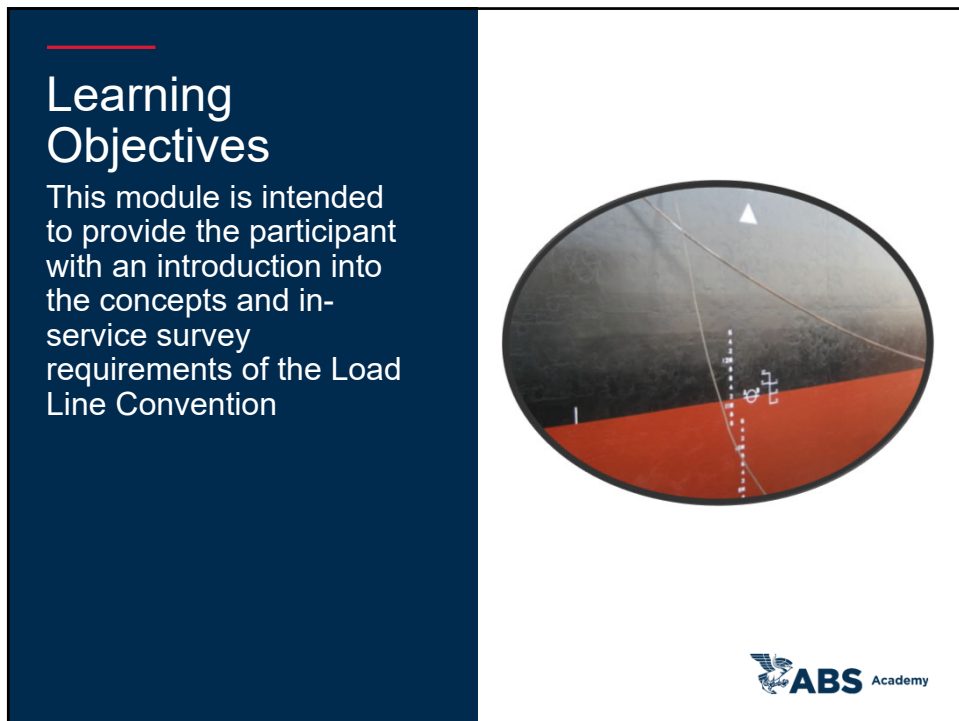


1



2

Background

- Overloaded ships with reduced reserve buoyancy are less likely to survive in a seaway
- Commercial pressures to carry as much cargo as possible can lead to vessel overloading
- Limits on loading must be set by Rule or Regulation to safeguard the ship, its crew and cargo
- Limits have been used in some form since the beginning of maritime trade
- Current limits on loading are covered in the International Convention on Load Lines



3

Load Line as a Hallmark of Safety

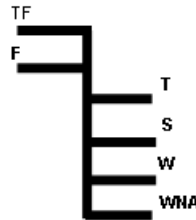
- 1930 Load Line Convention is first international agreement for universal application of LL regs seagoing ships
- Meant to prevent overloading and ensure sufficient reserve buoyancy is maintained.
- The minimum freeboard is calculated, and a mark placed on the side of the hull.
- This load line or Plimsoll mark has become a symbol of basic ship safety
- The proper calculation, installation and observance of the load line mark is fundamental to safe marine transportation



4

Load Line as a Hallmark of Safety

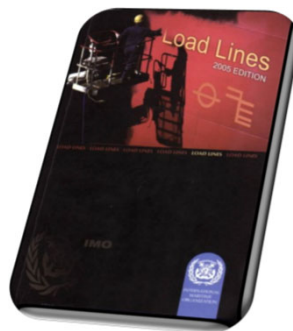
- The Plimsoll mark represents a minimum summer freeboard in salt water
- Other safety concerns are also addressed:
 - Watertight integrity
 - Hull strength
 - Stability
 - Safe conditions for crew working on deck
- Different ship types have unique watertight, stability and buoyancy characteristics



5

International Convention on Load Lines

- The convention is an international agreement under IMO and is given the force of law by Flag States
- The legal terms and conditions are included in the “Articles”
- Articles define how Administrations implement and enforce the Regulations



6

Current Edition with Amendments

1966 Convention

- Established the modern form/content and the first under IMO. Did not include a method for revisions or updates

1988 Protocol

- Provided a method to revise the 1966 Convention and harmonized the survey and certification requirements with those in SOLAS and MARPOL 73/78

2003 Amendments

- Consolidated the interpretations used since the 1966 Convention was adopted.
- 2003 also included important revisions to the technical requirements for stability, strength, closures, access, and openings (entry into force 1 Jan 2005)

ILLC Basic Principles

- Basic Principles
 - Weather-tight/water-tight integrity
 - Structural adequacy
 - Adequate stability
 - Reserve buoyancy
 - Water on deck



Applicability: Article 5(1)

- All new and existing vessels on international voyages are required to have load line except:
 - Ships of war
 - New ships less than 79 feet (24 m)
 - Existing ships < 150 GT (built prior to July 1968)
 - Pleasure yachts not engaged in trade
 - Fishing vessels



9

Applicability: USCG

- Any vessel of the appropriate length, that makes a voyage outside the boundary line (as defined in the CFR) is required to have a load line
 - International Load Line (ICLL, 1966)
 - Domestic (full ocean) Load Line – 46 CFR Part 42
 - Limited Service Domestic Load Line – 46 CFR Part 44
 - Coastwise Load Line – no new assignments may be issued
 - Great Lakes Load Line – 46 CFR Part 45
 - Various fair weather domestic routes – Carabelle to St. Marks, FL (20 miles from shore), Chicago to Burns Harbor (up to 5 m from shore)

10

Load Line Survey

- Initial Survey
- Annual Survey
- Renewal Survey

INTERNATIONAL LOAD LINE CERTIFICATE
ISSUED UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON LOAD LINES, 1966, AS MODIFIED BY THE PROTOCOL OF 1988 RELATING THERETO UNDER THE AUTHORITY OF THE GOVERNMENT OF

UNITED STATES OF AMERICA
Commandant, U.S. Coast Guard by the American Bureau of Shipping

Particulars of Ship		Port of Registry	Length (as defined in Article 20)	IMO Number
Name of Ship	Distinctive Number or Letters			
LOUIS LEWIS AND CLARK	CO89879 ALNC	N/A	201.122 m	9274418

Freeboard assigned as: None

Particulars	Freeboard from Deck Line (mm)	Type of Ship	Type of Construction
Typical	N/A	(T)	N/A
Summer	N/A	(S)	N/A
Winter	N/A	(W)	N/A
Winter North Atlantic	N/A	(WNA)	N/A
Tanker tropical	N/A	(T)	N/A
Tanker summer	N/A	(S)	N/A
Tanker winter	N/A	(W)	N/A
Tanker winter North Atlantic	N/A	(WNA)	N/A
Allowance for Fresh Water for all cargoes other than bulk	253 mm	N/A	N/A
For tanker cargoes	N/A	N/A	N/A

The upper edge of the deck line from which these freeboards are measured is: Outside the Top of 2nd Deck Sheer

The vessel shall be operated in accordance with the TMS & Stability Booklet, having ABS Approval appropriate to the TMS & Stability 200 and the Cargo Hatch program for the Tank and Deck, revised 01, dated 21 May 2006. The Tank and Deck, revised is located in the relevant section.

ABS Academy

11

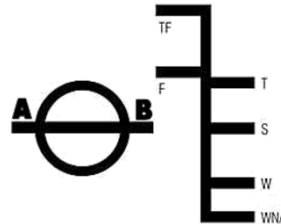
Load Line Certificate

- Valid for five (5) years
- Annual Load Line Survey due on anniversary date each year, plus or minus three (3) months
- Load Line Certificate expires at end of fifth (5) year
- With authorization from flag Administration, an extension of up to three months may be granted provided a survey is carried out

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Initial Load Line Survey

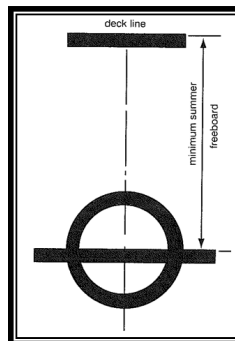
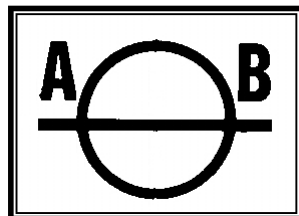
- Verification of construction in accordance with approved drawings
- Complete LL-11-D
- Witness inclining or Deadweight Survey
- Verify LL marks in accordance with freeboard assignment issued by engineering office
- Verify stability data onboard
- Issue LL Certificate



13

Key Terms: Definitions

- The **freeboard (or load line)** is a formal term given to a mark located amidship on both sides of a ship to show the limiting draft to which the vessel may be loaded.
- “Plimsoll mark”

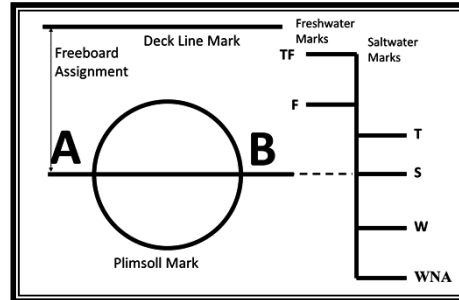


14

Load Line Marks

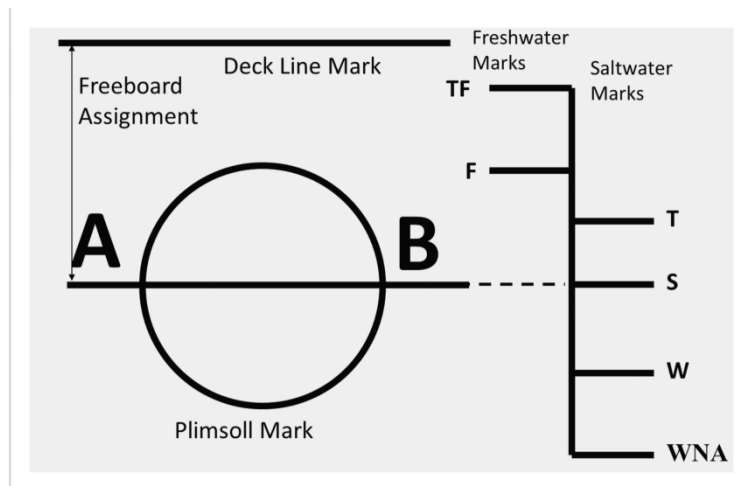
- Additional lines are placed adjacent to the load line mark to indicated acceptable freeboards in different seasons or geographical regions as follows:

- **TF** Tropical Fresh Water
- **F** Fresh Water
- **T** Tropical
- **S** Summer Load Line
- **W** Winter
- **WNA** Winter North Atlantic



15

Load Line Marks



16



17