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# U.S. COAST GUARD



## DRYDOCK (DI)

### PERFORMANCE AND QUALIFICATION STANDARD



Marine Inspection and Investigation School  
Training Center Yorktown

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## Drydock Inspector Performance and Qualification Standard

### References:

- (a) U.S. Coast Guard Sector Organization Manual, COMDTINST M5401.6 (series)
- (b) Marine Safety Manual, COMDTINST M16000 (series)
- (c) Performance, Training & Education Manual, COMDTINST M1500.10 (series)
- (d) Safety and Environmental Health Manual, COMDTINST 5100.47 (series)

This Performance and Qualification Standard (PQS) workbook is your On the Job Training (OJT) performance checklist for Drydock (DI) Inspector qualification. It is your responsibility to document all completed unit training items and keep track of all inspections completed during this process by filling out the Inspection Log located in appendix C in this workbook.

This PQS is intended for all Coast Guard Marine Inspectors (Active Duty Officers and Civilian GS Personnel).

This PQS workbook contains the common tasks and steps required for the DI qualification. Those members who will be pursuing the DI competencies are required to complete all tasks and steps in this PQS workbook. No competency will be assigned until the requirements of the DI PQS workbook is completed.

The following is a brief overview of how this PQS workbook works. On each task card you will find:

1. **Job:** The formal title of the qualification.  
*Example: "Offshore Supply Vessel Inspector"*
2. **Job Accomplishment:** The main deliverable for the qualification.  
*Example: "Certificate of Inspection"*
3. **Major Accomplishment:** The valuable products of a job or specialty which collectively make up the job accomplishment.  
*Example: "Lifesaving Equipment Inspection"*
4. **Vessel types:** The specific type of vessels within the formal title of the qualification that the task is associated with.  
*Example: "Small Passenger Vessel (T)"*
5. **Task:** Action to be performed on the job. A unit of behavior which has value for producing major accomplishments/output; has a definite beginning (stimulus); is made up of two or more steps; and results in a measurable output.
6. **Condition:** Specifies assistance, aids, or constraints the trainee will be given. It states the condition(s)/limit(s) under which the task will be performed.
7. **Standard:** Specifications of the levels of accuracy and quality necessary for success - that is, how well a trainee must carry out the desired performance to complete the task.

8. **Steps:** Sequence of actions which collectively make up the task's completion.

All tasks and steps must be validated by a certified Verifying Officer (VO). The VO shall observe the successful performance of each task and document such with signatures in the specific task card. VOs shall be experienced and competent personnel who have demonstrated the ability to evaluate, instruct and observe other personnel in the performance task criteria. VOs must be certified and recent in the competencies for which they are to verify and must be designated in writing, by the command. VOs must enter their title, name and initials in the Record of Verifying Officer's section before making entries in your PQS workbook.

With the exception of the training prerequisites listed on page (I), the Officer in Charge of Marine Inspection (OCMI) or designee may defer PQS items as authorized by references (a) and (d). The deferment of tasks should only be done when all reasonable attempts have been exhausted that would allow the apprentice the opportunity to demonstrate proficiency with a particular task. If a task is deferred, the reason for the deferment must be clearly articulated in both the PQS workbook and the certification letter for record keeping and accountability. The certification will be considered a "local certification" per reference (b) (MSM I/7.C.2.g) and limited to the cognizant OCMI's zone. Upon transfer of the inspector or OCMI, the certification will be rescinded until the deferred items have completed to the satisfaction of the new OCMI. **Division Chiefs shall examine all qualifications and prerequisites of newly reported Marine Inspectors to identify any deferred items necessary for their port.**

Prior to any prerequisite being deferred the individual's command must seek a waiver from the Office of Commercial Vessel Compliance (CG-CVC-1).

**Appendices:**

- A. Glossary
- B. Inspection Log



## Drydock Inspector (DI) PQS

<b>RECORD OF COMPLETION</b>		
<b>Training Prerequisites</b>	<b>Date</b>	<b>Training Coordinator's Signature</b>
A. Completion of the following resident and on-line courses:		
1. Marine Inspector Course (501869); <b>and</b>		
2. Introduction to Confined Space Entry and Shipyard Competent Person for Marine Inspection/Port State Control (100028)		
B. Completion of one Domestic Marine Inspector competency		
C. Completion of this PQS Workbook		
D. Successful completion of final assessment under observation of Verifying Officer		
E. Successful completion of the final board by DI Certification Board (CB)		
<b>DICB Members Present for Board:</b>		
F. Certification/Designation Letter submitted for approval		
G. Once Certification/Designation Letter is signed, enter competency and certification in TMT		
<b>REMARKS:</b>		

## Drydock Inspector (DI) PQS

<b>Task Number</b>	<b>Task Description</b>	<b>Date Completed</b>
DI-PI01	Research vessel details in MISLE (Marine Information for Safety and Law Enforcement) database	
DI-PI02	Alternate Hull Examination (AHE)	
DI-PI03	Review initial/Periodic mid-body gauging report	
DI-PI04	Coordinate inspection with vessel's representative	
DI-PI05	Mitigate potential hazards encountered during an inspection	
DI-CD01	Review Certificate of Inspection (COI)	
DI-CD02	Examine stability letter and booklet	
DI-CD03	Review Load Line Certificate (International/Coastwise)	
DI-CD04	Review International Anti-Fouling System (IAFS) certificate with Record of Anti-Fouling System	
DI-CD05	Review Cargo Ship Safety Construction Certificate (CSSCC)	
DI-CD06	Review Drydock Inspection Report for compliance with Vessel General Permit (VGP) requirements	
DI-TE01	Examine freeing ports and scuppers	
DI-TE02	Inspect air ports, dead covers and natural vent openings	
DI-TE03	Inspect tank vents	
DI-TE04	Inspect rails and courses	
DI-IS01	Verify confined spaces are safe for entry	
DI-IS02	Inspect internal structures	
DI-IS03	Inspect fixed ballast tanks and voids	
DI-HI01	Inspect hull	
DI-HI02	Inspect hull markings	
DI-HI03	Inspect main propulsion propeller(s)	
DI-HI04	Inspect tailshaft(s) and stern bearing(s)	
DI-HI05	Inspect rudder installation	
DI-HI06	Inspect hull appendages	
DI-HI07	Inspect anchor chain(s) and chain locker	
DI-HI08	Inspect sea valve(s)	
DI-HI09	Inspect auxiliary propulsion thruster(s) related to hull exam	
DI-HI10	Determine if vessel qualifies to participate in Underwater Survey Program (UWILD)	



## Drydock Inspector (DI) PQS

<b>Task Number</b>	<b>Task Description</b>	<b>Date Completed</b>
DI-HI11	Inspect hull during an underwater survey	
DI-HI12	Inspect bilge and ballast components in voids and ballast tanks	
DI-MI01	Inspect Nonmetallic Expansion Joint(s)	
DI-WR01	Evaluate structural repair proposals	
DI-WR02	Verify welding Procedure Qualification Record(s) (PQR) – (pressure vessel)	
DI-WR03	Verify welder is qualified to perform repair work – (pressure vessel)	
DI-WR04	Inspect fit-up	
DI-WR05	Inspect back gouge	
DI-WR06	Inspect welds	
DI-WR07	Verify welding Procedure Qualification Record(s) (PQR)	
DI-WR08	Verify welder is qualified to perform repair work	
DI-WR09	Inspect repairs to tail shafts	
DI-NT01	Inspect nondestructive testing (NDT) using the liquid (dye) penetrant method	
DI-NT02	Inspect nondestructive testing (NDT) using the magnetic particle method	
DI-NT03	Verify nondestructive testing (NDT) using the radiography (gamma rays or x-rays) method	
DI-NT04	Verify nondestructive testing (NDT) using the ultrasonic method	
DI-NT05	Inspect nondestructive testing (NDT) using the hydrostatic method (Pressure Vessels)	
DI-NT06	Inspect nondestructive testing (NDT) using the hydrostatic method (Piping Systems)	
DI-NT07	Inspect nondestructive testing (NDT) using the hydrostatic method (Tanks and Bulkheads)	
DI-NT08	Inspect nondestructive testing (NDT) using the pneumatic method (Pressure Vessels)	
DI-NT09	Inspect nondestructive testing (NDT) using the pneumatic method (Piping System)	
DI-NT10	Inspect nondestructive testing (NDT) using the tank air test (pneumatic) method (Tanks and Bulkheads)	
DI-NT11	Inspect nondestructive testing (NDT) using the hose test method (Tanks and Bulkheads)	
DI-NT12	Inspect nondestructive testing (NDT) using the vacuum box method (Tanks and Bulkheads)	
DI-FU01	Verify vessel compliance with the International Safety Management (ISM) Code	
DI-FU02	Issue control actions	

## Drydock Inspector (DI) PQS

<b>Task Number</b>	<b>Task Description</b>	<b>Date Completed</b>
DI-FU03	Issue deficiencies	
DI-FU04	Issue/Endorse vessel's certificates	
DI-FU05	Complete MISLE Activity	
DI-FU06	Conduct deficiency check	

## Appendix A

**Glossary:** The following terms are used in this workbook and should be reviewed in order to better understand its contents:

**Advise:** to counsel or recommend

**Assign:** to give responsibility, to place under the control of a task

**Amend (Modify):** to make minor changes in/to

**Brief:** to give information or final precise instructions

**Change:** to make different in some particular way

**Check:** to inspect for satisfactory condition, accuracy, safety or performance

**Compare:** to examine (two or more objects, ideas, people, etc.) in order to note similarities and/or differences

**Communicate:** to convey knowledge of or information about: make known

**Confirm:** to validate, establish the truth, accuracy or genuineness of something

**Create:** to cause to happen; bring about; arrange, as by intention or design

**Discuss:** to verbally present a topic in detail for examination or consideration

**Determine:** to settle or decide by choice of alternatives or possibilities. "Decide" refers to arriving at a conclusion and to pronounce that decision. "Determine" is to settle or decide by choice of alternatives or possibilities and to fix precisely.

**Endorse:** to approve, support or sustain; to sign one's name on a document or other instrument

**Ensure:** to make certain, to guarantee

**Enter:** to make a record of; record or register

**Evaluate:** to determine the significance or worth of, usually by careful appraisal and study

**Examine:** to look at or consider a thing carefully and in detail in order to discover something about it

**Identify:** to determine critical or necessary conditions or other factors; to determine the specific model of an item; to ascertain the origin, nature or definitive characteristics of; to recognize or establish as being a particular person or thing

**Inspect:** to examine officially; to look carefully at or over; view closely and critically

**Issue:** to serve legally binding federal documentation, notices or declarations to an individual, business or other distinctive entity

## Appendix A

**Locate:** to determine or set the position of; to find

**Make:** to create or cause to happen

**Modify** (Amend): to make minor changes in/to

**Observe** (Witness): to watch carefully

**Obtain:** to gain or attain

**Open:** to set in action, begin, start or commence

**Prepare:** plan, gather and assemble information to produce a document (i.e. COI); to put together, to combine elements and produce a product, to make ready

**Provide:** to supply or make available

**Review:** to go over for the purpose of determining correctness or currency; to examine a document or process for accuracy in content and/or format and report errors or updates to the author or controlling authority

**Schedule:** to appoint, assign, or designate for a fixed time

**Update:** to bring up to date or make current

**Validate:** to substantiate accuracy or truth of by comparison or investigation

**Verify:** to confirm or establish the accuracy or truth of something

**Witness** (Observe): to watch carefully











**Drydock Inspector (DI)****Drydock Examination****Pre-Inspection (PI)****D, H & I Vessels**

**Task:** DI-PI01 Research vessel details in MISLE (Marine Information for Safety and Law Enforcement) database

**Condition:** During preparation for drydock examination

**Standard:** In accordance with current policies, procedures and processes

- References:**
1. Title 46, United States Code § 3301 Vessels Subject to Inspection
  2. Title 33, Code of Federal Regulations Part 138 Financial Responsibility for Water Pollution & OPA 90 Limits of Liability
  3. Title 46, Code of Federal Regulations Parts 30, 70 & 90 General Provisions
  4. COMDTINST M16000.6 Marine Safety Manual Volume I Administration & Management & COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  5. MISLE Vessels User Guide
  6. MPS-PR-SEC-04 Preparing for Inspections and Examinations & MPS-PR-SEC-05 Conducting Domestic Vessel Inspections

Steps		References	Initials
PI01.1	Determine authority, jurisdiction, applicable regulations and enrollment in alternate inspection programs (ACP, SIP, MSP etc....)	46 USC 3301(3) 46 CFR 30.01-5 46 CFR 70-05-1 & 90.05-1 MSM II/B.9 & B 10	
PI01.2	Locate vessel in MISLE	MSM I/12.G.5	
PI01.3	Verify documents are current in MISLE	MISLE User Guide MSM II/B.1.C.2	
PI01.4	Review history (narratives, deficiencies & special notes)	MSM II/B.1.C.2	
PI01.5	Verify status of user fees	MSM II/B.1.C.2	
PI01.6	Enter title and point(s) of contact	MSM II/B.1.C.2	
PI01.7	Verify status of Certificate of Financial Responsibility (e-COFR)	33 CFR 138.15 & .30(c) 33 CFR 138.65 33 CFR 138.90(a)	
PI01.8	Generate new activity	MPS-PR-SEC-04	
PI01.9	Prepare folder and required documents	MPS-PR-SEC-04 & 05	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of MISLE including Coast Guard's Mission Management System (MMS) processes and procedures as they relate to deep draft drydock inspections.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)**

**Drydock Examination**

**Pre-Inspection (PI)**

**Passenger Vessel (H)**

**Task:** DI-PI02 Alternative Hull Examination (AHE)

**Condition:** *During AHE inspection*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

**References:** 1. Title 46, Code of Federal Regulations Part 71 Inspection and Certification

Steps		References	Initials
PI02.1	Verify eligibility	46 CFR 71.50-17	
PI02.2	Review application	46 CFR 71.50-19	
PI02.3	Review preliminary examination	46 CFR 71.50-21	
PI02.4	Conduct pre-survey meeting and review procedures	46 CFR 71.50-23 46 CFR 71.50-25	
PI02.5	Review AHE report/assessment	46 CFR 71.50-27 46 CFR 71.50-29	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Pre-Inspection (PI)**

**Tank Vessel (D)**

**Task:** DI-PI03 Review Initial/Periodic mid-body gauging report

**Condition:** *During preparation for drydock examination*

**Standard:** *In accordance with current policies, procedures and processes*

**References:** 1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification

Steps		References	Initials
PI03.1	Verify need for initial or periodic regauging	46 CFR 31.10-21a(a) & (b)	
PI03.2	Verify location of mid-body survey gauging	46 CFR 31.10-21a (a) & (c)	
PI03.3	Verify results, engineering analysis and repair proposal(s)	46 CFR 31.10-21a(d)& (f)	
PI03.4	Verify availability of permanent approved copies	46 CFR 31.10-21a(e)	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Pre-Inspection (PI)**

**D, H & I Vessels**

**Task:** DI-PI04 Coordinate inspection with vessel's representative

**Condition:** During preparation for drydock examination

**Standard:** In accordance with current policies, procedures and processes

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 71 Passenger Vessels - Inspection and Certification
  3. Title 46, Code of Federal Regulations Parts 78 & 91
  4. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  5. MPS-PR-SEC-01 Scheduling Domestic Vessel Inspections
  6. MPS-PR-SEC-04 Preparing for Inspection and Examinations

Steps		References	Initials
PI04.1	Verify vessel's representative	MPS-PR-SEC-01	
PI04.2	Determine location and time of inspection	MPS-PR-SEC-01	
PI04.3	Discuss inspection expectations	46 CFR 31.10-21 46 CFR 71.50-3, 91.40-3 MSM II/B.1.D.1 & B.2.A.1	
PI04.4	Verify vessel's owner/operator information	MPS-PR-SEC-04	
PI04.5	Verify vessel's Classification Society information	MPS-PR-SEC-04	
PI04.6	Review outstanding conditions from third party reports and/or CG-835s	MPS-PR-SEC-04	
PI04.7	Review repairs and alterations	46 CFR 31.10-22 & -25 46 CFR 78.33-10 46 CFR 91.45-1, -5	

**Verifying Officer Guidance:** Trainees should be prepared to discuss all aspects of the examination with vessel stakeholders to include: Identification of all major players, scope of work timelines/milestones, tanks/spaces gas freeing, vessel POC & "call out" expectations.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Pre-Inspection (PI)**

**D, H & I Vessels**

**Task:** DI-PI05 Mitigate potential hazards encountered during an inspection

**Condition:** *During preparation for drydock examination*

**Standard:** *In accordance with current policies, procedures and processes*

- References:**
1. Title 29, Code of Federal Regulations Part 1915 Occupational Safety & Health Standards for Shipyard Employment
  2. COMDTINST M16000.6 Marine Safety Manual Volume I Administration & Management
  3. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  4. NFPA 306 Standard for the Control of Gas Hazards on Vessels
  5. NFPA 350 Guide for safe Confined Space Entry and Work
  6. Gas Detector Operator's Manual

Steps		References	Initials
PI05.1	Recognize potential hazards encountered during inspection	NFPA 306 NFPA 350	
PI05.2	Determine confined spaces	MSM I/10 App.A NFPA 350	
PI05.3	Determine if exam scope will require a Marine Chemist certification for space entry	29 CFR 1915, Subpart B MSM II/A.5.H	
PI05.4	Verify Marine Chemist has been scheduled for exam	MSM I/10 App. A	
PI05.5	Prepare necessary personal protective equipment for exam	MSM I/10 App. A MSM I/8.A.3. Operator's Manual	
PI05.6	Review CG policy for when to leave a space due to hazardous condition	MSM I/10 App. A	

**Verifying Officer Guidance:**

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Certificates and Documents (CD)****D, H & I Vessels****Task:** DI-CD01 Review Certificate of Inspection (COI)**Condition:** While validating certificates and documents**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 61 Marine Engineering - Periodic Tests & Inspections
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 71 Passenger Vessels - Inspection and Certification
  5. Title 46, Code of Federal Regulations Part 91 Cargo & Miscellaneous Vessels - Inspection & Certification

Steps		References	Initials
CD01.1	Verify presence of original	46 CFR 31.05-5 46 CFR 71.01-5 46 CFR 91.01-2	
CD01.2	Verify hull exams date	46 CFR 31.10-21 46 CFR 71.50-3 46 CFR 91.40-3	
CD01.3	Verify Internal Structural Exam (ISE) date	46 CFR 31.10-21 46 CFR 71.50-3 46 CFR 91.40-3	
CD01.4	Verify Cargo Tank(s) Internal Exam (CTIE) date	46 CFR 31.10-21 46 CFR 70.05-30 46 CFR 91.20-20(e) & 40-3	
CD01.5	Verify integral fuel oil tank examination date	46 CFR 31.10-24 46 CFR 71.53-1 46 CFR 91.43-1	
CD01.6	Verify tailshaft inspection date(s)	46 CFR 31.30-1, 70.20-1 46 CFR 91.25-35 46 CFR 61.20-17	
CD01.7	Verify pressure vessel date(s)	46 CFR 31.30-1, 70.20-1 46 CFR 91.25-35 46 CFR 61.10-5(b)	

**Verifying Officer Guidance:**

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Certificates and Documents (CD)**

**D, H & I Vessels**

**Task:** DI-CD02 Examine stability letter and booklet

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 35 Tank Vessels - Operations
  3. Title 46, Code of Federal Regulations Part 72 Passenger Vessels - Construction and Arrangement
  4. Title 46, Code of Federal Regulations Part 78 Passenger Vessels - Operations
  5. Title 46, Code of Federal Regulations Parts 91, 97 & 170
  6. Vessel Stability Letter

Steps		References	Initials
CD02.1	Parent cites	46 CFR 31.10-30 & 72.30-1 46 CFR 91.55-5(c) 46 CFR 170.001(a)	
CD02.2	Verify presence of stability documents	46 CFR 35.08-1 & 78.12-1 46 CFR 97.11-1 46 CFR 170.120	
CD02.3	Verify type and location of fixed ballast	Vessel Stability Letter	
CD02.4	Verify location of watertight subdivision bulkheads	Vessel Stability Letter	

**Verifying Officer Guidance:** *The trainee should verify the type and location of fixed ballast and the location of watertight subdivision bulkheads in accordance with the vessel's stability documentation.*

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Certificates and Documents (CD)****D, H & I Vessels**

**Task:** DI-CD03 Review Load Line Certificate (International/Coastwise)

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  3. Title 46, Code of Federal Regulations Part 72 Passenger Vessels - Construction & Arrangement
  4. Title 46, Code of Federal Regulations Part 92 Cargo & Miscellaneous Vessels - Construction & Arrangement
  5. International Convention on Load Lines (ICLL) 1966, as amended

Steps		References	Initials
CD03.1	Parent cites	46 CFR 31.25-1 46 CFR 72.01-5 46 CFR 92-01-5	
CD03.2	Verify presence and type	46 CFR 42.03-5 46 CFR 42.07-5 ICLL Article 16	
CD03.3	Verify validity	46 CFR 42.07-45 ICLL Article 15 ICLL Article 19	
CD03.4	Verify proper certificate form	46 CFR 42.07-45(e) ICLL Article 18	
CD03.5	Confirm load line observed on hull matches certificate	46 CFR 42.07-5(b) ICLL I/9	
CD03.6	Verify Record of Conditions of Assignment (Form LL.11) is present and validates issued Load Line	46 CFR 42.09-15	

**Verifying Officer Guidance:** Trainee shall know and understand the purpose, format, contents and how to use the information contained on the certificate, especially with regard to issuance, periods of validity and proper endorsements.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>



**Drydock Inspector (DI)****Drydock Examination****Certificates and Documents (CD)****D, H & I Vessels**

**Task:** DI-CD04 Review International Anti-Fouling System (IAFS) certificate & Record of Anti-Fouling System

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. International Convention on the Control of Harmful Anti-Fouling Systems on Ships (AFS), 2001
  2. IMO Resolution MEPC.208(62) 2011 Guidelines for Inspection of Anti-Fouling Systems on Ships
  3. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2

Steps		References	Initials
CD04.1	Verify vessel particulars	IMO Res MEPC.208(62)2011	
CD04.2	Verify COI has Anti-Fouling endorsement or, if not required, IAFS Certificates	MSM II/B.3.J	
CD04.3	Verify records from manufacturer & shipyard(s) where coatings were applied	AFS Annex 4 Reg 5(1)	
CD04.4	Verify vessel particulars on Record of Anti-Fouling Systems	IMO Res MEPC.208(62)2011 MSM II/B.3.J	
CD04.5	Verify Anti-Fouling Systems details provided	IMO Res MEPC.208(62)2011	
CD04.6	Verify that no change in Anti-Fouling System has occurred since issuance of IAFS Certificates	IMO Res MEPC.208(62)2011 MSM II/B.3.J	

**Verifying Officer Guidance:** Trainee shall know and understand the purpose, format, contents and how to use the information contained on the certificate(s) especially with regards to issuance, periods of validity and proper endorsements..

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)**

**Drydock Examination**

**Certificates and Documents (CD)**

**D & I Vessels**

**Task:** DI-CD05 Review Cargo Ship Safety Construction Certificate (CSSCC)

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 91 Cargo & Miscellaneous Vessels - Inspection & Certification
  3. International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended

Steps		References	Initials
CD05.1	Verify presence	46 CFR 31.40-5, -25 & -35 46 CFR 91.60-5 & -35	
CD05.2	Verify validity	46 CFR 31.40-15 & -40 46 CFR 91.60-25 & -40	
CD05.3	Verify vessel particulars	SOLAS 20 I/15	
CD05.4	Verify ship type is accurate	SOLAS 20 I/12(a)(ii)	
CD05.5	Verify presence of previous two dry dock examinations and endorsements	SOLAS 20 I/10(a)(v)	
CD05.6	Verify any extension, renewal or change in anniversary date endorsements	SOLAS 20 I/14	

**Verifying Officer Guidance:** Trainee shall know and understand the purpose, format, contents and how to use the information contained on the certificate(s) especially with regards to issuance, periods of validity and proper endorsements (if required).

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Certificates and Documents (CD)**

**D, H & I Vessels**

**Task:** DI-CD06 Review Drydock Inspection Report for compliance with Vessel General Permit (VGP) requirements

**Condition:** While validating certificates and documents

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. EPA Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels (VGP), 2013
  2. CG-543 Policy Letter 11-01 Guidelines for CG Evaluations of Compliance with the EPA's Vessel General Permit
  3. 7 USC 136 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Steps		References	Initials
CD06.1	Verify presence	VGP 2013 4.1.1 VGP 2013 4.2.1 Policy Ltr 11-01	
CD06.2	Verify chain locker cleaned and/or flushed	VGP 2013 4.1.4 VGP 2013 2.2.8	
CD06.3	Verify inspection and removal of living organisms	VGP 2013 4.1.4 VGP 2013 2.2.8	
CD06.4	Verify anti-fouling hull coatings are applied, maintained, and removed consistent with FIFRA label	VGP 2013 4.1.4 VGP 2013 2.2.4	
CD06.5	Verify cathodic protection, anodes, or dialectic have been cleaned and/or replaced	VGP 2013 4.1.4 VGP 2013 2.2.7	
CD06.6	Verify all pollution control equipment is functioning	VGP 2013 4.1.4 VGP 2013 2.2.9	

**Verifying Officer Guidance:** Trainee shall know and understand the purpose, format, contents and how to use the information contained therein.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Topside Equipment Inspection (TE)**

**D, H & I Vessels**

**Task:** DI-TE01 Examine freeing ports and scuppers

**Condition:** During topside equipment and ground tackle inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 35 Tank Vessels - Operations
  3. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  4. Title 46, Code of Federal Regulations Part 72 Passenger Vessels - Construction and Arrangement
  5. Title 46, Code of Federal Regulations Parts 92 & 93
  6. Title 46, Code of Federal Regulations Part 174 Subdivision & Stability - Specific Vessel Types

Steps		References	Initials
TE01.1	Verify no modifications	46 CFR 31.10-30, 72.01-5 & .30-1 46 CFR 92.01-5 & 93.01-1 46 CFR 174.215	
TE01.2	Verify unobstructed	46 CFR 35.35-10 46 CFR 42.15-60 & -70	

**Verifying Officer Guidance:** Trainee during an ISE of side ballast/side voids assure scupper pipes the transit between the deck drain and the side shell are not holed and or wasted.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)**

**Drydock Examination**

**Topside Equipment Inspection (TE)**

**D, H & I Vessels**

**Task:** DI-TE02 Inspect air ports, dead covers and natural vent openings

**Condition:** *During topside equipment in*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  4. Title 46, Code of Federal Regulations Parts 56, 72, 92 & 93
  5. International Convention on Load Lines (ICLL) 1966, as amended
  6. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2

Steps		References	Initials
TE02.1	Verify covers are readily available and operational	46 CFR 31.10-32 & .25 46 CFR 72.01-5 & .30-1 46 CFR 92.01-5 & 93.01-1	
TE02.2	Examine condition	46 CFR 42.15-45 thru .15-60	
TE02.3	Exam covers for proper fit and seal	46 CFR 42.15-45 thru .15-60 ICLL I/23 MSM II/B.1.E.5	
TE02.4	Verify insect screens	46 CFR 32.40-55 46 CFR 72.20-55 46 CFR 92.20-55	

**Verifying Officer Guidance:**

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Topside Equipment Inspection (TE)**

**D, H & I Vessels**

**Task:** DI-TE03 Inspect tank vents

**Condition:** *During topside equipment inspection*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  2. Title 46, Code of Federal Regulations Part 56 Piping Systems & Appurtenances
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions

Steps		References	Initials
TE03.1	Parent cite	46 CFR 31.30-1 46 CFR 70.20-1 46 CFR 90.20-1	
TE03.2	Verify condition and location	46 CFR 32.55 46 CFR 56.50-85	
TE03.3	Verify installation and condition of flame screens	46 CFR 56.50-85(a)(8)	
TE03.4	Verify permanently attached means for closing tank vents	46 CFR 56.50-85(a)(7)	

**Verifying Officer Guidance:**

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Topside Equipment Inspection (TE)**

**D, H & I Vessels**

**Task:** DI-TE04 Inspect rails and courses

**Condition:** *During topside equipment and ground tackle inspection*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  2. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  3. Title 46, Code of Federal Regulations Part 72 Passenger Vessels - Construction and Arrangement
  4. Title 46, Code of Federal Regulations Part 92 Cargo & Miscellaneous Vessels - Construction & Arrangement
  5. International Convention on Load Lines (ICLL) 1966, as amended

Steps		References	Initials
TE04.1	Verify rail heights and courses	46 CFR 32.02-10, 72.40-5 46 CFR 92.25-1 & .25-5 46 CFR 42.15-75, ICLL I/25	
TE04.2	Verify condition of storm rails	46 CFR 32.02-10, 72.40-10 46 CFR 92.25-1 & .25-10 46 CFR 42.15-75, ICLL I/25	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Internal Structural Examination (IS)****D, H & I Vessels****Task:** DI-IS01 Inspect confined spaces are safe for entry**Condition:** Prior to entry of any confined spaces during inspection or examining repair work**Standard:** In compliance with applicable policies, laws, regulations, and standards

- References:**
1. Title 29, Code of Federal Regulations Part 1915 Occupational Safety & Health Standards for Shipyard Employment
  2. COMDTINST M5100.47C Safety and Environmental Health Manual
  3. NFPA 306 Standard for the Control of Gas Hazards on Vessels
  4. COMDTINST M16000.6 Marine Safety Manual Volume I Administration & Management
  5. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2

Steps		References	Initials
IS01.1	Review Marine Chemist Certificate (MCC)	29 CFR 1915.12(f) CIM 5100.47C 13.B.3 NFPA 306/4.3	
IS01.2	Verify Competent Person has maintained Marine Chemist Certificate	29 CFR 1915.15 CIM 5100.47C 13.B.8 NFPA 306/4.6.2	
IS01.3	Verify no changes to vessel's condition	29 CFR 1915.15(b)	
IS01.4	Verify forced ventilation is provided	29 CFR 1915.13(b)(3) MSM I/Chap 10, Appx F	
IS01.5	Verify condition of space access point	29 CFR 1915.76	
IS01.6	Verify compliance with competent person program	MSM II/A.5.H.6	
IS01.7	Verify condition of electrical lockouts/tags or piping/valves listed on MCC	NFPA 306/6.2.1(5)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of the USCG's confined space entry program, PPE requirements, and USCG's/unit's safe working practices.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:



**Drydock Inspector (DI)****Drydock Examination****Internal Structural Examination (IS)****D, H & I Vessels****Task:** DI-IS02 Inspect internal structures**Condition:** *During Internal structural inspection***Standard:** *In compliance with applicable policies, laws, regulations, and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  3. Title 46, Code of Federal Regulations Parts 71 & 92
  4. NVIC 07-68 Notes on Inspection and Repair of Steel Hulls
  5. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  6. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction

Steps		References	Initials
IS02.1	Examine internal structures	46 CFR 31.10-1 & -20 46 CFR 71.50-3, 92.01-5 46 CFR 42.09-30 ABS 7-3-1/1	
IS02.2	Examine coamings, closures and other fittings	46 CFR 42.09-25(b)(2) MSM II/B3.B	
IS02.3	Verify wastage discovered is within acceptable limits	ABS 7-A-4/27 NVIC 07-68 III(C) & (H)-(N)	
IS02.4	Verify unsatisfactory condition(s) are resolved	46 CFR 42.09-45	

**Verifying Officer Guidance:** *Trainee shall demonstrate a working knowledge of vessel nomenclature including scantlings/structural members and the proper examination procedures to follow.*

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)**

**Drydock Examination**

**Internal Structural Examination (IS)**

**D, H & I Vessels**

**Task:** DI- IS03 Inspect fixed ballast tanks and voids

**Condition:** *During internal structural inspection*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 72 Passenger Vessels - Construction and Arrangement
  3. Title 46, Code of Federal Regulations Part 91 Cargo & Miscellaneous Vessels - Inspection & Certification
  4. Title 46, Code of Federal Regulations Part 170 Stability Requirements for All Inspected Vessels
  5. NVIC 02-82 Fixed ballast
  6. Vessel's stability letter

Steps		References	Initials
IS03.1	Parent cites	46 CFR 31.10-30 46 CFR 72.30-1 46 CFR 91.55-5(c)	
IS03.2	Verify tanks containing fixed ballast	Vessel stability letter	
IS03.3	Verify spaces are gas free	See task IS03 card	
IS03.4	Verify no shifting or settling of fixed ballast has occurred	46 CFR 170.235(2) NVIC 05-82	
IS03.5	Verify satisfactory testing of bacteriostatic agent and/or corrosion inhibitors, as applicable	NVIC 05-82	
IS03.6	Examine corrosion test plates to determine type and rate of corrosion	NVIC 05-82	

**Verifying Officer Guidance:**

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Hull Inspection (HI)****D, H & I Vessels****Task:** DI-HI01 Inspect hull**Condition:** During drydock Inspection**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  3. Title 46, Code of Federal Regulations Parts 61, 70, 71 & 91
  4. NVIC 07-68 Notes on Inspection and Repair of Steel Hulls
  5. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  6. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction

Steps		References	Initials
HI01.1	Examine for wastage, defect(s) and damage	46 CFR 31.10-1 & -20 46 CFR 70.35-1, 71.50-3 46 CFR 91.40-3(c), ABS 7-4-1/1	
HI01.2	Examine stress areas (stringer plate, sheer plate, etc.)	NVIC 07-68 II, III & IV(B)	
HI01.3	Examine seachest(s), strainers and emergency bilge suction and overboard discharges for wastage, defect(s), and damage	46 CFR 61.20-5 NVIC 07-68 II & III	
HI01.4	Verify condition of drydock (bottom) plugs	NVIC 07-68 II & III MSM II/B.3.B.2	
HI01.5	Verify wastage/corrosion is within limits	ABS 7-A-4/27 NVIC 07-68 III(C) & H-N	
HI01.6	Ensure unsatisfactory condition(s) are resolved	46 CFR 42.09-45 MSM II/B.3.B	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of vessel construction & repair nomenclature including scantlings/structural members.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)**

**Drydock Examination**

**Hull Inspection (HI)**

**D, H & I Vessels**

**Task:** DI-HI02 Inspect hull markings

**Condition:** During drydock inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  4. Title 46, Code of Federal Regulations Part 67 Documentation of Vessels
  5. Title 46, Code of Federal Regulations Part 69 Measurement of Vessels
  6. Title 46, Code of Federal Regulations Parts 78 & 97

Steps		References	Initials
HI02.1	Verify placement of hull markings	46 CFR 31.25-1 & 32.05-1 46 CFR 78.17-20, 97.40-5 46 CFR 67.120 & 69.177	
HI02.2	Verify load line markings are permanently affixed	46 CFR 32.25-1, 78.50-15 46 CFR 97.40-15 46 CFR 42.13-40, 67.121	
HI02.3	Verify markings are of contrasting colors	46 CFR 32.05-1(f), 78.50-10(f) 46 CFR 97.40-10(f) 46 CFR 42.13-40	

**Verifying Officer Guidance:** *Marking required for UWILD will be found on DI-HI10 card.*

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Hull Inspection (HI)**

**D, H & I Vessels**

**Task:** DI-HI03 Inspect main propulsion propeller(s)

**Condition:** During drydock inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  2. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  3. Title 46, Code of Federal Regulations Part 58 Main & Auxiliary Machinery & Related Systems
  4. Title 46, Code of Federal Regulations Parts 61, 77 & 91
  5. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction
  6. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2

Steps		References	Initials
HI03.1	Exam condition	46 CFR 32.35-1, 77.03-1 46 CFR 91.25-35 46 CFR 61.20-5(a) & ABS 7-5-1/1.5	
HI03.2	Verify locking nut (locking device) is installed and secured	46 CFR 58.01-5 ABS 7-4-1/1 & 7-5-1/1.5 & 3.5 MSM II B.3	
HI03.3	Witness non-destructive testing (NDT) of propeller coupling bolts and flange radius	46 CFR 61.20-18 ABS 7-5-1/3 MSM II/B.3.D	
HI03.4	Verify documentation of defects & inspection	ABS 7-A-10/1.5.4	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of propeller components and the proper examination procedures to follow.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Hull Inspection (HI)****D, H & I Vessels****Task:** DI-HI04 Inspect tailshaft(s) and stern bearing(s)**Condition:** During drydock inspection, giving consideration to the number of separate propulsion shaft(s), the materials of fabrication and the type of bearing lubrication used**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  2. Title 46, Code of Federal Regulations Part 58 Main & Auxiliary Machinery & Related Systems
  3. Title 46, Code of Federal Regulations Part 61 Marine Engineering - Periodic Tests & Inspections
  4. Title 46, Code of Federal Regulations Parts 77 & 91
  5. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  6. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction

Steps		References	Initials
HI04.1	Determine if tailshaft(s) need to be drawn	46 CFR 32.35-1, 77.03-1, 91.25-35 46 CFR 58.01-5, 61.20-17 & ABS 7-2-1/13 MSM II/B.3.D.3 & 6	
HI04.2	Verify bearing clearance, inboard seal assembly and record of lube oil analysis are within limits	46 CFR 61.20-17(e) & 20-23(c) ABS 7-5-1/1 & 3 ABS 7-5-2/1	
HI04.3	Visually examine shaft	46 CFR 61.20-18(a) & .20-23(a) ABS 7-5-1/1 & 3 ABS 7-5-2/1	
HI04.4	Witness non-destructive testing (NDT) of shaft's taper section and keyway	46 CFR 61.20-18(b) ABS 7-5-1/1	
HI04.5	Verify condition and wear of strut bearing(s)	MSM II/B.3.D.10 46 CFR 61.20-23	
HI04.6	Verify condition of blade hardware on Controllable Pitch Propeller (CPP)	ABS 7-5-1/3	

**Verifying Officer Guidance:** Trainee shall understand how non-continuous liner may be considered as having continuous liners for purpose of tail shaft inspections (ABS 4-3-2.5.17).

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)**

**Drydock Examination**

**Hull Inspection (HI)**

**D, H & I Vessels**

**Task:** DI-HI05 Inspect rudder installation

**Condition:** During drydock inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  2. Title 46, Code of Federal Regulations Part 58 Main & Auxiliary Machinery & Related Systems
  3. Title 46, Code of Federal Regulations Parts 77 & 91
  4. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  5. ABS Rules for Building and Classing Steel Vessels, Part 3 Hull Construction and Equipment
  6. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction

Steps		References	Initials
HI05.1	Verify type of assembly installed	46 CFR 32.35-1, 77.03-1 46 CFR 91.25-35, 58.01-5 ABS 3-2-14/1 & MSM II/B.3.E.2	
HI05.2	Examine assembly	46 CFR 58.01-5 ABS 7-4-1/1 ABS 7-4-4/27	
HI05.3	Verify bearing clearance(s)	ABS 7-4-1/1	
HI05.4	Verify condition of pintle(s), gudgeon(s), bushing(s), pintle nut(s), and locking device(s)	ABS 7-4-1/1 MSM II/B.3.E.2	
HI05.5	Verify condition of pintle by nondestructive test (NDT)	MSM II/B.3.E.2	
HI05.6	Verify tightness of rudder assembly by pneumatic test	ABS 7-4-1/1	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of rudder components and the proper examination procedures to follow.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Hull Inspection (HI)**

**D, H & I Vessels**

**Task:** DI-HI06 Inspect hull appendages

**Condition:** During drydock inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  2. Title 46, Code of Federal Regulations Part 58 Main & Auxiliary Machinery & Related Systems
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 77 Passenger Vessels - Vessel Control and Miscellaneous Systems and Equipment
  5. Title 46, Code of Federal Regulations Part 91 Cargo & Miscellaneous Vessels - Inspection & Certification
  6. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction

Steps		References	Initials
HI06.1	Examine condition and structural integrity of bilge keel	46 CFR 32.35-1, 70.35-1 46 CFR 77.03-1 46 CFR 91.25-35, 58.01-5 MSM II B.3.D, ABS 7-4-1/1	
HI06.2	Examine condition of coolers (keel or grid)	46 CFR 56.50-96 46 CFR 58.05-1 ABS 4-6 5/7.9	
HI06.3	Examine condition of transducers and other similar appendages	ABS 7-4-1/1	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of equipment/ vessel nomenclature including scantlings/structural members, hull penetrations (valves), and major system components external to hull (appendages).

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>



**Drydock Inspector (DI)****Drydock Examination****Hull Inspection (HI)****D, H & I Vessels****Task:** DI-HI07 Inspect anchor chain(s) and chain locker**Condition:** During drydock inspection**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Parts 32, 70, 77, 96
  3. ABS Rules for Building and Classing Steel Vessels, Part 2 Materials and Welding
  4. ABS Rules for Building and Classing Steel Vessels, Part 3 Hull Construction and Equipment
  5. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction
  6. NVIC 07-68 Notes on Inspection and Repair of Steel Hulls

Steps		References	Initials
HI07.1	Examine condition of anchor	46 CFR 32.15-15, 70.35-1 46 CFR 77.07-1 thru -90 46 CFR 96.07-5 & -10 ABS 3-5-1	
HI07.2	Examine condition anchor chain	46 CFR 31.10-1 ABS 7-3-2/1.1.7	
HI07.3	Examine Inspect connection points of anchor handling equipment (base of windless, capstan, cats paw, etc.)	46 CFR 31.10-1 ABS 7-3-2/1.1.7	
HI07.4	Examine condition ground tackle connection points	46 CFR 31.10-1 ABS 7-3-2/1.1.7	
HI07.5	Verify chain is marked	46 CFR 31.10-1 ABS 2-2-2/21	
HI07.6	Examine condition chain locker	46 CFR 31.10-1 ABS 7-A-4/27 NVIC 07-68 III(c)	
HI07.7	Examine condition chain's pad eye (holdfast)	46 CFR 31.10-1 ABS 7-3-2/5.1.4	
HI07.8	Examine condition of hawse pipe	46 CFR 31.10-1 ABS 7-3-2/5.1.4	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of equipment's components and the proper examination procedures to follow.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)**

**Drydock Examination**

**Hull Inspection (HI)**

**D, H & I Vessels**

**Task:** DI-HI08 Inspect sea valve(s)

**Condition:** During drydock inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  2. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  3. Title 46, Code of Federal Regulations Part 56 Piping Systems & Appurtenances
  4. Title 46, Code of Federal Regulations Part 61 Marine Engineering - Periodic Tests & Inspections
  5. Title 46, Code of Federal Regulations Part 77 Passenger Vessels - Vessel Control and Miscellaneous Systems and Equipment
  6. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions

Steps		References	Initials
HI08.1	Determine which are due for examination	46 CFR 32.35-1, 77.03-1 46 CFR 90.20-1 46 CFR 61.20-5(b)	
HI08.2	Verify quantity and type	46 CFR 32.35-1, 77.03-1 46 CFR 90.20-1 46 CFR 42.15-60(e) 46 CFR 56.50-95(f)	
HI08.3	Verify that all sea valves are identified and are opened for examination	46 CFR 42.15-60(c) 46 CFR 56.50-95	
HI08.4	Examine external/internal components	46 CFR 61.20-5(b) 46 CFR 42.09-25(b)(4) 46 CFR 42.09-25(b)(5)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of valve components and the proper examination procedures to follow.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Hull Inspection (HI)****D, H & I Vessels****Task:** DI-HI09 Inspect auxiliary propulsion thruster(s) related to hull exam**Condition:** During drydock inspection**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 42 Load Lines - Domestic & Foreign Voyages by Sea
  4. Title 46, Code of Federal Regulations Parts 58, 77 & 96
  5. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  6. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction

Steps		References	Initials
HI09.1	Examine propeller	46 CFR 32.35-1, 70.35-1 46 CFR 77.03-1 46 CFR 96.03-1, 58.01-5 ABS 7-4-1/1 ABS 7-9-6/1.3 MSM II/B.3.D.2.c	
HI09.2	Examine thruster tunnel plate	46 CFR 31.10-1 & 32.35-1 46 CFR 77.03-1, 42.09-30(b) ABS 7-4-1/1 & 7-A-4/27	
HI09.3	Verify shaft seal or packing gland in place	46 CFR 31.10-1 ABS 7-4-1/1 & 7-9-6/1.3	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of thruster components and the proper examination procedures to follow.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)****Drydock Examination****Hull Inspection (HI)****D, H & I Vessels**

**Task:** **DI-HI10 Determine if vessel qualifies to participate in Underwater Survey Program (UWILD)**

**Condition:** *Given a request to participate in underwater inspection in lieu of drydocking (UWILD) program*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 71 Passenger Vessels - Inspection and Certification
  3. Title 46, Code of Federal Regulations Part 91 Cargo & Miscellaneous Vessels - Inspection & Certification
  4. NVIC 01-89 Underwater Survey Guidance
  5. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2

Steps		References	Initials
HI10.1	Review application	46 CFR 31.10-21(d), 71.50-5(b) 46 CFR 91.40-3(d) NVIC 01-89 MSM II/B.3.C.1	
HI10.2	Inspect condition of hull and protection system	NVIC 01-89 Encl.1/1.a	
HI10.3	Verify reference points	46 CFR 31.10-21(d)(3) 46 CFR 71.50-5(b)(3) 46 CFR 91.40-3(d)(3) NVIC Encl.1/1.b MSM II/B.3.C.1.b	
HI10.4	Verify hinged gratings are installed on sea chest(s)	46 CFR 31.10-21(d)(4) 46 CFR 71.50-5(b)(4) 46 CFR 91.40-3(d)(4) NVIC Encl.1/1.c MSM II/B.3.C.1.c	
HI10.5	Verify means for taking shaft-bearing and rudder-bearing clearances	46 CFR 31.10-21(d)(5) 46 CFR 71.50-5(b)(5) 46 CFR 91.40-3(d)(5)	
HI10.6	Review hull gauging report	NVIC Encl.1/1.a	
HI10.7	Review reference video	NVIC Encl.1/1.d MSM II/B.3.C.1.d	
HI10.8	Forward application with OCMI's recommendation	MSM II/B.9.K.7 MSM II/G.2.V.6.a	

**Verifying Officer Guidance:**

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)****Drydock Examination****Hull Inspection (HI)****D, H & I Vessels**

**Task:** DI-HI11 Inspect hull during an underwater survey

**Condition:** During underwater inspection in lieu of drydocking (UWILD) on vessels enrolled in the program

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:**

1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
2. Title 46, Code of Federal Regulations Parts 71, 91 & 197
3. NVIC 01-89 Underwater Survey Guidance
4. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2

Steps		References	Initials
HI11.1	Review vessel's application for (UWILD) drydocking examination	46 CFR 31.10-21(d), 71.50-5(b) 46 CFR 91.40-3(d) NVIC Encl.1/2.a & MSM II/B.3.C.2	
HI11.2	Verify procedures to be followed	46 CFR 31.10-21(d)(1), 71.50-5(b)(1) 46 CFR 91.40-3(d)(1), 197.202 MSM II/B.3.C.2	
HI11.3	Verify suitability of location	46 CFR 31.10-21(d)(2), 71.50-5(b)(3) 46 CFR 91.40-3(d)(4) NVIC Encl.1/5.c & MSM II/B.3.C.5.c	
HI11.4	Review reference plans and video	46 CFR 31.10-21(d)(3), 71.50-5(b)(4) 46 CFR 91.40-3(d)(4) NVIC Encl.1/2.a(12)	
HI11.5	Meet with vessel's representative and diving supervisor to discuss details of survey	46 CFR 31.10-21(d), 71.50-5(b)(5) 46 CFR 91.40-3(d)(5) NVIC Encl.1/4 & MSM II/B.3.C.4	
HI11.6	Verify vessel's representative submitted a signed letter of vessel's overall condition	NVIC Encl.1/2.a(7) MSM II/B.3.C.3	
HI11.7	Verify divers quals, type of diving equipment, & nondestructive testing (NDT) & damage repair capabilities	NVIC Encl.1/5.f MSM II/B.3.C.5.k.5	
HI11.8	Verify all areas of the hull have been cleaned	NVIC Encl.1/5.g	
HI11.9	Witness underwater survey from a video monitor	NVIC Encl.1/1.a & 5.l MSM II/B.3.C.5.k.3	

**Verifying Officer Guidance:**

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Hull Inspection (HI)**

**D, H & I Vessels**

**Task:** DI-HI12 Inspect bilge and ballast components in voids and ballast tanks

**Condition:** During drydock examination

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 33, Code of Federal Regulations Part 151 Vessels Carrying Oil, NLS, Garbage, Municipal or Commercial Waste & Ballast Water
  2. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  3. Title 46, Code of Federal Regulations Part 56 Piping Systems & Appurtenances
  4. Title 46, Code of Federal Regulations Part 61 Marine Engineering - Periodic Tests & Inspections
  5. Title 46, Code of Federal Regulations Part 71 Passenger Vessels - Inspection and Certification
  6. Title 46, Code of Federal Regulations Part 96 Cargo & Miscellaneous Vessels - Vessel Control & Misc. Systems & Equipment

Steps		References	Initials
HI12.1	Verify structural integrity of piping	46 CFR 31.10-20, 71.25-35 46 CFR 96.03-1 46 CFR 56.50-50(h)-(k)	
HI12.2	Verify valve operation and labeling	46 CFR 56.50-1(g) 46 CFR 61.20-5(b)	
HI12.3	Verify bilge suction pipe(s) are fitted with strainers	46 CFR 56.50-50(g)	
HI12.4	Verify compliance for Ballast Water Management	33 CFR 151.2000 -.2075	

**Verifying Officer Guidance:** *Trainees should complete a thorough examination of bilge piping and valve, including examining reach rods along their entire length.*

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Machinery Equipment Inspection (MI)**

**D, H & I Vessels**

**Task:** DI-MI01 Inspect nonmetallic expansion joint(s)

**Condition:** During structural/watertight integrity inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 61 Marine Engineering - Periodic Tests & Inspections
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 91 Cargo & Miscellaneous Vessels - Inspection & Certification
  5. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2

Steps		References	Initials
MI01.1	Determine need for removal	46 CFR 31.30-1, 70.20-1 46 CFR 91.15-1 46 CFR 61.15-12	
MI01.2	Verify internal and external condition	MSM II/B.3.F.3	
MI01.3	Verify new installation	MSM II/B.3.F.3	

**Verifying Officer Guidance:** Trainee shall ensure documentation of nonmetallic expansion joint(s) replacement are logged in MISLE as an Inspection Note.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Welding Repair Inspection (WR)****D, H & I Vessels****Task:** DI-WR01 Evaluate structural repair proposals**Condition:** During examination of repair work**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 2 Vessel Inspections
  2. Title 46, Code of Federal Regulations Parts 31, 32, 42, 70, 90
  3. NVIC 07-68 Notes on Inspection and Repair of Steel Hulls
  4. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  5. ABS Rules for Building and Classing Steel Vessels, 1995 Part 2 Materials and Welding
  6. ABS Rules for Building and Classing Steel Vessels, 1995 Part 7 Survey After Construction

Steps		References	Initials
WR01.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
WR01.2	Evaluate extent of damage and/or wastage/corrosion	46 CFR 42.09-50 ABS 7-A-4/17 NVIC 07-68 IV	
WR01.3	Review repair proposal	46 CFR 42.09-50 ABS 7-A-4/29 MSM II/A.1.F.2.a NVIC 07-68 IV	
WR01.4	Verify repair materials	46 CFR 42.09-50(c) ABS 7-A-4/29 ABS 2-1-1/7	
WR01.5	Verify welding procedures	46 CFR 42.09-50(c) 46 CFR 2.75-70 ABS 2-4-1/1.3	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of acceptable structural repair standards, processes and procedures.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:



**Drydock Inspector (DI)**

**Drydock Examination**

**Welding Repair Inspection (WR)**

**D, H & I Vessels**

**Task:** DI-WR02 Verify welding Procedure Qualification Records (PQR)

**Condition:** During examination of repair work on a pressure vessel that requires qualified weld procedures

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 2 Vessel Inspections
  2. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  3. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  4. Title 46, Code of Federal Regulations Part 57 Welding & Brazing
  5. Title 46, Code of Federal Regulations Parts 70 & 90
  6. ASME Boiler and Pressure Vessel Code, Section IX, 1989

Steps		References	Initials
WR02.1	Parent cites	46 CFR 31.10-1, .30-1 46 CFR 32.60-1 46 CFR 70.20-1 & .35-1 46 CFR 90.20-1 & .35-1	
WR02.2	Confirm need for qualified welding procedure	46 CFR 2.75-70 46 CFR 57.02-2(a)(1)	
WR02.3	Verify variables on PQRs to the Welding Procedure Specification (WPS)	ASME IX/QW-200.1(b) ASME IX/QW-483	
WR02.4	Verify tests and results	ASME IX/QW-200.2(b)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of the elements of a PQR and WPS. Also, demonstrate how to use the information contained in both.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Welding Repair Inspection (WR)****D, H & I Vessels****Task:** DI-WR03 Verify welder is qualified to perform repair work**Condition:** During examination of repair work on a pressure vessel**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 2 Vessel Inspections
  2. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  3. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  4. Title 46, Code of Federal Regulations Part 57 Welding & Brazing
  5. Title 46, Code of Federal Regulations Parts 70 & 90
  6. ASME Boiler and Pressure Vessel Code, Section IX, 1989

Steps		References	Initials
WR03.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60-1 46 CFR 70.20-1 & .35-1 46 CFR 90.20-1 & .35-1	
WR03.2	Confirm need for qualified welding procedure	46 CFR 2.75-70 46 CFR 57.02-2(a)(1)	
WR03.3	Verify Welder Performance Qualification (WPQ) is valid	46 CFR 57.02-3 ASME IX/QW-322.1	
WR03.4	Verify variables on WPQ(s)	ASME IX/QW-301.2 ASME IX/QW-301.4 ASME IX/QW-484(a)	
WR03.5	Verify tests are satisfactory	ASME IX/QW-302.1 ASME IX/QW-484(a)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of the elements of a WPQ and WPS. Also, demonstrate how to use the information contained in both.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)****Drydock Examination****Welding Repair Inspection (WR)****D, H & I Vessels****Task:** DI-WR04 Inspect fit-up**Condition:** During initial examination of steel repair work**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Parts 42, 57, 70 & 90
  4. NVIC 07-68 Notes on Inspection and Repair of Steel Hulls
  5. ABS Rules for Building and Classing Steel Vessels, Part 2 Materials and Welding
  6. American Welding Society Guide for Steel Hull Welding - ANSI/AWS D3.5-93

Steps		References	Initials
WR04.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
WR04.2	Examine material and verify it is fitted to approved joint detail	46 CFR 42.09-50 ANSI/AWS D3.5-93 NVIC 07-68 IV & V	
WR04.3	Verify materials (base, filler, gas)	46 CFR 57.02-5 ABS 2-1-1/1.1	
WR04.4	Verify welding processes	ABS 2-4-1/1.7	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of structural repair standards, processes and procedures. Note: Marine Safety Manual Vol II, Chapter 5 directs you to NVIC 7-68.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)****Drydock Examination****Welding Repair Inspection (WR)****D, H & I Vessels****Task:** DI-WR05 Inspect back gouge**Condition:** During intermediate examination of full penetration weld on steel repair work**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Parts 70 & 90
  4. NVIC 07-68 Notes on Inspection and Repair of Steel Hulls
  5. ABS Rules for Building and Classing Steel Vessels, 1995 Part 2 Materials and Welding
  6. American Welding Society Guide for Steel Hull Welding - ANSI/AWS D3.5-93

Steps		References	Initials
WR05.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
WR05.2	Examine welds for defects (discontinuity)	ABS 2-4-1/5.9 NVIC 07-68 V(G)(2)	
WR05.3	Verify weld sequencing	ANSI/AWS D3.5-93 NVIC 07-68 V(F)	
WR05.4	Verify joints are cleaned interpasses	ABS 2-4-1/3.5 NVIC 07-68 V(H)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of structural repair standards, processes and procedures.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)****Drydock Examination****Welding Repair Inspection (WR)****D, H & I Vessels****Task:** DI-WR06 Inspect welds**Condition:** During final visual examination of steel repair work**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Parts 70 & 90
  4. NVIC 07-68 Notes on Inspection and Repair of Steel Hulls
  5. ABS Rules for Building and Classing Steel Vessels, 1995 Part 2 Materials and Welding
  6. ABS Nondestructive Inspection of Hull Welds (NDT Guide), 2014

Steps		References	Initials
WR06.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
WR06.2	Examine welds for uniformity and reinforcement	ABS 2-4-1/5.15.1 NVIC 07-68 V	
WR06.3	Examine welds for defects (discontinuity)	ABS 2-4-1/5.15.1 NVIC 07-68 V(H)	
WR06.4	Examine adjacent base metal for injurious arc strikes, spatter, undercut, overlap, slag and irregular and/or sharp edges	ABS 2-4-1/5.15.1	
WR06.5	Verify workmanship through an nondestructive test	ABS 2-4-1/5.15.2 ABS NDT Guide	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of structural repair standards, processes and procedures.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)**

**Drydock Examination**

**Welding Repair Inspection (WR)**

**D, H & I Vessels**

**Task:** DI-WR07 Verify welding Procedure Qualification Record(s) (PQR)

**Condition:** During examination of repair work on hull that require a qualified welder

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 2 Vessel Inspections
  2. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  3. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  4. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  5. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  6. NVIC 07-68 Notes on Inspection and Repair of Steel Hulls

Steps		References	Initials
WR07.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
WR07.2	Confirm need for qualified welding procedure	46 CFR 2.75-70 NVIC 07-68	
WR07.3	Verify variables on PQR(s) to the Welding Procedure Specification (WPS(s))	46 CFR 2.75-70	
WR07.4	Verify tests and results	46 CFR 2.75-70	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of the elements of a PQR and WPS. Also, demonstrate how to use the information contained in both.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Welding Repair Inspection (WR)**

**D, H & I Vessels**

**Task:** DI-WR08 Verify welder is qualified to perform repair work

**Condition:** During examination of repair work

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 2 Vessel Inspections
  2. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  3. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  4. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  5. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions

Steps		References	Initials
WR08.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
WR08.2	Confirm need for qualified welding procedure	46 CFR 2.75-70	
WR08.3	Verify Welder Performance Qualification (WPQ) is valid	46 CFR 2.75-70	
WR08.4	Verify variables on WPQs	46 CFR 2.75-70	
WR08.5	Verify tests are satisfactory	46 CFR 2.75-70	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of the elements of a WPQ and WPS. Also, demonstrate how to use the information contained in both.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Welding Repair Inspection (WR)**

**D, H & I Vessels**

**Task:** DI-WR09 Inspect repairs to tail shafts

**Condition:** *During machinery equipment inspection*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 2 Vessel Inspections
  2. Title 46, Code of Federal Regulations Part 61 Marine Engineering - Periodic Tests & Inspections
  3. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  4. ABS Rules for Building and Classing Steel Vessels, Part 7 Survey After Construction

Steps		References	Initials
WR09.1	Determine if repairable	46 CFR 61.20-17 MSM II/A5.1.2 ABS 7-A-11/7	
WR09.2	Verify repair proposal & welding procedure	MSM II/A5.1.2 ABS 7-A-11/9.1 ABS 7-A-11/5.5.2	
WR09.3	Verify welder qualifications	46 CFR 2.75-70 MSM II/A5.1.2	
WR09.4	Verify facility approval	ABS 7-A-11/5.3 ABS 7-A-11/17.1	
WR09.5	Examine production welding process	ABS 7-A-11/9, .11 & .13	
WR09.6	Examine clad welding	ABS 7-A-11/17 & .19	

**Verifying Officer Guidance:**

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>



**Drydock Inspector (DI)****Drydock Examination****Nondestructive Testing Inspection (NT)****D, H & I Vessels**

**Task:** DI-NT01 Inspect nondestructive testing (NDT) using the liquid (dye) penetrant method

**Condition:** During inspection or after completion of a weld repair

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  5. ABS Rules for Building and Classing Steel Vessels, 2018 Part 2 Materials and Welding
  6. ABS Nondestructive Inspection of Hull Welds (NDT Guide), 2018

Steps		References	Initials
NT01.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
NT01.2	Verify technician's qualification and certification	ABS 2-4-1/5.17 NDT Guide 4/5.3	
NT01.3	Verify application technique	NDT Guide 4/5.5	
NT01.4	Witness application procedures	ABS NDT Guide 4/5.7	
NT01.5	Witness visible penetrant examination	ABS NDT Guide 4/7.5	
NT01.6	Witness fluorescent penetrant examination	ABS NDT Guide 4/7.7	
NT01.7	Evaluate test results or technician's report	ABS NDT Guide 4/9 & 11	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of dye penetrant testing methods and procedures (may vary depending on the manufacturer). Trainee shall demonstrate knowledge of Type 1, 2 and 3 NDT certifications.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)****Drydock Examination****Nondestructive Testing Inspection (NT)****D, H & I Vessels**

**Task:** DI-NT02 Inspect nondestructive testing (NDT) using the magnetic particle method

**Condition:** During inspection or after completion of a weld repair

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  5. ABS Rules for Building and Classing Steel Vessels, 2018 Part 2 Materials and Welding
  6. ABS Nondestructive Inspection of Hull Welds (NDT Guide), 2018

Steps		References	Initials
NT02.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
NT02.2	Verify technician's qualification and certification	ABS 2-4-1/5.17 NDT Guide 7/5.3	
NT02.3	Verify inspection technique	ABS NDT Guide 7/5.5	
NT02.4	Verify equipment and magnetic field strength	ABS NDT Guide 7/5.7.1 & .2	
NT02.5	Witness application of visible magnetic particles	ABS NDT Guide 7/5.7.3	
NT02.6	Witness application of fluorescent particles	ABS NDT Guide 7/5.7.4	
NT02.7	Witness technician examine/interpret readings	ABS NDT Guide 5/5.7 & 9	
NT02.8	Evaluate test results or review technician's report	ABS NDT Guide 5/5.7 & 9	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of magnetic particle testing methods and procedures (may vary depending on the manufacturer). Trainee shall demonstrate knowledge of Type 1, 2 and 3 NDT certifications.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)****Drydock Examination****Nondestructive Testing Inspection (NT)****D, H & I Vessels**

**Task:** DI-NT03 Verify nondestructive testing (NDT) using the radiography (gamma rays or x-rays) method

**Condition:** During inspection or after completion of a weld repair

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  5. ABS Rules for Building and Classing Steel Vessels, 2018 Part 2 Materials and Welding
  6. ABS Nondestructive Inspection of Hull Welds (NDT Guide), 2018

Steps		References	Initials
NT03.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
NT03.2	Verify technician's qualification and certification	ABS 2-4-1/5.17 NDT Guide 2/5.1	
NT03.3	Verify inspection technique	ABS NDT Guide 2/5.3	
NT03.4	Verify film identification markings	ABS NDT Guide 2/5.5	
NT03.5	Verify radiography quality level	ABS NDT Guide 2/5.7	
NT03.6	Verify Image Quality Indicator (IQI)	ABS NDT Guide 2/5.9	
NT03.7	Witness technician examine/interpret readings	ABS NDT Guide 2/5.15	
NT03.8	Review technician's report	ABS NDT Guide 2/9 & 11	

**Verifying Officer Guidance:** RAD detectors frequently go off when isotubes are being used. All USCG personnel in the area should be advised of this ahead of time for awareness and to ensure other/alternative personnel protection actions are taken as needed.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)****Drydock Examination****Nondestructive Testing Inspection (NT)****D, H & I Vessels****Task:** DI-NT04 Verify nondestructive testing (NDT) using the ultrasonic method**Condition:** During inspection or after completion of a weld repair**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  5. ABS Rules for Building and Classing Steel Vessels, 2018 Part 2 Materials and Welding
  6. ABS Nondestructive Inspection of Hull Welds (NDT Guide), 2018

Steps		References	Initials
NT04.1	Parent cites	46 CFR 31.10-1 & 32.60-1 46 CFR 70.35-1 46 CFR 90.35-1	
NT04.2	Verify technician's qualification, certification and techniques	ABS 2-4-1/5.17 ABS NDT Guide 3/3	
NT04.3	Verify calibrate block's material and thickness	ABS NDT Guide 3/3.5	
NT04.4	Verify type of equipment/instrument used	ABS NDT Guide 3/3.7	
NT04.5	Verify equipment is calibrated	ABS NDT Guide 3/3.9	
NT04.6	Witness technician examine/interpret readings	ABS NDT Guide 3/3.11	
NT04.7	Evaluate test results or review technician's report	ABS NDT Guide 3/3.13	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of ultrasonic testing methods and procedures (may vary depending on the manufacturer). Trainee shall demonstrate knowledge of Type 1, 2 and 3 NDT certifications as well as shear/L wave capabilities machines.

Inspector's Name: (Last, First, Initial)

EMPLID:

Verifying Officer's Signature:

Date:

**Drydock Inspector (DI)****Drydock Examination****Nondestructive Testing Inspection (NT)****D, H & I Vessels**

**Task:** DI-NT05 Inspect nondestructive testing (NDT) using the hydro-static method (Pressure Vessels)

**Condition:** After completion of construction, repair or during routine inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 54 Pressure Vessels
  4. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  5. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions

Steps		References	Initials
NT05.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60 46 CFR 70.20-1 46 CFR 90.20-1	
NT05.2	Verify requirement for test	46 CFR 54.10-10(a)	
NT05.3	Verify ready for testing	46 CFR 54.10-10(b)	
NT05.4	Verify air has been purged	46 CFR 54.10-10(b)	
NT05.5	Verify piping components are isolated	46 CFR 54.10-10(b)	
NT05.6	Verify test pressure	46 CFR 54.10-10(b) 46 CFR 54.10-20	
NT05.7	Verify test pressure is attained and maintained	46 CFR 54.10-10(c)	
NT05.8	Witness test	46 CFR 54.10-10(c)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of hydrostatic testing methods and procedures.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)****Drydock Examination****Nondestructive Testing Inspection (NT)****D, H & I Vessels**

**Task:** DI-NT06 Inspect nondestructive testing (NDT) using the hydro-static method (Piping Systems)

**Condition:** After completion of construction, repair or during routine inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 56 Piping Systems & Appurtenances
  4. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  5. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions

Steps		References	Initials
NT06.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60 46 CFR 70.20-1 46 CFR 90.20-1	
NT06.2	Verify test pressure of nonstandard piping components	46 CFR 56.97-5	
NT06.3	Verify system is ready for testing	46 CFR 56.97-25	
NT06.4	Verify air has been purged	46 CFR 56.97-30(a)	
NT06.5	Verify test medium	46 CFR 56.97-30(b)	
NT06.6	Verify piping components are isolated	46 CFR 56.97-30(c)	
NT06.7	Verify test pressure	46 CFR 56.97-30(e) & (f)	
NT06.8	Witness test	46 CFR 56.97-30(d)	
NT06.9	Verify test pressure is attained and maintained	46 CFR 56.97-30(g)	
NT06.10	Verify pressures for Installation tests	46 CFR 56.97-40	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of hydrostatic testing methods and procedures.

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)**

**Drydock Examination**

**Nondestructive Testing Inspection (NT)**

**D, H & I Vessels**

**Task:** **DI-NT07 Inspect nondestructive testing (NDT) using the hydro-static method (Tanks and Bulkheads)**

**Condition:** *After completion of construction, repair or during routine inspection*

**Standard:** *In compliance with applicable policies, laws, regulations and standards*

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  5. ABS Rules for Building and Classing Steel Vessels, 2018 Part 3 Hull Construction and Equipment

Steps		References	Initials
NT07.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60 46 CFR 70.20-1 46 CFR 90.20-1	
NT07.2	Verify tanks/space is ready for testing	ABS 3-7-1/3.5.4(a) & (b)	
NT07.3	Verify test medium being used	ABS 3-7-1/3.5.4(a) & (b)	
NT07.4	Verify piping components are isolated	ABS 3-7-1/3.5.4(a) & (b)	
NT07.5	Verify test pressure	ABS 3-7-1/3.5.4(a) & (b)	
NT07.6	Witness test	ABS 3-7-1/3.5.4(a) & (b)	

**Verifying Officer Guidance:** *Trainee shall demonstrate a working knowledge of hydrostatic testing methods and procedures.*

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Nondestructive Testing Inspection (NT)**

**D, H & I Vessels**

**Task:** DI-NT08 Inspect nondestructive testing (NDT) using the pneumatic method (Pressure Vessels)

**Condition:** After completion of construction, repair or during routine inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 54 Pressure Vessels
  4. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  5. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions

Steps		References	Initials
NT08.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60 46 CFR 70.20-1 46 CFR 90.20-1	
NT08.2	Determine suitability for test	46 CFR 54.10-15(a) & (b)	
NT08.3	Ensure all safety precaution are taken	46 CFR 54.10-15(g)	
NT08.4	Verify test pressure	46 CFR 54.10-15(c)	
NT08.5	Witness gradual pressure increase	46 CFR 54.10-15(d)	
NT08.6	Witness test	46 CFR 54.10-15(e)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of pneumatic testing methods and procedures.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>



**Drydock Inspector (DI)**

**Drydock Examination**

**Nondestructive Testing Inspection (NT)**

**D, H & I Vessels**

**Task:** DI-NT09 Inspect nondestructive testing (NDT) using the pneumatic method (Piping Systems)

**Condition:** After completion of construction, repair or during routine inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 56 Piping Systems & Appurtenances
  4. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  5. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions

Steps		References	Initials
NT09.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60 46 CFR 70.20-1 46 CFR 90.20-1	
NT09.2	Verify test medium and temperature	46 CFR 56.97-35(b)	
NT09.3	Verify piping components are isolated	46 CFR 56.97-35(c)	
NT09.4	Verify test pressure	46 CFR 56.97-35(f) & (g)	
NT09.5	Witness gradual pressure increase	46 CFR 56.97-35(d)	
NT09.6	Verify test pressure is attained and maintained	46 CFR 56.97-35(h)	
NT09.7	Witness test	46 CFR 56.97-35(e)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of pneumatic testing methods and procedures.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Nondestructive Testing Inspection (NT)**

**D, H & I Vessels**

**Task:** DI-NT10 Inspect nondestructive testing (NDT) using the tank air test (pneumatic) method (Tanks and Bulkheads)

**Condition:** After completion of construction, repair or during routine inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  5. ABS Rules for Building and Classing Steel Vessels, 2018 Part 3 Hull Construction and Equipment

Steps		References	Initials
NT10.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60 46 CFR 70.20-1 46 CFR 90.20-1	
NT10.2	Verify tanks/space is ready for testing	ABS 3-7-1/3.5.4(d)	
NT10.3	Verify piping components are isolated	ABS 3-7-1/3.5.4(d)	
NT10.4	Verify test pressure	ABS 3-7-1/3.5.4(d)	
NT10.5	Verify presence of leak indicating solution	ABS 3-7-1/3.5.4(d)	
NT10.6	Verify calibration of means to measure pressure	ABS 3-7-1/3.5.4(d)	
NT10.7	Witness initial test	ABS 3-7-1/3.5.4(d)	
NT10.8	Witness secondary test	ABS 3-7-1/3.5.4(d)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of tank air test testing methods and procedures.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Nondestructive Testing Inspection (NT)**

**D, H & I Vessels**

**Task:** DI-NT11 Inspect nondestructive testing (NDT) using the hose test method (Tanks and Bulkheads)

**Condition:** After completion of construction, repair or during routine inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  5. ABS Rules for Building and Classing Steel Vessels, 2018 Part 3 Hull Construction and Equipment

Steps		References	Initials
NT11.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60 46 CFR 70.20-1 46 CFR 90.20-1	
NT11.2	Verify tanks/space is ready for testing	ABS 3-7-1/3.5.4(c)	
NT11.3	Verify nozzle size	ABS 3-7-1/3.5.4(c)	
NT11.4	Verify water pressure	ABS 3-7-1/3.5.4(c)	
NT11.5	Verify nozzle distance from joints/seams during test	ABS 3-7-1/3.5.4(c)	
NT11.6	Witness test	ABS 3-7-1/3.5.4(c)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of hose test testing methods and procedures.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Nondestructive Testing Inspection (NT)**

**D, H & I Vessels**

**Task:** DI-NT12 Inspect nondestructive testing (NDT) using the vacuum box method (Tanks and Bulkheads)

**Condition:** After completion of construction, repair or during routine inspection

**Standard:** In compliance with applicable policies, laws, regulations and standards

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 32 Tank Vessels - Special Equipment, Machinery & Hull Requirements
  3. Title 46, Code of Federal Regulations Part 70 Passenger Vessels - General Provisions
  4. Title 46, Code of Federal Regulations Part 90 Cargo & Miscellaneous Vessels - General Provisions
  5. ABS Rules for Building and Classing Steel Vessels, 2018 Part 3 Hull Construction and Equipment

Steps		References	Initials
NT12.1	Parent cites	46 CFR 31.10-1, .30-1 & 32.60 46 CFR 70.20-1 46 CFR 90.20-1	
NT12.2	Verify tanks/space is ready for testing	ABS 3-7-1/3.5.4(f)	
NT12.3	Verify condition of gauge and injector	ABS 3-7-1/3.5.4(f)	
NT12.4	Verify presence of leak indicating solution	ABS 3-7-1/3.5.4(f)	
NT12.5	Verify test gauge pressure	ABS 3-7-1/3.5.4(f)	
NT12.6	Witness test	ABS 3-7-1/3.5.4(f)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of vacuum box methods and procedures.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)****Drydock Examination****Follow Up Action (FU)****D, H & I Vessels**

**Task:** DI-FU01 Verify vessel compliance with the International Safety Management (ISM) Code

**Condition:** Upon identification of a systemic failure in implementing the code

**Standard:** In compliance with applicable policies, laws, regulations and standards

**References:**

1. Title 33, Code of Federal Regulations Part 96 Rules for the Safe Operation of Vessels & Safety Management Systems
2. International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended
3. International Safety Management (ISM) Code, 2018

Steps		References	Initials
FU01.1	Verify master's oversight	33 CFR 96.250 SOLAS 20 IX/3.2 ISM Code A/5	
FU01.2	Verify maintenance program for vital equipment	33 CFR 96.250 ISM Code A/10.4	
FU01.3	Verify compliance of Safety and Environmental Policy	33 CFR 96.250 ISM Code A/2	
FU01.4	Verify record keeping compliance	33 CFR 96.220(a)(3) ISM Code A/10.2.4	
FU01.5	Verify company responsibilities and authority are defined	33 CFR 96.250 ISM Code A/3	
FU01.6	Verify crew can identify and contact information of designated person(s) ashore	33 CFR 96.250 ISM Code A/4	
FU01.7	Review audit documentation and ensure follow-up actions	33 CFR 96.250 ISM Code A1.4.6, A/9 & 12	

**Verifying Officer Guidance:** Trainee should be able to explain what SMS and its Coast Guard equivalent are. Additional guidance on US Flag Interpretations of the IMS Code can be located in CVC-WI-004(1).

**Inspector's Name:** (Last, First, Initial)

**EMPLID:**

**Verifying Officer's Signature:**

**Date:**

**Drydock Inspector (DI)**

**Drydock Examination**

**Follow Up Action (FU)**

**D, H & I Vessels**

**Task:** DI-FU02 Issue control action(s)

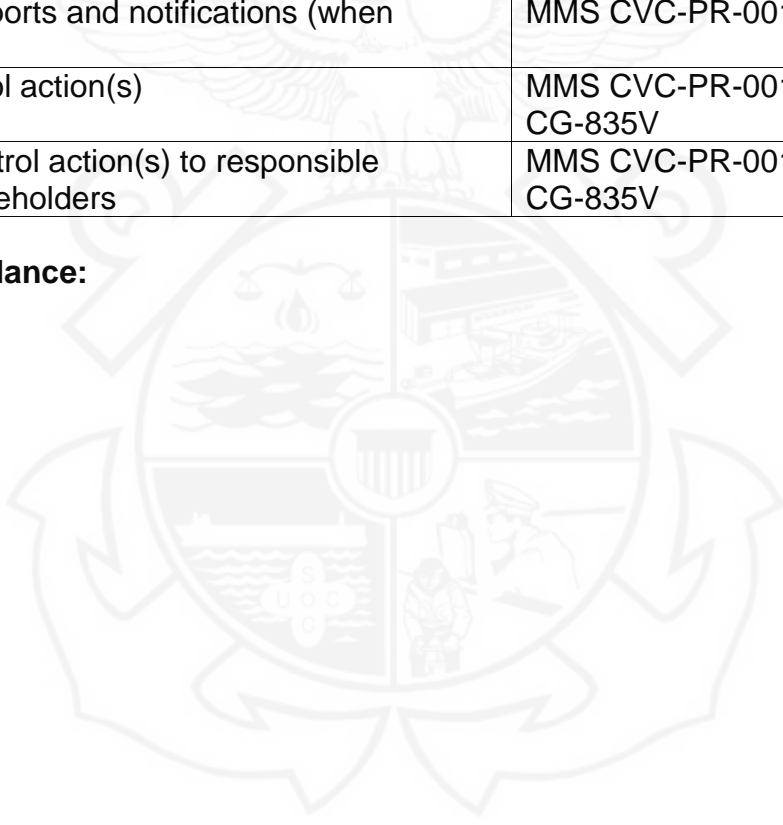
**Condition:** Upon discovery of substantial non-compliance

**Standard:** In accordance with current policies, procedures and processes

- References:**
1. Mission Management System (MMS) Procedure CVC-PR-001(2)- Documenting Deficiencies on U.S. Flag Vessels
  2. Form CG-835V Vessel inspection Requirements

Steps		References	Initials
FU02.1	Determine control action	MMS CVC-PR-001(2)	
FU02.2	Conduct reports and notifications (when applicable)	MMS CVC-PR-001(2)	
FU02.3	Issue control action(s)	MMS CVC-PR-001(2) CG-835V	
FU02.4	Explain control action(s) to responsible parties/stakeholders	MMS CVC-PR-001(2) CG-835V	

**Verifying Officer Guidance:**



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Follow Up Action (FU)**

**D, H & I Vessels**

**Task:** DI-FU03 Issue deficiencies

**Condition:** Upon completion of inspection, with deficiencies found

**Standard:** In accordance with current policies, procedures and processes

- References:**
1. Title 46, United States Code § 3313 Compliance with Certificate of Inspection
  2. Title 46, Code of Federal Regulations Part 2 Vessel Inspections
  3. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  4. Mission Management System (MMS) Procedure CVC-PR-001 - Documenting Deficiencies on U.S. Flag Vessels

Steps		References	Initials
FU03.1	Determine when worklists may be used	MMS CVC-PR-001(2)	
FU03.2	Document "self reported" deficiencies	MMS CVC-PR-001(2)	
FU03.3	Determine deficiency's reference cite	46 USC 3313(b) MSM II/A.2.C.4	
FU03.4	Discuss deficiencies and corrective measures/timeframe with vessel's master or representative	MSM II/A.2.C.2	
FU03.5	Issue signed CG-835V to vessel's master or representative	46 CFR 2.01-10(a) MSM II/A.2.C MMS CVC-PR-001(2)	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of MISLE and the Coast Guard's Mission Management System's (MMS) processes and procedures.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Drydock Inspector (DI)**

**Drydock Examination**

**Follow Up Action (FU)**

**D, H & I Vessels**

**Task:** DI-FU04 Issue/Endorse vessel's certificates

**Condition:** Upon completion of the inspection

**Standard:** In accordance with current policies, procedures and processes

- References:**
1. Title 46, Code of Federal Regulations Part 31 Tank Vessels - Inspection & Certification
  2. Title 46, Code of Federal Regulations Part 71 Passenger Vessels - Inspection and Certification
  3. Title 46, Code of Federal Regulations Part 91 Cargo & Miscellaneous Vessels - Inspection & Certification
  4. COMDTINST M16000.6 Marine Safety Manual Volume I Administration & Management
  5. International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended
  6. IMO Resolution A.1076(28) Amendments to the Survey Guidelines Under the Harmonized System of Survey and Certification (HSSC), 2011

Steps		References	Initials
FU04.1	Issue/Endorse certificates, as applicable	46 CFR 31.40-1, 71.75-1 46 CFR 91.60-1 SOLAS 20 I/14(i)(ii)/IMO Res A.1076(28)	
FU04.2	Obtain a copy of all endorsed certificates for the unit's vessel file	MSM I/12.E.7	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of MISLE and the Coast Guard's Mission Management System's (MMS) processes and procedures. If available, CVC-approved Process Guides must be used when preparing certificates/documents.

<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>



**Drydock Inspector (DI)****Drydock Examination****Follow Up Action (FU)****D, H & I Vessels****Task:** DI-FU05 Complete MISLE Activity**Condition:** During follow-up portion of the exam**Standard:** In accordance with current policies, procedures and processes

- References:**
1. COMDTINST M16000.6 Marine Safety Manual Volume I Administration & Management
  2. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  3. IMO Resolution A.1076(28) Amendments to the Survey Guidelines Under the Harmonized System of Survey and Certification (HSSC), 2011
  4. MISLE Vessels User Guide
  5. CG-CVC Mission Management System (MMS) PR-009(2) MISLE Vessel Inspection Activity Entry and Review Process-Domestic Inspections
  6. CG-CVC Mission Management System (MMS) WI-029(1) Drydock Examinations (DE), Underwater Survey in Lieu of Drydocking (UWILD) and Drydock Extension (DDE) Policy Clarifications

Steps		References	Initials
FU05.1	Open existing activity in MISLE	MSM I/12.G.2.a IMO Res A.1076(28) MISLE User Guide	
FU05.2	Update inspection results	MSM I/12.H.1/MSM II/A.2.C.2.d MISLE User Guide MMS PR-009(2) / WI-029(1)	
FU05.3	Update activity narrative	MSM I/12.H.1 MISLE User Guide MMS PR-009(2)	
FU05.4	Update vessel details	MSM I/12.H.1 MMS PR-009(2) MISLE User Guide	
FU04.5	Amend Certificate of Inspection	MSM I/12.H.1 MISLE User Guide MMS PR-009(2)	
FU05.6	Print new or amended Certificate of Inspection and Deficiency Letter	MSM II/A.2.C.6 MISLE User Guide MMS PR-009(2)	
FU05.7	Change activity status to "Open - Submitted for Review"	MSM I/12.H.1 MISLE User Guide	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of MISLE and the Coast Guard's Mission Management System's (MMS) processes and procedures. If available, CVC-approved Process Guides must be used when preparing certificates/documents.

**Inspector's Name:** (Last, First, Initial)**EMPLID:****Verifying Officer's Signature:****Date:**

**Drydock Inspector (DI)**

**Drydock Examination**

**Follow Up Action (FU)**

**D, H & I Vessels**

**Task:** DI-FU06 Conduct deficiency check

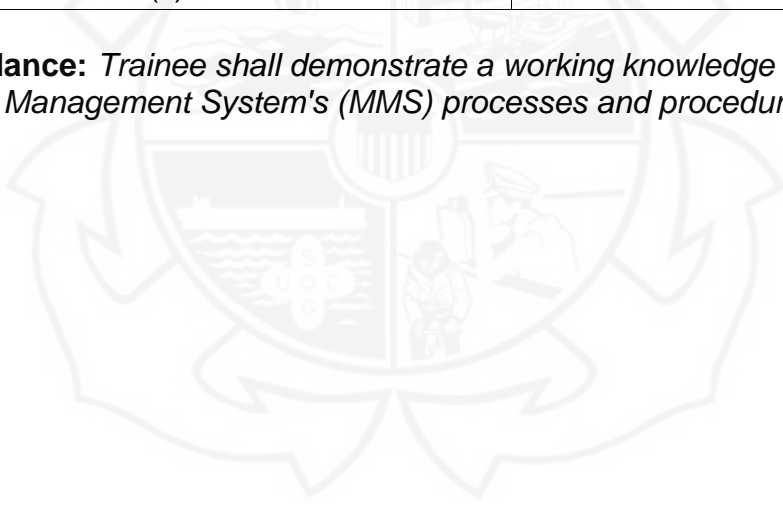
**Condition:** During follow-up visit

**Standard:** In accordance with current policies, procedures and processes

- References:**
1. COMDTINST M16000.7B Marine Safety Manual Volume II Material Inspection Ch-2
  2. MISLE User Guide
  3. CG-CVC Mission Management System (MMS) PR-001(2) Documenting Deficiencies on U.S. Flag Vessels and OCS Floating Offshore Installations (FOIs)

Steps		References	Initials
FU06.1	Determine an appropriate verification method for the identified deficiencies	MSM II/A.2.C.4	
FU06.2	Verify correction(s) meet appropriate regulations	MSM II/A.2.C.4.a	
FU06.3	Clear deficiency(s) in MISLE activity	MSM II/A.2.C.2.d MMS PR-001(2) MISLE User Guide	
FU06.4	Remove control action(s)	MISLE User Guide	

**Verifying Officer Guidance:** Trainee shall demonstrate a working knowledge of MISLE and the Coast Guard's Mission Management System's (MMS) processes and procedures.



<b>Inspector's Name:</b> (Last, First, Initial)	<b>EMPLID:</b>
<b>Verifying Officer's Signature:</b>	<b>Date:</b>

**Performance Qualification Standard and Job Aid Change  
Recommendation Form**

From: \_\_\_\_\_ Date: \_\_\_\_\_

PQS/Job Aid Title:


Section(s) Affected:


Remark(s)/Comment(s):


Reference(s):


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