote fire station using pitot tube</li> <li>• Pressure gauge installed on discharge side of fire pump</li> <li>• Fire hoses serviceable after hydro testing</li> </ul>		<i>See SVD-2</i>

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	<ul style="list-style-type: none"> <li>Valves at fire stations operable</li> </ul>		
FF10 (cont'd.)	<ul style="list-style-type: none"> <li>Fire main(s), hose(s), and equipment compatible at each station</li> <li>Approved nozzles and applicators provided for each fire station</li> <li>Fire pump relief valve functions properly</li> <li>Markings correct</li> </ul>		
FF13	Witness operational test of fire detection system. <ul style="list-style-type: none"> <li>System serviceable</li> <li>All sensors free of obstructions and functioning</li> <li>Alarms and indicators functioning correctly</li> <li>Required instructions and diagrams provided</li> <li>Markings correct</li> </ul>		See HI page 11
FF14	Inspect and ensure proper operation of fire doors and dampers. <ul style="list-style-type: none"> <li>Test controls: local/remote</li> <li>Remote shutdowns for machinery spaces and quarters ventilation systems</li> <li>Markings correct</li> <li>Fusible links</li> </ul>		See HI page 11
FF15	Inspect fixed foam extinguishing systems. <ul style="list-style-type: none"> <li>Quantity of foam adequate for area protected</li> <li>The rate of application meets regulatory requirements</li> <li>Controls positioned properly</li> <li>Instructions posted</li> <li>Valves marked Foam has been analyzed:               <ul style="list-style-type: none"> <li>Specific gravity</li> <li>pH</li> <li>Sediment content</li> <li>Water %</li> </ul> </li> <li>Monitors and piping clear and function properly</li> <li>Markings correct</li> </ul>		See HI page 11
FF16	Inspect and operationally test sprinkler system.		See HI page 11
FF17	Review fire control and hazardous location plans. <ul style="list-style-type: none"> <li>Complies with regulations</li> <li>Correctly reflects the vessel as found</li> <li>Indicated markings and positioning of fire extinguishing equipment correct</li> <li>In required locations</li> </ul>		See HI page 12



## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
FF18	Inspect fire axes. <ul style="list-style-type: none"> <li>• Correct number provided</li> <li>• Marked properly</li> <li>• Distributed adequately</li> </ul>		<i>See HI page 12</i>
FF19	Inspect condition of vents and ducts leading from grill in galley for fire hazard.		<i>See SV page 19</i>
FF20	Examine fire control plan and/or general arrangement plan to verify structural fire protection required on the vessel under inspection.		<i>See HI page 12</i>
FF21	Determine that appropriate Class A boundaries separate accommodation and control spaces from the following: <ul style="list-style-type: none"> <li>• Machinery spaces</li> <li>• Main pantry</li> <li>• Hazardous locations/classified areas</li> <li>• Storerooms</li> </ul>		<i>24 Sep 07 MHC</i>
FP01	Verify that the required forms, placards, and notices are posted. <ul style="list-style-type: none"> <li>• Pollution/MARPOL: <ul style="list-style-type: none"> <li>— Placard</li> <li>— Waste management plan</li> </ul> </li> <li>• Coast Guard forms: <ul style="list-style-type: none"> <li>— CG-809: Station bills, drills</li> <li>— CG-811: Lifesaving signals and instructions</li> <li>— CG-841: Certificate of Inspection</li> <li>— CG-848: Station Bill</li> <li>— CG-2832: Vessel Inspection Record</li> <li>— CG-3372: Oil Pollution</li> </ul> </li> <li>• Passenger notices</li> <li>• Plans posted: <ul style="list-style-type: none"> <li>— General arrangement</li> <li>— Fire control plan</li> </ul> </li> <li>• Rules and regulations for class of vessel</li> <li>• SOLAS certificates</li> <li>• Markings: conspicuous and legible</li> </ul>		<i>See HI page 40 See OT page 3-4</i>
GT01	Verify that ground tackle and related equipment is in satisfactory condition. <ul style="list-style-type: none"> <li>• Anchors</li> <li>• Chain</li> <li>• Winch and foundations</li> <li>• Anchor chain stoppers</li> </ul>		<i>See OT page 21</i>

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	<ul style="list-style-type: none"> <li>Anchor handling davits</li> </ul>		
II01	Review vessel documents listed in <sup>MSIS</sup> and VFLD and papers, and state if each is valid or expired.		See OI page 2
II05	Discuss scope of inspection with owner's representative. Decide on general sequence of inspection.		See OI page 2 (Casualty Investigator)
II06	Obtain CG-2692 for reportable marine casualties/ structural failure report.		See FO qual
II07	Examine gas-free certificate issued by an NFPA-certified marine chemist for hot work and/or confined space entry. <ul style="list-style-type: none"> <li>Information on the gas-free certificate meet the requirements of NFPA Standard 306 and Coast Guard confined space entry/benzene exposure policy</li> <li>Gas-free certificate been maintained by a designated competent person and records kept as required by OSHA regulations</li> <li>Marine chemist certified by NFPA</li> <li>Review benzene and confined space entry policies</li> </ul>		See OI page 3
II08	Review hull gaugings and compare with original scantlings. Consider spot gauging by NDT or drilling.		See BI page 18
II09	Review any MSIS inspection notes and outstanding deficiencies (CG-835s). Ask owner's representative if any other deficiencies exist.		See HI page 2
LS01	Determine amount and type of lifesaving equipment required. <ul style="list-style-type: none"> <li>Certificate of Inspection</li> <li>CFRs</li> <li>SOLAS</li> </ul>		See HI page 13
LS05	Inspect life preservers. <ul style="list-style-type: none"> <li>Properly equipped with lights, whistles and reflective tape</li> <li>Approved for intended service</li> <li>Sufficient serviceable units aboard and properly stowed</li> <li>Properly marked</li> </ul>		See HI page 13
LS06	Inspect ring buoys. <ul style="list-style-type: none"> <li>Approved for intended service</li> <li>Properly colored and marked</li> <li>Correctly equipped with waterlights and line</li> </ul>		See HI page 13

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	<ul style="list-style-type: none"> <li>• Serviceable</li> <li>• Sufficient number of ring buoys are aboard</li> </ul>		
LS07	Inspect survival suits. <ul style="list-style-type: none"> <li>• Equipped as required</li> <li>• Physically serviceable</li> <li>• Sufficient number of units aboard and properly stowed</li> </ul>		<i>See HI page 13</i>
LS08	Inspect lifeboat equipment (or survival capsule). <ul style="list-style-type: none"> <li>• Correct equipment and quantity on board</li> <li>• Equipment properly colored and marked</li> <li>• Equipment serviceable</li> <li>• Sufficient water, milk, and provisions are on board, within date limitations and still serviceable</li> <li>• Fuel for motorboat changed within proper time limit</li> </ul>		<i>See HI page 14</i>
LS09	Inspect lifeboat (or survival capsule) for hull structure and fittings.		<i>See HI page 14</i>
LS10	Witness lifeboat and davit launched raft weight test. <ul style="list-style-type: none"> <li>• Weight required</li> <li>• Verify correct weight used</li> <li>• Winch brake functions properly</li> <li>• Davits function properly</li> <li>• Releasing gear functions properly</li> </ul>		<i>See HI page 14</i>
LS11	Inspect and test lifeboat winches and associated equipment. <ul style="list-style-type: none"> <li>• Properly working winches</li> <li>• Properly wired strip heaters used</li> <li>• Properly working limit switches</li> <li>• Properly connected emergency disconnect switch</li> <li>• Check condition of falls and note dates renewed/end-for ended</li> </ul>		<i>See HI page 15</i>
LS12	Witness lifeboat operation. <ul style="list-style-type: none"> <li>• Engine starts without starting aid</li> <li>• Engine propels boat ahead and astern efficiently</li> <li>• Hand propelling gear propels boat ahead and astern</li> <li>• Waterspray system functions properly</li> <li>• Lifeboat arranged properly</li> </ul>		<i>See HI page 15</i>
LS13	Inspect embarkation aids. <ul style="list-style-type: none"> <li>• Jacob's ladder provided is correct length, secured, and serviceable</li> <li>• Lighting provided and functions on emergency power</li> </ul>		<i>See HI page 15</i>
LS14	Inspect davit structure.		<i>See HI page 15</i>



## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
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	<ul style="list-style-type: none"> <li>Evidence of cracks or deterioration</li> <li>Effect of defects on structure</li> <li>Proper repairs and proof test required</li> </ul>		
LS16	Inspect inflatable liferaft installations.		<i>See HI page 16</i>

- Serviced annually
- Last servicing date at approved facility
- Properly secured in the cradle designed for them
- Hydrostatic releases serviced
- Alternative means of securing meets criteria promulgated in NVIC 4-86
- Suspension test
- Davit weight test
- Operating instructions posted at embarkation station

	<ul style="list-style-type: none"> <li>Maintained in serviceable condition</li> <li>Stowed in proper location as indicated on safety equipment plan</li> <li>Can be readily launched either by hand or by davit</li> <li>Rescue boat is on "approved" list</li> <li>Release mechanism is in service and in good condition</li> <li>Required equipment in boat</li> </ul>		
LS17	Inspect rescue boat.		<i>See HI page 17</i>

	<ul style="list-style-type: none"> <li>Insides of motor controller and switch gear boxes</li> <li>Mounting bolts for all equipment (vibration) attachments, links and pins</li> <li>Freedom of movement and absence of any friction noises on motors and pumps</li> <li>Cleanliness of space (absence of fire/personnel hazards)</li> <li>Evidence of saltwater leakage through rudder post packing or vent ducts</li> </ul>		
MI01	Determine condition of the following components of the steering gear assembly:		<i>See HI page 19</i>

	<ul style="list-style-type: none"> <li>Determine condition of piping and manifolds</li> <li>Determine condition of fuel oil HP and LP strainers</li> <li>Ensure fuel oil pump relief pump valves discharge to suction side of fuel oil pumps</li> <li>Ensure no excessive fuel oil leakage exists</li> <li>Ensure that spray shields are installed on flanged joints</li> <li>Witness operation of fuel oil pumps</li> <li>Ensure instrumentation is operable</li> <li>Externally examine fuel oil heaters</li> <li>Test remote operated fuel oil system valves</li> <li>Determine condition of fuel oil tank vent lines and flame screens</li> </ul>		
MI04	Inspect fuel oil service and transfer system.		<i>24/sep/07 Me</i>

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
MI06	Inspect bilge pumps installation, piping, and valves. <ul style="list-style-type: none"> <li>• System capable of pumping from any watertight compartment except ballast, oil and water tanks</li> <li>• Standing water drains to suction pipes</li> <li>• Bilge manifold has independent bilge suction control and is properly marked</li> <li>• Suction strainers are installed</li> <li>• Emergency bilge suction installed, where required</li> <li>• Instrumentation operable</li> </ul>		<i>See OJT page 26</i>
MI08	Examine refrigeration/air conditioning machinery. <ul style="list-style-type: none"> <li>• Rotating machinery guards</li> <li>• Piping</li> <li>• Wiring</li> <li>• Pressure vessels</li> </ul>		<i>See OJT page 27</i>
MI09	Examine potable water system. <ul style="list-style-type: none"> <li>• Dedicated tanks; treated or coated</li> <li>• Tanks ventilated with insect screens installed</li> <li>• Water pump(s) and pressurization system operable</li> <li>• Pressure tank installation</li> </ul>		<i>See OJT page 27</i>
MI10	Determine what operational tests are required; witness tests and state if results are satisfactory. <ul style="list-style-type: none"> <li>• Overspeed trips</li> <li>• Low lube oil shutdowns and alarms</li> <li>• High coolant temperature alarm</li> </ul>		<i>See BI page 8</i>
MI13	Inspect the diesel installation and assembly, paying particular attention to the following: <ul style="list-style-type: none"> <li>• Crankcase explosion covers</li> <li>• Fuel and lube oil fittings (checking for leakage)</li> <li>• Instrumentation</li> <li>• Gratings and rails around the engine</li> <li>• Guards over rotating machinery</li> <li>• Exhaust system:               <ul style="list-style-type: none"> <li>— Leaks</li> <li>— Lagging</li> <li>— Proximity of combustible material or walkways</li> <li>— Water cooling system</li> <li>— Bulkhead penetrations</li> </ul> </li> <li>• Engine foundations and tank top's structural condition</li> <li>• Air intakes</li> <li>• Crankcase vents (clear)</li> </ul>		<i>See BI page 8</i>

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
MI16	Inspect air starting systems. <ul style="list-style-type: none"> <li>• Air receivers</li> <li>• Piping</li> <li>• Compressors</li> </ul>	See OI page 29	
MI17	Inspect hydraulic starting systems. <ul style="list-style-type: none"> <li>• Pumps and strainers</li> <li>• Piping</li> <li>• Accumulators</li> </ul>	See OI page 29	
MI18	Inspect electrical starting systems.	See OI page 29	
MI19	Witness operational test of main propulsion diesel automation system. <ul style="list-style-type: none"> <li>• Determine that the system has not been modified/jury rigged and is the same as that depicted in the procedures</li> <li>• Testing the automation system using the methods specified by approved procedure</li> <li>• Verify that automatic systems have not been bypassed or overridden by manual devices except as noted in approved test procedure</li> <li>• Verify proper operation of required alarms, shutdowns, controls and internal communications in accordance with the approved test procedure</li> <li>• Verify that bridge controls/alarms function in sync with engineroom control panel</li> <li>• Based on automation system testing, assess if vessel manning remains consistent with regulation/policies and determine corrective action, if necessary: <ul style="list-style-type: none"> <li>– Temporary increase of engineroom manning</li> <li>– Further underway evaluation</li> </ul> </li> </ul>	See OI page 29	
MI22	Internally examine unfired pressure vessels requiring internal examination. <ul style="list-style-type: none"> <li>• Check for corrosion, scale, pitting, cracks and erosion</li> <li>• Examine welded connections internally</li> </ul>	See OI page 30	
MI23	Externally examine unfired pressure vessels. <ul style="list-style-type: none"> <li>• Pressure gauge</li> <li>• Evidence of structural damage</li> <li>• Data plate legible</li> <li>• Foundations structurally sound</li> <li>• Attachments secure</li> </ul>	See OI page 30	
MI24	Hydrostatically test unfired pressure vessels requiring hydrostatic testing. <ul style="list-style-type: none"> <li>• Determine MAWP</li> </ul>	See OI page 30	



## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	<ul style="list-style-type: none"> <li>Observe pressure test</li> </ul>		
MI25	Ensure all unfired pressure vessels are properly equipped with pressure relief valves in accordance with regulations.		<i>See OJT page 30</i>
MI26	Witness pressure relief valve test. <ul style="list-style-type: none"> <li>MAWP not exceeded</li> <li>Valve seats tightly</li> <li>Capacity not exceeded</li> <li>Correct valve type</li> <li>Hand lifting device</li> </ul>		<i>See OJT page 30</i>
MI30	Conduct a fireside and external examination of an auxiliary/heating boiler. <ul style="list-style-type: none"> <li>Furnace (distortion)</li> <li>Combustion chamber (crown sheet, wrapper sheet, back sheets (distortion))</li> <li>Boiler shell and heads</li> <li>Stay bolts</li> <li>Boiler saddles and foundations</li> <li>Plating in way of mountings (wastage due to leaking valves and fittings)</li> <li>Cracks in the plating due to flexing of the heads or leakage</li> <li>Wastage around manhole gaskets</li> <li>Note heat number and condition of fusible plugs</li> </ul>	<i>24 Sep 07</i>	<i>meo</i>
MI31	Conduct a waterside examination of an auxiliary/heating boiler. <ul style="list-style-type: none"> <li>Tubes (Pitting - determine general depth and tube type)</li> <li>Internal surface conditions (scaling, pitting, corrosion, erosion)</li> </ul>	<i>24 Sep 07</i>	<i>meo</i>
MI32	Conduct required mountings inspections as follows: <ul style="list-style-type: none"> <li>5-year mountings open:               <ul style="list-style-type: none"> <li>Determine which valves to be opened</li> <li>Inspect seat, disc, stem, integrity of valve body, condition of stem packing gland and gland ring bolts</li> </ul> </li> <li>10-year mountings removed, studs examined including inspection as per mountings open and:               <ul style="list-style-type: none"> <li>Determination of valves to be removed for inspection of pressure piping between valve and boiler.</li> <li>Representative studs removed from valve flanges for inspection to determine:                   <ul style="list-style-type: none"> <li>* Integrity of studs due to corrosion, neck down, deformation and thermal stress</li> <li>* Proper grade installed for system pressure and</li> </ul> </li> </ul> </li> </ul>	<i>24 Sep 07</i>	<i>meo</i>

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	temperature		
MI33	Conduct a hydrostatic test of the boiler(s). <ul style="list-style-type: none"> <li>• Test conducted in conjunction with required fireside exam.</li> <li>• Appropriate test pressure (annual, quadrennial, repair)</li> <li>• Water temperature is within limits</li> <li>• Test pressure is achieved and held for the required time period</li> <li>• Blanks are installed in steam lines where necessary so a situation does not arise where a valve separates steam on one side from water on the other</li> <li>• Tube joints, header connect, and handhole plates tight</li> <li>• Main steam piping tested from boiler drum to throttle valve</li> <li>• All steam piping subject to main boiler pressure and greater than 3 inches nominal size is tested</li> </ul>	24/sep/07	MW
MI34	Witness the lifting and reseating of superheater and drum safety valves including pilot operated valves. <ul style="list-style-type: none"> <li>• Determine MAWP</li> <li>• Ensure that drum safety valve is set no higher than MAWP but above normal steaming range</li> <li>• Ensure that the superheater safety valve is set correctly in relation to drum valves. See manufacturer's boiler book for pilot operated valve</li> <li>• Ensure that the "blow down" falls within 2-4% of the set pressure for each valve</li> <li>• Ensure that there is no simmering or chattering</li> <li>• Test hand relieving gear</li> <li>• Ensure integrity of escape piping</li> </ul>	24/sep/07	MW
MI38	Ensure insulation is provided to reduce personnel hazard.	24/sep/07	MW
NS01	Ensure radars are operable. <ul style="list-style-type: none"> <li>• ARPA operational</li> <li>• Correct number and type of radars aboard</li> </ul>	See HI page 17	
NS02	Inspect magnetic compass. <ul style="list-style-type: none"> <li>• Valid deviation table</li> <li>• Any structural modification taken place or equipment been installed/removed near compass since last table completed</li> </ul>	See HI page 18	
NS03	Ensure required depth sounding/recording equipment is operable.	See HI page 18	
NS04	Ensure radio direction-finding equipment and electronic position fixing devices are provided and operable.	See HI page 18	

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
NS05	Ensure radio equipment and FCC or SOLAS documents are aboard and valid.	See HI page 18	
NS06	Inspect navigation and signal lights. <ul style="list-style-type: none"> <li>• Properly functioning</li> <li>• Correctly placed in accordance with applicable regulations</li> <li>• Certificate of alternative compliance on board</li> <li>• Properly functioning navigation light indicator panel</li> </ul>	See HI page 18	
NS09	Inspect signaling devices. <ul style="list-style-type: none"> <li>• Navigation sound appliance</li> <li>• Distress signals</li> <li>• Navigation day shapes</li> </ul>	See HI page 20	
NS10	Inspect navigation publications. <ul style="list-style-type: none"> <li>• Those required by CFR provided</li> <li>• Publications are current or updated where necessary</li> <li>• Necessary charts provided and corrected</li> <li>• Vessel has up-to-date notice to mariners</li> </ul>	See HI page 20	
NS12	Ensure the following navigational equipment is on board. <ul style="list-style-type: none"> <li>• International signal flags</li> <li>• Whistle</li> <li>• Proper fog signal devices</li> <li>• Properly located fog gong</li> </ul>	See HI page 20	
NT01	Approve NDT method for specific applications.	See BI page 17	
NT02	Check the certification of the NDT technician.	See BI page 15	
NT03	Witness NDT in accordance with applicable standards. <ul style="list-style-type: none"> <li>• Dye penetrant</li> <li>• Magnetic particle</li> <li>• Radiography</li> <li>• Ultrasonics</li> </ul>	See BI page 17	
NT04	Evaluate NDT results.	See BI page 15	



## MU Tasks

<u>Task</u> <u>Number</u>	<u>OJT</u> <u>Task</u>	<u>Date</u> <u>Completed</u>	<u>Verifying</u> <u>Officer</u>
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PP01 Inspect pollution prevention equipment and documentation.

- Discharge containment in place and of the proper type and size for cargo, fuel, or lube oil, as needed
- Slop tank provided and located in accordance with regulations
- Pump, fixed or portable piping system(s), valve(s), and controls, as the regulation apply to vessel in question, are provided to remove dirty oil and bilge slops
- Pump, fixed piping, valve(s), and controls are provided for combined fuel and ballast tank(s) as needed and where specified by regulation
- Oily water separator installed properly and functions correctly
- Oil discharge prohibition placard is placed at the bilge and ballast manifold and/or in each machinery space
- No fuel or dirty oil is carried in a prohibited oil space except as specified by regulation
- Proper documentation for the person(s) assigned to vessel who deal directly with oil transfer to and from vessel
- Required transfer procedures are correct, complete, and available to assigned personnel as required
- Emergency shutdown system(s) function properly
- Adequate communication between participants in transfer operations and sufficient lighting at critical work stations are provided where specified by regulation.
- Required records for tests and inspections of oil transfer hoses and equipment and declarations of inspection are available, current and correct, where required
- Scupper plugs are available for use during oil transfer operations

*See HI pages 34 & 35*

PP03 Insure that MSD requirements are met, if installed.

- Proper type installed
- Device approved for use aboard inspected vessels
- Adequate capacity
- System is piped and wired in accordance with Subchapters F and J
- Manufacturer's instructions available
- Required instructions and warning placard posted

*See HI page 35*

PP04 Conduct an IOPP boarding and survey, and verify that required equipment is on board and in proper working order.

- Segregated ballast tanks
- Dedicated clean ballast tanks

*See HI page 38*

*Note: This is as close as it gets, It's just not called an IOPP boarding*

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## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	<ul style="list-style-type: none"> <li>• Slop tanks</li> <li>• Monitoring equipment</li> </ul>		
PP05	Verify MARPOL V compliance. <ul style="list-style-type: none"> <li>• Check waste management plan</li> <li>• Plastics retained or incinerated</li> <li>• Placards posted</li> </ul>	24/sep/07	Meo
RT01	Complete Initial Indoctrination Lesson Plan Series (IILPS).	See Hr dtd 17 JAN 92	
RT02	Complete Inspection Department Course.	See Hr dtd 22 Dec 92	
RT06	Complete SMI Introduction Course.	See Hr dtd 22 Dec 92	
RT10	Complete <u>Resident MODU</u> Course or the Hull and Machinery Courses.	July 2007	
ST01	Examine stability letter and book.	24 sep 07	Meo
US01	Inspect contents of diving operations manual on board.	24 sep 07	Meo
US02	Check designation of diving supervisor.	24 sep 07	Meo
US03	Check designation of person-in-charge.	24 sep 07	Meo
US04	Inspect diving equipment.	24 sep 07	Meo
US05	Ensure proper diving procedures are used in each diving mode.	24 sep 07	Meo
US06	Ensure SEILOD proposal contains required information.	24 sep 07	Meo
US07	Ensure the Coast Guard accepted SEILOD proposal is on board and being followed.	24 sep 07	Meo
US08	Monitor diver video examination and evaluate results.	24 sep 07	Meo
VS02	Inspect vents to voids, ballast, and portable water tanks. <ul style="list-style-type: none"> <li>• Condition of vent lines</li> <li>• Insect screen provided and in good repair</li> </ul>	See AI page 18	

## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
	<ul style="list-style-type: none"> <li>Means of closure provided and operable</li> </ul>		
VS03	Examine deck openings and vents. <ul style="list-style-type: none"> <li>Access covers bolted securely</li> <li>Access cover gaskets in good condition</li> <li>Vent closures</li> </ul>	See HI pg 21	
WI01	Inspect watertight doors. <ul style="list-style-type: none"> <li>Knife edges intact and in good repair; no excessive paint buildup</li> <li>Gasket material installed in channel is in good condition and not painted</li> <li>Knife edges and channel meet as designed when door closed</li> <li>Hinges and hinge bolts in good condition; no sagging of door due to rounded out hinges or worn hinge bolts</li> <li>Dogs are all operable; grease fittings still usable</li> <li>Dogging wedges not excessively worn and fit up satisfactory</li> <li>Quick-closing gear operable and adequate closure achieved</li> <li>Any port lights installed in watertight doors use wire mesh reinforced glass</li> <li>Dogging wrench provided in vicinity of watertight door(s)</li> </ul>	See HI pg 27	
WI03	Inspect watertight bulkhead penetrations. <ul style="list-style-type: none"> <li>Penetrations properly sealed to maintain watertight integrity through use of devices such as stuffing tubes</li> <li>Sealant used, if stuffing tubes are employed, is non-flammable product designed for such use and is approved</li> </ul>	See HI pg 27	
WI05	Inspect remote-operated valves and controls. <ul style="list-style-type: none"> <li>Each valve identified as to function either by tag affixed to handle or by independent means</li> <li>Each valve adequately lubricated and freely operated</li> <li>Reach rods and other manual remote control mechanisms function properly</li> <li>Each power-operated valve can be operated from control stations</li> <li>An adequate means of control is provided to secure valves on fuel and lube oil lines to prevent pollution incident</li> </ul>	See HI pg 28	
WI06	Inspect bilge wells and "rose boxes." <ul style="list-style-type: none"> <li>They are clear of debris; strainer plates in place</li> <li>Bilge pumping system(s) function adequately (demonstrate ability of system to take suction from each bilge well)</li> <li>Bilge alarms function properly</li> </ul>	See HI pg 28	



## MU Tasks

<u>Task Number</u>	<u>OJT Task</u>	<u>Date Completed</u>	<u>Verifying Officer</u>
WI07	Inspect hull and deck openings. <ul style="list-style-type: none"> <li>• Dogs, gaskets and knife edges maintained as previously described for watertight doors, on any hull or deck openings</li> <li>• Cargo hatches structurally sound and watertight; hatches observed in secured position to verify</li> <li>• Sideports and Ro-Ro Ramps, if applicable, structurally sound and watertight</li> </ul>	See HI pg 28-29	
WI09	Inspect port light covers. <ul style="list-style-type: none"> <li>• Port lights at the main deck level have a cover installed</li> <li>• Dogs free on each shutter</li> <li>• Shutters restricted in their movement from stowed-to-closed position</li> </ul>	See HI pg 29	
WI10	Examine high-strength steel areas.		
WI11	Evaluate steel or aluminum hulls and all accessible spaces for damage. <ul style="list-style-type: none"> <li>• Wastage</li> <li>• Fractures</li> <li>• Upsets of shell plate</li> <li>• Deformed framing or stiffeners</li> <li>• Evaluate proposed repairs</li> <li>• Unauthorized/improper repairs or modifications</li> </ul>	See HI pg 16	
WR01	Evaluate welding repair proposal. <ul style="list-style-type: none"> <li>• Plan or sketch submitted with bill of materials</li> <li>• Configuration of repair acceptable</li> <li>• Material specification same as existing or equivalent</li> <li>• Method of joining acceptable</li> </ul>	See BZ pg 15	
WR02	Complete initial visual inspection of weld repair. <ul style="list-style-type: none"> <li>• Examine fit up in accordance with approved weld procedures</li> <li>• Examine joint preparation in accordance with approved weld procedures</li> <li>• Verify materials (base, filler, gas) in accordance with approved weld procedures</li> <li>• Verify proper preheat temperature/time in accordance with approved weld procedures</li> <li>• Evaluate weather conditions</li> <li>• Check welding equipment in accordance with approved weld procedures</li> </ul>	See BZ pg 17	

## MU Tasks

<u>Task</u> <u>Number</u>	<u>OJT</u> <u>Task</u>	<u>Date</u> <u>Completed</u>	<u>Verifying</u> <u>Officer</u>
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WR03 Complete intermediate visual inspection of weld repair.

- Check back gouging for full penetration weld
- Check proper cleaning between weld passes
- Check interpass temperatures in accordance with approved procedures
- Verify that proper weld sequencing is followed
- Evaluate weather conditions

*See BT page 17*

WR04 Complete final visual inspection of weld repair.

- Perform dry search to ensure welding complete and followed weld details
- Perform surface inspection of welds for defects
- Verify proper postheat temperature/time in accordance with approved weld procedures

*see BT page 17*

WR05 Witness pressure testing of welded repairs.

- Witness hose testing
- Witness air testing
- Witness hydrostatic testing

*See BT pg 17*

WR06 Examine approved Weld Procedure Specification and Welder Performance Qualifications.

*See BT page 15*

DATE	VSL NAME	VSL & INSPECTION TYPE
14-Jun-07	Ensco 83	MODU, COC Initial
15-Jun-07	Overseas Beryl	Tank COC TVE Annual
19-Jun-07	Texas Star Casino	K-Boat, Hull, ISE, Tailshafts, Screws
21-Jun-07	Pacific Embolden	Foreign Freight, P-II Safety
27-Jun-07	San Jacinto	OSV, Annual
30-Jun-07	Rickmers New Orleans	Foreign Freight, P-II Safety, ISPS, BWE
02-Jul-07	Texas Star Casino	K-Boat, Hull, ISE, Tailshafts, Screws
03-Jul-07	Chemstar Eagle	Tank COC TVE Initial
09-Jul-07	MODU-U for two weeks	Formal Training
23-Jul-07	Texas Star Casino	K-Boat, Hull, ISE, Tailshafts, Screws
26-Jul-07	Hercules 77	MODU, COC Initial
31-Jul-07	Cisne Blanco	Tank COC Chem Annual
03-Aug-07	Overseas Maremar	Tank COI Annual under MSP
06-Aug-07	Ensco 98	MODU, Pressure vessels, one spud can internal
07-Aug-07	Deepwater Horizon	MODU DP Semi Sub, COC Renew
08-Aug-07	Thor Wind	Foreign Freight, P-II Safety, Accident Investigation
09-Aug-07	Shaula Star	VLCC, COC TVE Renewal
14-Aug-07	Heidmar Sabine	Tank COC TVE Annual
15-Aug-07	Pride Florida	MODU, Pressure vessels, #1 lifeboat
16-Aug-07	Ensco 98	MODU, Preload tanks internals
17-Aug-07	Pool Rig 54	MODU Annual
22-Aug-07	Triton Lark	Foreign Freight, P-II Safety, ISPS, BWE
23-Aug-07	BBC Ostfriesland	Foreign Freight, P-II Safety, ISPS, BWE
27-Aug-07	Maxima	Foreign Freight, P-II Safety, ISPS, BWE
28-Aug-07	TTT 251 and TTT 252	Periodic Exams on TTT 251 and 252
31-Aug-07	Edisongracht	Foreign Freight, P-II Safety, ISPS, BWE
05-Sep-07	Kvarver	Tank COC Chem Annual
07-Sep-07	Pride Florida	MODU Annual
14-Sep-07	Bob Keller	MODU ACP Handover
21-Sep-07	Gulfterra 1	OSV, Annual, ISE, Hull

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LOCATION	HELO HOURS	LAUNCH RIDE	OTHER NOTES
Rowan Sabine Pass	0		
Unocal	0		
Burton's	0		
Valero Coke Dock	0		
Neches Gulf Marine	0		
Port of Port Arthur	0		
Burton's	0		
Sabine Fairway Anchorage	0	Yes	
Lafayette, LA	0		
Burton's	0		
Vermilion 31	1.9		
Sun Anchorage	0	Yes	
Port of Port Arthur	0		
Rowan Sabine Pass	0		
Keathly Canyon 244	2.9		
Port of Beaumont	0		
Sabine Point Lightering Zone	1.3		
Sun Oil Dock	0		
West Cam 38	1.2		This was the old R. Hal Dean Aborted Annual Inspection due to weather
Rowan Sabine Pass	0		
Rowan Sabine Pass			One of Joe Grimes' little rigs, mat jack-up
Valero Coke Dock	0		
Port of Beaumont	0		Windmill ship
Port of Beaumont	0		New Ship, 1st US visit
Carotex	0		Martin barges, had to prep NOV cases
Port of Beaumont	0		Windmill ship
Valero			
West Cam 38	1		
West Cam	0.8		Completion of 15Aug07 inspection
R&R Central Yard	0		

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