

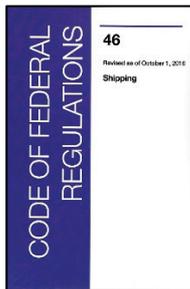
CFVE STABILITY REFERENCE GUIDE

This guide has been developed as a tool to assist Commercial Fishing Vessel Safety Examiners in evaluating a vessel's compliance with 46 CFR 28 Subpart E (Stability). It may be used in conjunction with a stability checklist during a dockside examination.

This tool is a collection of information from Coast Guard policies, Marine Safety Information Bulletins, stability training providers, naval architects and Federal regulations. It is not all encompassing and examiners should further consult those appropriate sources and references.

REFERENCES:

- 46 CFR 28, Subpart E—Stability
- MSC Technical Note MTN 04-95 Lightship Change Determination
- MSC Guidelines for Commercial Fishing Vessel Stability PR H2-20
- Marine Safety Alert 11-17 Remain Upright by Fully Understanding Vessel Stability
- Findings of Concern 006-19 Impacts of Modifications, Alterations and Weight Creep on Stability
- Marine Safety Information Bulletin 01-21 Improving Fishing Vessel Stability
- Marine Safety Alert 03-21 Related to Blocked Freeing Ports
- A Best Practices Guide to Vessel Stability, 2nd Edition, U.S. Coast Guard
- NVIC 5-86, Enclosure 1, Chapter 1, Stability
- 46 USC 5102, 46 CFR 42—Load Lines



Corrections, changes or suggestions to this guide may be directed to Mr. Michael Rudolph Michael.G.Rudolph@uscg.mil or 503-240-9337.

DETERMINING AND DOCUMENTING APPLICABILITY

It is important for Examiners to inquire as to the modifications, changes to equipment and other factors to properly determine applicability. Asking questions related to the history of the vessel, changes to dimensions (sponsoning/lengthening), installation of new equipment such as cranes, etc.

Noting this information on the Exam form (CG-5587) and including this in MISLE helps document the history of the vessel.

It is **MORE LIKELY** than not that a vessel 79 feet or greater has been substantially altered or undergone a major conversion since September 15, 1991.

APPLICABILITY

Vessels 79 feet or more in length NOT required to be issued a Load Line and:

- Has its **keel laid** or is at a similar stage of construction or undergoes a **major conversion** started on or after September 15, 1991;
- Undergoes **alterations to the fishing or processing equipment** for the purpose of catching, landing, or processing fish in a manner **different** than has previously been accomplished on the vessel; or
- Has been **substantially altered*** on or after September 15, 1991.
*Means the vessel is physically altered in a manner that affects the vessel's stability and includes:
 - Alterations that result in a change of the vessel's lightweight **vertical center of gravity more than 2 inches**, a change in the vessel's **lightweight displacement of more than 3%**, or an increase of more than **5% in the vessel's projected lateral area**, as determined by tests or calculations;
 - Alterations which change the vessel's **underwater shape**;
 - Alterations which change a vessel's **angle of downflooding**; or
 - Alterations which change a vessel's **buoyant volume**. 46 CFR 28.510, MSC MTN 04-95



STABILITY INSTRUCTIONS

Note the date of the stability information and last stability test in the MISLE Fishing Vessel Exam Activity.

- Vessel must have a **stability book or stability information** on board developed by a naval architect or other qualified individual.
- Provides master with **loading constraints and operating restrictions**.
- Drafted in a **format understood by the master**, which may include:
 - Simple loading instructions;
 - Loading diagram with instructions;
 - Stability booklet with sample calculations; or
 - Any other appropriate format for providing stability instructions.
- Must reflect the vessel's **current construction and operation**, which may include:
 - Lightweight data;
 - General arrangement plans showing watertight compartments, closures, vents, downflooding angles and allowable weights (verify accuracy during vessel walkthrough);
 - Loading restrictions (tables, graphs);
 - Sample loading conditions;
 - Precautions for preventing unintentional flooding;
 - Capacity plan or tank sounding tables showing centers of gravity and free surface effects;
 - Amount and location of any fixed ballast; and
 - Guidance on the use of roll limitation devices (stabilizers).

EXAM CHECKLIST:

- If vessel operates with pots, verify the pot weights used in the stability calculations reflect the actual pots used. *Icing conditions may limit the number of pots allowed on board.*
- Ask about any modifications, changes, alterations to vessel since last stability test.
- Instructions include:
 - Free surface effect,
 - Intact stability using lifting gear,
 - Icing (operations north of 42° N (OR/CA border) between November 15 and April 15) **verify owner/operator/engineer are aware of ice accumulation figures used in the calculations,*
 - Water on deck,
 - Intact righting energy, and
 - Severe wind and roll

FREEING PORTS

- Vessels with bulwarks must be fitted with adequate freeing ports to allow rapid removal of water.
- Covers are permitted provided the area required is not diminished and covers are fitted so water will readily flow outboard.



UNINTENTIONAL FLOODING

Applies to new vessels built after September 15, 1991.

- Fitted with a **collision bulkhead** that:
 - Openings kept to a minimum; fitted with a watertight closure device
 - Not fitted with a door below the bulkhead deck
 - Any penetrations must be located as high and as far inboard as practical and fitted with a means to rapidly make it watertight.
- Instructions include **Damage Stability**



- **Buoyancy of superstructure** (if included in the buoyant volume):
 - Sufficiently strong to withstand impact of waves;
 - Each opening fitted with weathertight or watertight closures;
 - Deadlight covers for each window and portlight; and
 - Fitted with interior access from the spaces below.

**WATERTIGHT AND WEATHERTIGHT INTEGRITY
COAMING HEIGHT/DEADLIGHT COVERS**

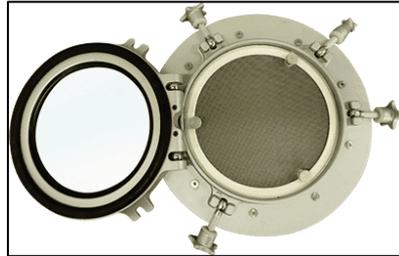
- Each opening in a deck or a bulkhead that is exposed to weather must be fitted with a weathertight or a watertight closure device.
 - Ensure closure is operational, checking dogs and handles
 - Gasket material and seals provide adequate protection
 - Operate doors and dogs for proper function



- Each opening in a deck or a bulkhead that is exposed to weather must be fitted with a watertight coaming as follows:

Condition	Height
<79 feet (recommended)	12"
79 feet or more	24"
Fish hold under constant attention	6"
Quick-Acting Watertight Closure	Accommodate closure height
Deck above the lowest weather deck (except on an exposed forecastle deck)	None

- Each window and portlight located below the first deck above the lowest weather deck must be provided with an inside deadlight. Each deadlight must be efficient, hinged, and arranged so that it can be effectively closed watertight.



- An opening below the weather deck which is used for discharging water or debris resulting from processing or sorting operations must be fitted with a weathertight closure.

LOAD LINE CERTIFICATE

46 USC 5102, 46 CFR 42

APPLICABILITY: Fishing Industry Vessels **EXCEPT**

ANY VESSEL	Less than 79 feet (load line length)
	150 GT or less, keel laid before January 1, 1986, and on a domestic voyage.
FISHING VESSEL	Keel laid before July 2, 2013
FISH PROCESSOR	Constructed as a fish processor before January 1, 1983; or
	Converted for use as a fish processor before January 1, 1983; and not on a foreign voyage
FISH TENDER*	Constructed, under construction or under contract to be constructed as a fish tender before January 1, 1980; or
	Converted for use as a fish tender before January 1, 1983, and not on a foreign voyage or engaged in the Aleutian Trade.

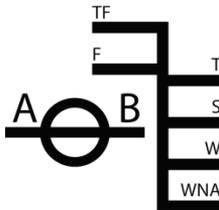
**D13 and D17 are in a period of non-enforcement for applicable part-time Fish Tenders that were operating prior to 2019. Fishing Vessels that occasionally operate as a Fish Tender must still comply with Load Line requirements. Contact either district for more information.*

LOAD LINE CERTIFICATES

- Issued by ABS or DNV classification societies.
- Valid for **5 years**.
- **Must be endorsed annually** by the issuing class society otherwise the certificate is invalid

LOAD LINE MARKINGS

- Permanently and conspicuously affixed to the hull.
- Not be submerged.



STABILITY TRAINING

The 2010 Coast Guard Authorization Act amended 46 USC 4502(g) requiring the individual in charge of a CFIV operating more than 3nm from the baseline, more than 16 POB or an Aleutian Trade Act Fish Tender to pass a training program. This program includes stability training.

While the implementing regulations have not been developed yet, having a conversation with the vessel owner, operator and engineer about attending a fishing vessel stability workshop is a good idea. Just from the CFVS Examiner mentioning available stability training and the benefits from a better understanding can help lead to a safer fleet.

Fishing Vessel Stability Training Organizations

NPFVOA	206-285-3383	www.npfvoa.org
AMSEA	907-747-3287	www.amsea.org
National Cargo Bureau (online course)		www.natcargo.org

Coast Guard Fishing Vessel Intact Stability Model

Most Fishing Vessel Safety programs have access to a stability demonstration model. It is a very good visual representation of the dynamic forces affecting a vessel's stability.

