



MILITARY SEALIFT COMMAND

ABS Classification Overview

Prepared for Military Sealift Command
by Emprise Corporation

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Learning Objectives

- The overarching objective of this module is to introduce you to MSC's voluntary compliance with American Bureau of Shipping (ABS) commercial vessel classification requirements.
- At the conclusion of this module, you will understand and be able to describe the following:
 - Vessel classification
 - Classification societies
 - International Association of Classification Societies (IACS)
 - American Bureau of Shipping
 - 46 USC 3316
 - Joint Statement of Policy (JSOP) between MSC and ABS
 - ABS Rules
 - Scope of ABS Rules
 - Processes covered by ABS Rules



Learning Objectives (cont.)

- **Classification Process**
 - Design analysis, plan review and approval
 - Surveys during construction
 - Classification committee review
 - Surveys after construction
 - *Continuous survey*
 - *Special surveys*
- **ABS Eagle Survey Manager**



American Bureau of Shipping

- Internationally recognized ship classification society
- Designated agent for US government on matters pertaining to government vessel classification (46 USC 3316)
- Joint Statement of Policy (JSOP) outlines relationship between MSC and ABS



Classification Societies

- **Non-profit, non-governmental organizations that establish and maintain technical standards for construction, maintenance and operation of ships and offshore structures to ensure acceptable degree of stability, safety, and environmental impact**
- **May be delegated authority to inspect vessels and offshore structures and issue certificates of compliance for international and/or national statutory regulations on behalf of Flag State Administrations under which vessels are registered**



Classification

- **Purpose of classification is to verify structural strength and integrity of ship's hull and essential appendages, and reliability of propulsion, steering, power generation, and essential auxiliary systems**



Classification Rules

- **Rules for Building and Classing Steel Vessels**
 - Applies to vessels over 90 meters in length
- **Rules for Building and Classing Steel Vessels Under 90 Meters in Length**
- **ABS Guide for Building and Classing High Speed Naval Craft**
 - Applies to high speed craft that operate on relatively short missions in environments that range from littorals to open sea, including regular, unescorted transoceanic transits
- **ABS Rules for Building and Classing Naval Vessels (a.k.a. Naval Vessel Rules (NVR))**



Scope of ABS Rules

- **Systems and equipment:**
 - Hull and structures
 - Propulsion and maneuvering systems
 - Electrical systems
 - Control and navigation systems
 - Auxiliary systems
 - Habitability and outfitting
 - Materials and welding
- **Processes:**
 - Establishing technical baseline
 - Design review
 - Material certification
 - Vendor equipment certification (including diesel engines, gas turbines, generators, switchboards and other critical equipment)
 - Construction, testing and trials
 - In-service maintenance, repair and modification



Classification Process

- **Three primary means for obtaining classification:**
 - Engineering review and surveys during ship design and construction
 - Engineering review and surveys of an existing ship not previously classed by IACS Member Society
 - Engineering review and surveys of existing ship carried out in accordance with agreement developed by IACS member societies for ships transferring class between members



Classification Process Phases

- **Classification process consists of four distinct phases:**
 - **Design analysis, plan review and approval**
 - **Surveys during construction**
 - **Classification committee review**
 - **Surveys after construction**



Design Analysis, Plan Review and Approval

- Design plans, engineering calculations, and other technical documentation reviewed by ABS Engineering to verify compliance with applicable classification Rules and other specified standards



Surveys During Construction

- **Surveyor(s) attend:**
 - Vessel during construction to verify structure and principal mechanical and electrical systems are constructed in accordance with approved design plans and applicable classification Rules and other specified standards
 - Steel mills, manufacturers' facilities producing important equipment, and foundries producing important castings to verify key components such as steel, engines, generators and castings conform to applicable classification Rules and other specified standards
 - Pre-delivery tests and trials vessel at shipbuilder's facility to verify tests and trials are carried out properly and relevant class and other applicable criteria are met



Classification Committee Review

- Upon satisfactory completion of design analysis, plan review and approval and pre-delivery surveys, ABS Classification Committee reviews collective recommendations of ABS Engineering and Surveyors and, if deemed satisfactory, certificate of classification issued



Surveys After Construction

- **Once in service, owner must comply with periodical class surveys to verify vessel continues to meet applicable classification Rules for continuation of class**
- **Five-year survey cycle consisting of:**
 - Annual surveys
 - Intermediate survey
 - Special surveys (class renewal)
- **Continuous survey**



Ship Owner Responsibilities

- **Ship owner responsible for properly maintaining vessel in compliance with applicable Rules between surveys**
- **Ship owner has duty to inform ABS without delay of any circumstances that may affect continued compliance with applicable Rules**



ABS Eagle Survey Manager

- **Web-based survey management program that provides real-time access to:**
 - **Principal particulars of vessel**
 - **Current survey status particulars**
 - **Outstanding recommendation particulars**
 - **Historical record of condition of vessel, including past survey reports and recommendation particulars**



Suspension of Class

- **Class may be suspended if:**
 - Ship not operated in compliance with Rules
 - Ship proceeds to sea with less freeboard than assigned
 - Owner fails to request survey after having detected defects or damages affecting class
 - Repairs, alterations or conversions affecting class carried out without requesting attendance of surveyor
 - Annual or intermediate survey not completed by due date
 - Special survey not completed by due date



Withdrawal of Class

- **Class may be withdrawn if:**
 - Requested by ship owner
 - Class has been suspended for more than six months
 - Ship is reported as constructive total loss and owner does not advise intention to repair ship for re-instatement of class
 - Ship is reported lost
 - Ship will not trade further as declared by owner



Let's Review

- **Who is the designated agent for US government on matters pertaining to government vessel classification?**
- **What is the purpose of vessel classification?**
- **What are the major components of the ABS five-year survey cycle?**
- **What is continuous survey?**
- **What are the ship owner's responsibilities for maintaining classification?**



Summary

- **During this module, we have discussed:**
 - **Vessel classification**
 - **Classification societies**
 - **International Association of Classification Societies (IACS)**
 - **American Bureau of Shipping**
 - **46 USC 3316**
 - **Joint Statement of Policy (JSOP) between MSC and ABS**
 - **ABS Rules**
 - **Scope of ABS Rules**
 - **Processes covered by ABS Rules**
 - **Classification Process**
 - **Design analysis, plan review and approval**
 - **Surveys during construction**
 - **Classification committee review**
 - **Surveys after construction**
 - *Continuous survey*
 - *Special surveys*
 - **ABS Eagle Survey Manager**



Additional Information

- **For additional information, please refer to:**
 - **Rules for Building and Classing Steel Vessels**
 - **Rules for Building and Classing Steel Vessels Under 90 Meters in Length**
 - **ABS Guide for Building and Classing High Speed Naval Craft**



Final Questions





Revision History

Date	Version	Description	Author
4/16/19	0.0	Draft presentation	Gary Fields
8/13/19	0.1	Corrected minor format errors	Gary Fields