

**Coast Guard****33 CFR Parts 155 and 157; 46 CFR Parts 30, 32, 70, 90, and 172**

[CGD 90-051]

RIN 2115-AD61

**Double Hull Standards for Vessels Carrying Oil in Bulk**

AGENCY: Coast Guard, DOT.

ACTION: Final rule.

**SUMMARY:** In an interim final rule (IFR) published on August 12, 1992, the Coast Guard established regulations for the design standards of double hull vessels pursuant to the requirements of section 4115 of the Oil Pollution Act of 1990 (OPA 90 or the Act) (Pub. L. 101-380). This rule adopts the IFR as final with minor changes to definitions.

**EFFECTIVE DATE:** This rule is effective on April 10, 1995.

**ADDRESSES:** Unless otherwise indicated, documents referred to in this preamble are available for inspection or copying at the Office of the Executive Secretary, Marine Safety Council (G-LRA/3406), U.S. Coast Guard Headquarters, 2100 Second Street SW., room 3406, Washington, DC 20593-0001 between 8 a.m. and 3 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 267-1477.

**FOR FURTHER INFORMATION CONTACT:** Mr. Robert M. Gauvin, Project Manager, Office of Marine Safety, Security and Environmental Protection (G-MVI), telephone (202) 267-1181.

**SUPPLEMENTARY INFORMATION:****Drafting Information**

The principal persons involved in drafting this document are Mr. Robert M. Gauvin, Project Manager, Office of Marine Safety, Security and Environmental Protection, and Mr. Nicholas Grasselli, Project Counsel, Office of Chief Counsel.

**Regulatory History**

On December 5, 1990, the Coast Guard published a notice of proposed rulemaking (NPRM) entitled "Double Hull Standards for Tank Vessels Carrying Oil" in the **Federal Register** (55 FR 50192). On September 6, 1991, the Coast Guard published a notice in the **Federal Register** (56 FR 44051) reopening the comment period until October 7, 1991.

On August 29, 1991, the Coast Guard published a notice in the **Federal Register** (56 FR 42763) announcing a public meeting to obtain the views of interested parties regarding the scope of

the environmental assessment. The Coast Guard subsequently held the scoping meeting on September 26, 1991.

On January 15, 1992, the Coast Guard published a notice in the **Federal Register** (57 FR 1854) announcing the availability of the Interim Regulatory Impact Analysis (IRIA) and Environmental Assessment (EA). In response to the IRIA and EA, the Coast Guard received a total of 112 letters commenting on this rulemaking.

On August 12, 1992, the Coast Guard published an IFR entitled "Double Hull Standards for Vessels Carrying Oil in Bulk" in the **Federal Register** (57 FR 36222), which requested comments be received on or before October 13, 1992. On December 18, 1992, the Coast Guard opened a second comment period for the IFR by publishing a notice in the **Federal Register** (57 FR 60402). The Coast Guard received 61 letters during the IFR comment periods and the Coast Guard considered all comments received to the rulemaking up to the close of the second comment period on February 26, 1993. All comments considered by the Coast Guard on or relating to this rulemaking are in the docket. A public hearing was not requested and none was held.

**Background and Purpose**

Section 4115 of OPA added section 3703a to Title 46 U.S. Code. Section 3703a(a) requires a double hull to be fitted on a vessel if it is constructed or adapted to carry, or carries, oil in bulk as cargo or cargo residue. A vessel that is constructed or undergoes a major conversion under a contract placed on June 30, 1990, or later must have a double hull fitted at the time of construction or major conversion (with certain exceptions in the Act). An existing vessel that is constructed or that undergoes a major conversion under an earlier contract must be fitted with a double hull in accordance with a timetable in 46 U.S.C. 3703a(c)(3), which commences January 1, 1995.

Section 3703a does not provide technical standards for a double hull. This final rule provides marine transportation and shipbuilding industries with the technical standards necessary to meet the double hull requirements.

On September 21, 1990, the Coast Guard issued Navigation and Vessel Inspection Circular (NVIC) No. 2-90. This NVIC provides policy guidance on double hull construction for a vessel undergoing construction or major conversion under a contract awarded on or after June 30, 1990, but prior to the effective date of the IFR which was September 11, 1992. A vessel which is

built to plans that have been approved in accordance with NVIC 2-90 under a contract awarded before the effective date of the IFR will satisfy the double hull requirements in this final rule. NVIC 2-90 may not be used for a vessel which undergoes construction or major conversion under a contract awarded on or after September 11, 1992. Change 1 of NVIC 2-90, published by the Coast Guard on November 24, 1992, clarifies the effective dates of NVIC 2-90 as between June 30, 1990, and September 11, 1992.

A substantial amount of oil imported into the United States is transported aboard foreign flag vessels. Since the Act applies to all vessels in U.S. waters, including foreign vessels, the Coast Guard recognized that U.S. double hull regulations would have a significant global impact. Therefore, the Coast Guard has also worked at the international level to establish double hull standards. The International Maritime Organization (IMO) is a specialized United Nation agency which oversees international maritime affairs. IMO has been responsible for developing various international conventions, such as the International Convention for the Safety of Life at Sea, 1974, (SOLAS 74), and the International Convention for the Prevention of Pollution by Ships, 1973, as amended by the Protocol of 1978 (MARPOL 73/78). The Coast Guard represents the United States at IMO deliberations. In November 1990, the United States submitted a proposal to IMO's 30th session of the Marine Environment Protection Committee (MEPC) for international standards to require double hulls for tank vessels. This proposal resulted in a draft Regulation 13F of Annex I to MARPOL 73/78. At the 31st session of the MEPC in July 1991 (MEPC 31), the Committee approved draft Regulation 13F for circulation to IMO member states for their consideration.

In November 1991, a MEPC working group subsequently refined Regulation 13F, which was further refined and formally adopted at MEPC 32 on March 6, 1992. The United States reserved its position during the adoption of Regulation 13F, due to technical differences with OPA 90 regarding the applicability of double hull requirements to certain categories of vessels and the allowance of the mid-deck concept as an alternative to a double hull. The double hull dimensions prescribed in the IFR and this final rule are consistent with those in Regulation 13F as adopted at MEPC 32.

The MEPC also adopted Regulation 13G to Annex I of MARPOL at its 32nd session. Regulation 13G contains a schedule for retrofitting (with double hulls) or retiring existing single hull tank vessels at 25 or 30 years after delivery. Regulation 13G also requires vessels built prior to requirements for protectively located segregated ballast (pre-MARPOL tankers) to convert tanks protecting 30 percent of the sides or 30 percent of the bottom to non-oil carrying wing tanks or double bottom spaces no later than 25 years after delivery. The United States also reserved its position during the adoption of Regulation 13G of Annex I to MARPOL.

On December 23, 1992, the U.S. deposited a declaration with IMO regarding the U.S. acceptance and enforcement of Regulations 13F and 13G. This declaration stated that the express approval of the U.S. Government would be necessary before Regulations 13F and 13G would enter into force within the U.S. A **Federal Register** Notice (58 FR 39087) was published on July 21, 1993, discussing the U.S. position on Regulations 13F and 13G. The two major technical differences between the domestic and international standards were: (1) The acceptance by IMO of the mid-deck tanker design as an alternative to the double hull; and (2) variances in phase-out schedule for existing single hull tank vessels.

A copy of IMO paper MEPC 32/WP.3, which contains Regulations 13F and 13G, has been placed in the public docket. Regulations 13F and 13G, as adopted at MEPC 32, also appeared as an appendix to the preamble of the IFR for the convenience of the reader.

#### Discussion of Comments and Changes

The Coast Guard thanks the many interested parties who submitted a total of 61 documents to the public docket. These comments provided very useful information and afforded valuable assistance to the completion of this final rule.

This section discusses the comments received as well as the Coast Guard's responses and changes to the IFR. This section is divided into two subsections. The first subsection discusses comments regarding the specific CFR sections, and the second subsection discusses nonspecific comments concerning other issues relating to this rulemaking and double hull requirements in general.

#### Comments Relating to Specific CFR Sections

All comments and changes to each section of the rule are discussed within the following paragraphs, and the

paragraphs are numbered in the order of their appearance in the CFR.

1. 33 CFR 157.03(n). Two comments were received regarding the determination of the definition of oil. One comment disagreed with the applicability of the definition to include vegetable oils and the other discussed the need to harmonize the definition with the MARPOL Convention.

The Coast Guard has researched the definition of oil and found its development based upon 46 U.S.C. 2101(20). To change this definition would require amendment of 46 U.S.C. 2101(20), which OPA 90 has not done. OPA 90 has reinforced the need for tougher, and more restricted controls over oil transportation. The Coast Guard has chosen to implement the double hull standards to the full extent of the definition of oil. Therefore, the definition of oil under this regulation will include animal and vegetable oils.

The Coast Guard recognizes that the definition of oil in 46 U.S.C. 2101(20) is inconsistent with the definition of oil under Annex I of MARPOL. Non-petroleum based oil, such as animal and vegetable oils are specifically designated as Category D noxious liquid substances (NLS) under Annex II of MARPOL. As OPA 90 does not allow for administrative interpretation of the definition of oil, existing regulations applicable to oceangoing vessels carrying NLS apply to a vessel carrying animal and vegetable oil in bulk, in addition to the new double hull requirements under this rule.

For the purpose of this rule the definition of oil shall not be limited to petroleum oils and shall include animal and vegetable based oils for the double hull requirements.

2. 33 CFR 157.03(v). Four comments addressed the applicability of this rule to vessels other than a tank barge or a tankship designed primarily to carry oil. One comment requested that offshore supply vessels (OSVs) be exempt from the requirements of the double hull standards under this rule. The three other comments strongly opposed the application of this rule to freight vessels involved in the Maritime Prepositioning Ship (MPS) Program, which under a National Defense Waiver (NDW) issued by the Secretary of the Navy, carry a secondary cargo of oil used to fuel the vessel's main cargo of military vehicles.

OPA 90 double hull requirements apply to a tank vessel as defined in 46 U.S.C. 2101(39). On November 4, 1992, Pub. L. 102-587 and on December 20, 1993, Pub. L. 103-206 were enacted, with sections which clarified the meaning of the tank vessel definition in 46 U.S.C. 2101(39).

Section 5209 of Pub. L. 102-587, entitled, "Tank Vessel Definition Clarification," stated that the following vessels are deemed not to be a tank vessel for the purpose of any law: (1) An OSV; and (2) a fishing or fish tender vessels of not more than 750 gross tons that transfers fuel without charge to a fishing vessel owned by the same person.

Section 321 of Pub. L. 103-206, entitled, "Fishing and Fishing Tender Vessels," stated that a fishing vessel or fish tender vessel of not more than 750 gross tons, when engaged only in the fishing industry, shall not be deemed to be a tank vessel for the purpose of any law.

Therefore, an OSV would not be required to meet this rule for the use of tanks onboard which carry oil (including drill mud that contains oil) as bulk cargo. Likewise fishing and fish tender vessels of not more than 750 gross tons, when engaged only in the fishing industry, are not required to meet the design standards of this rule.

Due to Section 5209 of Pub. L. 102-587 and Section 321 of Pub. L. 103-206, § 157.03(v) has been amended to show the clarification of a tank vessel definition under the meaning of tank vessel in 46 U.S.C. 2101(39).

On December 18, 1992, a **Federal Register** Notice (57 FR 60402), was published by the Coast Guard reopening the original IFR comment period until February 26, 1993. This was done to provide the public a further opportunity to comment on the IFR regarding: existing double hull vessel design requirements; and double hull requirements for non-traditional tank vessels carrying oil in bulk. Verbal and written public comments received by the Coast Guard suggested there was some uncertainty as to the applicability of the Act to vessels that carry oil in bulk or cargo residue, as a secondary cargo.

Subject to the provisions of section 4115 of the Act, this rule applies to all vessels which carry oil in bulk or cargo residue, which includes tank vessel, tank barge, and a vessel certificated as a cargo or passenger vessel that carries limited quantities of oil in bulk.

The Maritime Prepositioning Ship Program was initiated through the U.S. Navy and Marine Corps, using time chartered U.S. commercially operated dry cargo vessels, to carry military logistic supplies in a pre-loaded condition. These existing vessels are certificated to carry a limited quantity of bulk oil, to fuel their primary cargo of military vehicles.

The Coast Guard has no discretion to waive or exempt requirements of double

hull protection by the Act. Cargo tanks on these vessels must be protected in accordance with this rule. The Secretary of the Navy may extend the NDW for these vessels to include the double hull requirements for their cargo oil tanks. Presently, these vessels are not required to meet the double hull rules until 23 years into their time charter with the U.S. Government.

The notes provided in 46 CFR 70.05 and 46 CFR 90.05 to clarify the applicability of this rule to cargo and passenger vessels, have not changed due to these comments.

3. 33 CFR 157.03(aa). Four comments were received requesting interpretations on the cargo tank length definition. These four comments were from vessel designers or classification societies, who felt unsure on the meaning of the IFR stated definition for cargo tank length and requested how the definition was to be interpreted for actual proposed double hull tank vessel designs. Two additional comments were received recommending that the cargo tank length definition of the IFR be harmonized with the definition provided by the term "L<sub>t</sub>", in § 157 Appendix C. The definition of the term "L<sub>t</sub>" in § 157 Appendix C is the same as the definition of cargo tank length provided by Regulation 13E of Annex I, MARPOL 73/78.

The Coast Guard's intent, as specified in the IFR preamble, was to be consistent with the international double hull design standards and to ensure that compliance and enforcement was equal for U.S. and foreign vessels meeting these rules. The existing cargo tank length definition in § 157.03 was promulgated under the segregated ballast requirements of the Port and Tanker Safety Act of 1978.

The Coast Guard modified this definition in the development of the IFR to ensure it not only addressed tankships, but also barges. The above comments illustrate that the IFR definition still may cause confusion regarding the cargo tank length of the vessel requiring double hull protection.

Also, the Coast Guard has noted that non-standard tank vessels, such as dry cargo, break bulk, or passenger vessels, which carry oil as a secondary cargo, may not fit the cargo tank length definition in the IFR.

To ensure consistency with international standards, allow use with non-standard tank vessels, and assist in the conversion of existing single hull tankships to double hulls, the cargo tank length definition has been amended in § 157.03(aa) to harmonize it with the definition of "L<sub>t</sub>" in § 157 Appendix C, and thus MARPOL 73/78.

Various designs for rebuilding, converting, and installing new double hull bodies on existing single hull tankships, have been provided to the Coast Guard for review and interpretation under the IFR. The IFR definition has been found to limit the ability to redesign existing hull configurations where a cargo pump room is located forward of the engine room's forward bulkhead. In these designs, fuel tanks integral with the engine room extend over or around the cargo pump room. To double hull these fuel tanks would limit the fuel capacity of the vessel and its ability to trade, but would not increase the protection of the cargo tank block. Risk of damage in this after area of the vessel is historically low and in most designs the cargo pump room extends below the fuel tanks providing them with bottom void protection, that equals or exceeds double bottom height standards.

Changing the cargo tank length definition will not affect barges. The after perimeter for cargo tank length of barges would be the same under the U.S. and international definitions.

4. 33 CFR 157.10d(b). Ten comments recommended an expansion of § 157.10d(b)(1) to permit alternatives to double hulls. These comments support a number of design alternatives which were discussed in the IFR.

A report was provided to Congress by the Coast Guard in December 1992, titled, "Alternatives to Double Hull Tank Vessel Design." The report, required by Section 4115(e) of OPA 90, evaluated alternative tank vessel designs to the double hull, to determine which, if any, could provide protection to the environment equal to or exceeding the double hull.

The report's conclusions were: (1) At this time, the Coast Guard has not identified equivalent designs to the double hull tanker for the prevention of oil outflow due to groundings; (2) shortcomings exist in the current tanker evaluation methodology; (3) environmental performance standards and a specific methodology for the evaluation of alternative designs in terms other than oil outflow are not fully developed; and, (4) probabilistic computer modeling shows promise as a useful tool for initial evaluation of future designs.

The report's recommendations were: (1) That no change in the present OPA 90 legislation be made at the time of the report; (2) that the Coast Guard continue to evaluate novel designs and technology submitted, reporting any suitable alternatives to double hulls to Congress as they are identified; (3) that the Coast Guard support continued

research in the development of an evaluation and prediction capability that will enable a more accurate assessment of oil outflow due to grounding based on the recommendations outlined in the Carderock Division, Naval Surface Warfare Center (formerly the David Taylor Model Basin) test results; (4) that the Coast Guard, on behalf of the United States, continue to support efforts of the IMO to develop international environmental performance standards for tankers, by participation in finalizing the guidelines for the evaluation of alternative designs already circulated to IMO member governments; and, (5) that the Coast Guard, on behalf of the United States, continue to support the efforts of IMO to develop an internationally approved probabilistic methodology which can be applied to oil outflow analysis, risk assessment and vessel survivability.

OPA 90, section 4115, accepts only the double hull design. An amendment to OPA 90 would be needed to allow for acceptance of any alternative tank vessel designs. Twelve comments support that the double hull be the only acceptable design for use in U.S. waters. These comments provide a number of reasons why the double hull is a superior design to protect the environment which are in accord with the Coast Guard's report on alternative tank vessel designs.

One additional comment favored further research on the probability of oil outflow for the determination of equivalency designs to the double hull.

Work on the probability of oil outflow is being completed by an IMO Working Group to establish guidelines for equivalency to Regulation 13F of Annex I of MARPOL 73/78. The United States submitted the above Coast Guard report to Congress with its enclosures to IMO as an information paper at MEPC 34 (MEPC 34/INF.18) in July 1993. The United States is actively involved and supporting the studies of the MEPC Working Group to ensure that the international and U.S. standards may parallel the guidelines of acceptance for alternative tank vessel designs.

Two comments were received on the allowable strength of double hull design and one on alternative materials acceptable for double hull tank vessel construction.

Under 46 CFR 31.10-1 the U.S. accepts the American Bureau of Shipping (ABS) standards, "Rules for Building and Classing Steel Vessels," for the minimum requirements of strength and reliability of hulls, boilers, and machinery for tank vessels. Specific standards for the strength and scantling

of tankship and tank barge construction are in 46 CFR 32.60 and 32.63.

The U.S. also accepts approved plans and the certificates of ABS, or other recognized classification societies, for classed vessels as evidence of structural sufficiency for a vessel's hull. This is not to say that alternative materials to steel will not be acceptable. The Coast Guard, pursuant to recommendations in its report to Congress, has responded to questions by designers, owners, and operators of tank vessels regarding the use of alternative materials to meet the double hull standards of the IFR.

This rule does not prescribe standards for vessel strength or scantlings. Strength and scantling requirements are reviewed in the initial approval or acceptance of a vessel design prior to the vessel's inspection for certification by the Coast Guard. Actions are being taken through the newly established Flag State Implementation (FSI) Sub-Committee at IMO, in conjunction with the International Association of Classification Societies (IACS), to examine classification society and international vessel construction strength rules. Areas of concern involve the use of high tensile steels, reduced corrosion levels in scantlings, and designs in which scantlings or other structural members are susceptible to fatigue fracturing.

5. 33 CFR 157.10d(c). Three comments addressed the dimensions for double bottom height prescribed in § 157.10d(c)(2). Two comments supported larger protective double bottom spacing (B/15 or 2 meters, whichever is greater), while one comment suggested that the height for a vessel's double bottom spacing be determined using a mean sized vessel's beam which would enhance inspection and maintenance capabilities for smaller beamed vessels and not penalize beamier vessels (specifically barges) that usually operate at a shallower draft.

The major concern stated was that larger vessels, specifically those over 100,000 deadweight tons (DWT), would be allowed to default to a height of 2 meters under the IFR requirement of B/15 or 2 meters, whichever is less. It was also stated in the comment that the National Research Council (NRC) recommended the dimension requirement for double bottom height be, "B/15 or 2 meters, whichever is greater," in their study, "Tanker Spills: Prevention by Design." The Coast Guard notes that in that study's Executive Summary, the NRC recommended that more research was needed to determine the spacing between hulls that best satisfies all concerns.

What is not taken into account by the comment is that the double bottom height of the larger vessels will also be affected by the requirement of § 157.10d(c)(4). For larger tank vessels to meet the trim and stability aggregate volume ballast requirements of this section, a 2 meter spacing of the double bottom and double side voids, is generally not large enough to provide the volume of ballast required. Thus, either the double bottom or side spacing, or both, must be expanded to meet this trim and stability requirement, and results in the height or width of these spaces being larger than required by the minimum standards.

The Coast Guard considers the double hull dimensions of the IFR to appropriately balance economic and environmental concerns. There have been two recent groundings of vessels which met the B/15 or 2 meters criteria. In both instances the outer hulls were breached but the inner hulls were not damaged enough to allow any loss of cargo. Both vessels were able to offload their cargoes safely, and proceed in ballast to shipyards for major bottom hull repairs.

This design standard has received strong public consensus and been incorporated in IMO's accepted Regulation 13F of Annex I of MARPOL 73/78 for international vessel double hull design standards. The Coast Guard considers international consistency to be extremely important due to the global nature of the marine transportation of oil. Therefore, this final rule makes no change to the parameter of the double bottom spacing standards for double hull design.

6. 33 CFR 157.10d(c), continued. Two comments were received regarding the double hull protection required by § 157.10d(c) (1) and (2) to include fuel tanks. One comment supported the IFR standard for protection of fuel oil tanks only within the cargo tank length as discussed in paragraph 3, while the second comment stated that the IFR violated OPA 90 by failure to require double hull protection for bunker fuel tanks throughout the vessel's length.

As discussed in detail in the IFR, the Coast Guard does not concur that OPA 90 requires the protection of fuel oil tanks outside of vessel's cargo tank length. Thus, no change has been made and fuel oil tanks aft of the cargo tank length (defined in 33 CFR 157.03(aa)) are not required to be double hull protected.

7. 33 CFR 157.10d(c), continued, and 157.10d(d). Eight comments recommended that existing double hull tank vessels be permitted to continue operating, even if the dimensions of

such vessel, specifically the double bottom height, do not meet the existing vessel double hull standards of § 157.10d(c)(2)(iii). Two comments supported that the existing double hull dimension standards remain as published in the IFR.

The Coast Guard previously responded to comments such as these in the IFR preamble for vessels contracted before June 30, 1990, and reduced the dimensional requirements for existing double hulls in § 157.10d(c)(1)(iii) for double side width, and § 157.10d(c)(2)(iii) for double bottom height. These dimensional standards are consistent with the international standards of Regulations 13G of Annex I of MARPOL, as adopted by MEPC 32.

The comments received did not provide significant information to support a need to reduce the double bottom minimum dimension standards. To reduce these standards further would restrict existing double hull vessels from trading internationally. As noted below, domestic vessels on limited routes do have reduced double hull spacing standards.

The Coast Guard has not changed the minimum dimensions acceptable for existing double hull tank vessels in this final rule. The owners of those existing double hull tank vessels that do not meet the minimum dimensions in this rule may request an equivalency determination under the provisions of § 157.07. If the Coast Guard determines that this has a substantial impact on existing vessels because they are unable to meet the equivalency provisions, the Coast Guard may consider a future change to this rulemaking.

One comment stated that the dimension requirements of § 157.10d(d)(3) which allows vessels less than 10,000 DWT that operate exclusively on inland and certain coastwise routes to reduce double hull design standards due to route are not warranted. This comment did not provide any documentation which supported the need for larger dimensional spacing for double hull standards on these vessels of limited size and route. The Coast Guard does not concur with this comment.

All vessels which are constructed or adapted to carry, or carry, oil in bulk as cargo or cargo residue must be double hulled under OPA 90 mandate. Vessels under 10,000 DWT (roughly 5,000 gross tons) are not exempt from this requirement. Under section 4115 of OPA 90, "a vessel of less than 5,000 gross tons equipped with a double containment system determined by the Secretary to be as effective as a double hull for the prevention of the discharge

of oil \* \* \*,” may be exempted from the requirement for a double hull. To date, the Coast Guard has not accepted any double containment system proposals.

8. 33 CFR 157.10d(d). One comment stated that the use of minimum dimensions for double hull spaces could limit access for the proper inspection and maintenance of tank vessels. Nothing in this rule requires the use of minimum dimensions for double hull vessel design and construction. The Coast Guard encourages designers and builders to consider equally the inspection and safety requirements for access of personnel to double hull areas. Recent presentations to the Coast Guard by companies and individuals designing vessels with double hull configurations, met or exceeded expectations for access, inspection, and human engineering allowance for double hull spaces.

As the Coast Guard reviews and approves plans for U.S. flag vessels before construction or major modification, these areas will be closely examined. No change to this rule was made.

9. 33 CFR 157.11(g)(1). One comment recommended that a new subparagraph be added to this section which prohibited the placement of cargo piping in voids or duct keels within the double bottom space. The discussion of this recommendation stated that cargo piping located within the cargo tank offers some degree of protection from damage due to groundings and it is likely that such an arrangement would allow the piping system to be available for transfer of cargo in salvage operations in all but the most severe of incidents.

The Coast Guard agrees with the discussion of this recommendation in part, but does not agree that a subparagraph needs to be added to this section. § 157.19 already ensures the height of cargo piping from vessel's bottom plating which similarly protects it from damage in a grounding situation.

Duct keels, which can be used for the pathway of cargo piping through a vessel's cargo block area within a box keel, must be isolated from double bottom ballast tanks, as cargo piping is not allowed in these spaces under § 157.11(g)(1)(ii). Duct keels have been used extensively in the design of liquid bulk oil carriers to allow for a separation of cargo lines from the ballast tanks while making the pipes available to examination and repair even when the vessel is in operation.

The duct keel, which has the heaviest scantlings of the vessel bottom, including bottom plating, assists in the protection of the cargo piping system in

this design. The rule was not changed due to this recommendation.

10. 33 CFR 157.19. One comment stated that the cargo tank size limitation requirement of this section, for vessels under 5000 DWT, was arbitrary and its restriction would cause operational oil pollution increases. Further, it stated that many existing double hull inland river box barges carry approximately 10,000 barrels of cargo in two cargo compartments of 5,000 barrels each. This section will necessitate addition of a third compartment to vessels of this DWT size, with tank capacities limited to less than 4,400 barrels.

As discussed in the IFR, size limitation is a provision of Regulation 13F, paralleled in U.S. regulations. This requirement limits the size of individual cargo tanks on new vessels under 5,000 DWT, to no more than 700 cubic meters (4,400 bbls), unless double sides are fitted. The IFR and this final rule require a vessel of that size to have double sides and double bottoms.

The Coast Guard has not made any changes to § 157.19, as the double hull protection required for tank vessels by this rule surpasses the requirements of double side protection required by Regulation 13F. As any new tank barges will require double hull protection, the 4,400 bbls cargo tank size limit will not apply.

11. 46 CFR 32.53. One comment recommended that inert gas requirements for double hull spaces be closely evaluated, as proposed in the IFR, prior to future rulemaking. Actions are continuing in this area of concern at IMO.

At the 61st session of IMO's Maritime Safety Committee (MSC 61), Resolution MSC.27(61) was adopted as an amendment to SOLAS 74, regarding new equipment and operation standards for new and existing vessels. This resolution was accepted on April 1, 1994, as a specified majority of the Parties signatory to SOLAS 74 did not declare objection to the resolution.

The Resolution was published in total as part of NVIC No. 3-93 on April 12, 1993. In Resolution MSC.27(61), Regulation 59—"Venting, purging, gas-freeing and ventilation," was amended by adding a new paragraph 4 to the existing regulation. The amended Regulation 59 is republished below for the readers information:

*"4 Inerting, ventilation and gas measurement*

4.1 This paragraph shall apply to oil tankers constructed on or after 1 October 1994.

4.2 Double hull and double bottom spaces shall be fitted with suitable connections for the supply of air.

4.30 On tankers required to be fitted with inert gas systems:

.1 double hull spaces shall be fitted with suitable connections for the supply of inert gas;

.2 where such spaces are connected to a permanently fitted inert gas system, means shall be provided to prevent hydrocarbon gases from the cargo tanks entering the double hull spaces through the system;

.3 where such spaces are not permanently connected to an inert gas system, appropriate means shall be provided to allow connection to the inert gas main.

4.4.1 Suitable portable instruments for measuring oxygen and flammable vapor concentrations shall be provided. In selecting these instruments, due attention shall be given for their use in combination with the fixed gas sampling line systems referred to in paragraph 4.4.2.

4.4.2 Where atmosphere in double hull spaces cannot be reliably measured using flexible gas sampling hoses, such spaces shall be fitted with permanent gas sampling lines. The configuration of such line systems shall be adapted to the design of such spaces.

4.4.3 The materials of construction and the dimensions of gas sampling lines shall be such as to prevent restriction. Where plastic materials are used, they should be electrically conductive.

This SOLAS amendment does not require permanently inerted double hull voids, since inert gas poses a danger to personnel and may also tend to accelerate corrosion in ballast tanks. This amendment requires that connections be available to supply both air and inert gas to ballast tanks within the double hull, and requires the capability to ensure that safe atmospheres are available within them for operational and personnel safety.

The Coast Guard is reviewing enforcement and regulatory requirements due to the acceptance of IMO Resolution MSC.27(61) amendments. If regulatory action is deemed necessary for vessels other than those on international routes which must meet SOLAS 74 regulations, the Coast Guard will propose regulations in a future rulemaking.

**General Comments (Non-CFR Specific)**

12. Ten comments recommended that the IFR be adopted as a final rule with no changes, and that the double hull rules be the only accepted design standards. Various reasons were provided, most with the implication that the double hull would be the best for providing protection to the

environment. Except for changes discussed above, the Coast Guard agrees with these recommendations.

13. Two comments recommended that double hull designs require continuous centerline bulkhead standards or stability limitations, as this design would have a tendency to react erratically due to free surface effect during loading and offloading situations where the vessel's tanks are in a partially loaded condition.

The Coast Guard notes that some new double hull tanker designs without longitudinal bulkheads, though meeting MARPOL and IFR double hull design standards, have inferior intact stability characteristics than tankers with longitudinal bulkheads. The Coast Guard, working with IMO's Stability, Loadlines and Fishing Vessels Safety (SLF) Sub-Committee, is conducting an ongoing review of the need for additional longitudinal bulkhead requirements on double hull designs. Most designs, even without centerline bulkheads, can be safely operated by vessel officers following loading and discharge instructions in the vessel's loading manual.

Review and study of these intact stability requirements are being completed and the Coast Guard is proposing the implementation of new stability requirements under a separate rulemaking (CGD 91-206). Interim guidance on stability for double hull tankers has been provided in NVIC 4-92.

### Regulatory Evaluation

This rulemaking is a significant regulatory action under section 3(f) of Executive Order 12866 and has been reviewed by the Office of Management and Budget under that order. It requires an assessment of potential costs and benefits under section 6(a)(3) of that order. It is significant under the regulatory policies and procedures of the Department of Transportation (44 FR 11040; February 26, 1979). An analysis of the double hull rules is in the public docket. Implementation is projected to gradually increase the transportation cost of oil by four-tenths of a cent per gallon over the next 25 years.

This double hull rulemaking is one of several rules which are being issued in accordance with Titles IV and V of OPA 90. Some of these rules interact with each other. The overall impact of these rules may not equal the cumulative total impact of each rule considered individually. For example, the beneficial impact of the double hull rule is the reduced amount of oil spilled after certain grounding or collision casualties. However, the impact of this

rule will be reduced by other OPA 90 rulemakings and other actions that will improve operational and navigational safety of vessels which carry oil in bulk. These other actions will reduce the numbers of collisions and groundings which, in turn, reduce the overall benefits of (or, total spill reduction attributable to) double hull construction.

The Coast Guard intends to conduct a comprehensive, programmatic RIA for all Title IV and V OPA 90 rules, once they are all completed and issued. This comprehensive RIA will evaluate the interaction of the rules relative to each other, and assess their impacts in total. However, since the rules are being developed and issued individually over several years, each rule is being evaluated by itself through an interim regulatory impact analysis (Interim RIA).

Accordingly, an Interim RIA of this rule was prepared and placed in the public docket. The Interim RIA addresses the need for this rulemaking, the standards adopted in this rule, the alternatives to this rule, and the anticipated economic impacts of this action. A Notice of Availability of the Interim RIA was published in the **Federal Register** on January 15, 1992 (57 FR 1854), and public comments on the Interim RIA were invited. Six comments were received; none of the comments resulted in revision of the Interim RIA. However, an addendum to the Interim RIA has been placed in the public docket to reflect an increase in the projected economic benefits of spill prevention. A discussion of this increase is included in the summary of public comments on the cost of this rule published in the IFR of August 12, 1992 (57 FR 36222). In that there is so little change in this rule from the IFR, the Interim RIA, as amended, is adopted as a final assessment under Executive Order 12866.

### Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), the Coast Guard must consider whether this rulemaking will have a significant economic impact on a substantial number of small entities. "Small entities" may include (1) Small businesses and not-for-profit organizations that are independently owned and operated and not dominant in their fields and (2) governmental jurisdictions with populations of less than 50,000.

The Coast Guard has evaluated the impact of harmonizing the U.S. cargo tank length definition with the international definition of Regulation 13E of Annex I, MARPOL 73/78 on

vessels owned and operated by small business entities. Most vessels owned or operated by small business entities are barges and do not have after cargo pump rooms or main machinery spaces underdeck. The change in the cargo tank length definition in 33 CFR 157.03(aa) will not change the length of a barge required to be double hull protected by the U.S. double hull standards of 33 CFR 157.10d. The only effect of the change in definition will be on tankships. The Coast Guard reviews and approves U.S. vessel construction designs before they are built and has verified that no small entity tankships will be adversely affected by the change in the definition of cargo tank length. The modification of the definition should reduce the construction and operating costs for new tankships designed to meet the double hull standards. Converting existing single hull tankships to meet the double hull standards, when these vessels can no longer operate as single hull vessels, should also be less costly.

Because it expects the impact of this rulemaking to be minimal, the Coast Guard certifies under section 605(b) of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) that this rule will not have a significant impact on a substantial number of small entities.

### Collection of Information

This rulemaking contains no additional collection-of-information requirements. Section 33 CFR 157 was revised by the IFR to require the submission of plans verifying compliance with this rule. No additional information collection burden is imposed due to this modification of the cargo tank length definition. Compliance with this rule can be verified from other information that is currently submitted under 33 CFR 157.24 and 46 CFR 31.10.

Under the IFR, the Coast Guard has submitted the information collection requirements in this rule to the Office of Management and Budget (OMB) for review under section 3504(h) of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), and OMB has approved them. The section number is 46 CFR 157.24 and the corresponding OMB approval numbers are OMB Control Numbers 2115-0503 and 2115-0106.

### Federalism

The Coast Guard has analyzed this rulemaking under the principles and criteria contained in Executive Order 12612 and has determined that this rulemaking does not have sufficient federalism implications to warrant the preparation of a Federalism assessment.

This final rule amends standards for the construction of double hull tank vessels. The authority to regulate tank vessel construction standards is delegated to the Coast Guard by the Secretary of Transportation, whose authority is committed by statute.

Since tank vessels move between U.S. ports in the national marketplace, and between U.S. and foreign ports in the international marketplace, tank vessel construction is a matter for which regulations should be of national scope to avoid unreasonably burdensome variances. The Coast Guard received no comments addressing the federalism implications during the comment periods of the IFR. Therefore, the Coast Guard continues the long-established practice of preempting State action addressing the same subject matter.

**Environment**

The Coast Guard environmental assessment (EA) for Double Hull Design Requirements for Tank Vessels was prepared in accordance with Commandant Instruction M16475.1B, the National Environmental Policy Act of 1969 (NEPA) (Pub. L. 91-190), and the Council of Environmental Quality Regulations of July 1, 1986 (40 CFR parts 1500-1508).

This rule adopts the IFR as final with minor changes to definitions implementing the double hull provisions in Section 4115(a) of OPA 90 (46 U.S.C. 3703a), and is not expected to result in significant impact on the quality of the human environment, as defined in NEPA. The Coast Guard has placed a Finding of No Significant Impact (FONSI) in the public docket.

**List of Subjects**

*33 CFR Part 155*

Hazardous substances, Oil pollution, Reporting and recordkeeping requirements.

*33 CFR Part 157*

Cargo vessels, Oil pollution, Reporting and recordkeeping requirements.

*46 CFR Part 30*

Cargo vessels, Foreign relations, Hazardous materials transportation, Penalties, Reporting and recordkeeping requirements.

*46 CFR Part 32*

Cargo vessels, Fire prevention, Marine safety, Navigation (water), Occupational safety and health, Reporting and recordkeeping requirements, Seamen.

*46 CFR Part 70*

Marine safety, Passenger vessels, Reporting and recordkeeping requirements.

*46 CFR Part 90*

Cargo vessels, Marine safety.

*46 CFR Part 172*

Cargo vessels, Hazardous materials transportation, Marine safety.

Accordingly, the interim rule amending 33 CFR parts 155 and 157, and 46 CFR parts 30, 32, 70, 90, and 172, which was published at 57 FR 36222 on August 12, 1992, is adopted as a final rule with the following changes:

**TITLE 33 CFR PART 157—RULES FOR THE PROTECTION OF THE MARINE ENVIRONMENT RELATING TO VESSELS CARRYING OIL IN BULK**

1. The authority citation for part 157 continues to read as follows:

**Authority:** 33 U.S.C. 1903; 46 U.S.C. 3703; 49 CFR 1.46.

2. Section 157.03 is amended by revising paragraphs (v) and (aa) to read as follows:

**§ 157.03 Definitions.**

\* \* \* \* \*

(v) *Tank vessel* means a vessel that is constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that—

- (1) Is a vessel of the United States;
- (2) Operates on the navigable waters of the United States; or
- (3) Transfers oil or hazardous material in a port or place subject to the jurisdiction of the United States. This does not include an offshore supply vessel, or a fishing vessel or fish tender vessel of not more than 750 gross tons when engaged only in the fishing industry.

\* \* \* \* \*

(aa) *Cargo tank length* means the length from the forward bulkhead of the forwardmost cargo tanks, to the after bulkhead of the aftermost cargo tanks.

\* \* \* \* \*

Dated: March 1, 1995.

**A.E. Henn,**

*Vice Admiral, U.S. Coast Guard, Acting Commandant.*

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