RECOMMENDATIONS FOR NEW FISHING INDUSTRY VESSELS OF 50 TO 79 FEET IN LENGTH

The information and recommendations herein are hereby offered to the Coast Guard by the Commercial Fishing Safety Advisory Committee (CFSAC)

This document illustrates parts of the current law regarding new fishing vessels of 50 to 79 feet in length and built after the date of the enactment of the Coast Guard Authorization Act of 2015 (February 8, 2016). Importantly, it also offers recommendations regarding incorporation of standards equivalent to those prescribed by a classification society, and for surveys of vessels. This is an area where the CFSAC feels that the Coast Guard should offer policy with minimal ambiguity because the law mandates comprehensive new vessel design, construction and survey standards.

We understand a NVIC is under development and was in the latter stages of completion in early 2017 but it has not been issued yet. We strongly recommend that the NVIC be completed and issued as soon as possible so industry has clear guidelines to work from. Without clear guidelines for compliance, some prospective new vessel projects are being held up because owners and builders are not confident of the requirements. Other owners and builders may not even be aware of the requirements.

The following are excerpts of the Coast Guard Authorization Act of 2015 (2015 CGAA, H.R. 4188, Public Law 114-120), as enrolled on February 8, 2016. The excerpts specifically relate to design, survey and recordkeeping requirements for vessels of 50 to 79 feet in length.

46 U.S. Code § 4503 - Fishing, fish tender, and fish processing vessel certification (sections c and e)

(c)

(1) Except as provided in paragraph (2), subsection (a) applies to a vessel to which section 4502(b) of this title applies that is at least 50 feet overall in length and is built after July 1, 2013.

(2) Subsection (a) does not apply to a fishing vessel or fish tender vessel to which section 4502(b) of this title applies, if the vessel—

(A) is at least 50 feet overall in length, and not more than 79 feet overall in length as listed on the vessel's certificate of documentation or certificate of number; and

(B)(i) is built after the date of the enactment of the Coast Guard Authorization Act of 2015; and

(ii) complies with—

(I) The requirements described in subsection (e); or

(II) The alternative requirements established by the Secretary under subsection (f).

(e) The requirements referred to in subsection (c)(2)(B)(ii)(I) are the following:

(1) The vessel is designed by an individual licensed by a State as a naval architect or marine engineer, and the design incorporates standards equivalent to those prescribed by a classification society to which the Secretary has delegated authority under section 3316 or another qualified organization approved by the Secretary for purposes of this paragraph.

(2) Construction of the vessel is overseen and certified as being in accordance with its design by a marine surveyor of an organization accepted by the Secretary.

(3) The vessel—

(A) completes a stability test performed by a qualified individual;

(B) has written stability and loading instructions from a qualified individual that are provided to the owner or operator; and

(C) has an assigned loading mark.

(4) The vessel is not substantially altered without the review and approval of an individual licensed by a State as a naval architect or marine engineer before the beginning of such substantial alteration.

(5) The vessel undergoes a condition survey at least twice in 5 years, not to exceed 3 years between surveys, to the satisfaction of a marine surveyor of an organization accepted by the Secretary.

(6) The vessel undergoes an out-of-water survey at least once every 5 years to the satisfaction of a marine surveyor of an organization accepted by the Secretary.

(7) Once every 5 years and at the time of a substantial alteration to such vessel, compliance of the vessel with the requirements of paragraph (3) is reviewed and updated as necessary.

(8) For the life of the vessel, the owner of the vessel maintains records to demonstrate compliance with this subsection and makes such records readily available for inspection by an official authorized to enforce this chapter.

The following are comments and recommendations regarding applicability and implementation of the above law as it specifically relates to new fishing vessels and fish tender vessels of 50 to 79 feet in length.

4503(c)(2)(A)

- Requirement: Classification certification does not apply to a fishing vessel or fish tender vessel to which section 4502(b) of this title applies, if the vessel is at least 50 feet overall in length, and not more than 79 feet overall in length as listed on the vessel's certificate of documentation or certificate of number.
- Recommendation for compliance: The 50 feet threshold is Overall Length as defined in 46 CFR 69.203, and the 79 feet threshold is Registered Length as defined in 46 CFR 69.53. *Temporary policy has already applied this recommendation.*

4503(e)(1)

- Requirement: The vessel must be designed by an individual licensed by a State as a naval architect or marine engineer.
- Recommendation for compliance: Some U.S. states offer Professional Engineer licenses in Naval Architecture and Marine Engineering. Individuals must carry a current Professional Engineer license in Naval Architecture and Marine Engineering from a U.S. state to qualify for this purpose.

4503(e)(1)

- Requirement: The design must incorporate standards equivalent to those prescribed by a classification society to which the Secretary has delegated authority under section 3316 or another qualified organization approved by the Secretary.
- Recommendation for compliance: Incorporate the information in **Exhibit (1)** to this paper, to certify the vessel has been designed to the classification rules or the necessary equivalent standards.

4503(e)(2)

- Requirement: Construction of the vessel must be overseen and certified as being in accordance with its design by a marine surveyor of an organization accepted by the Secretary.

- Recommendation for compliance: First, cite documentation that the surveyor is a member of a Coast Guard accepted organization. Second, incorporate the information in **Exhibit (2)** to this paper to certify the vessel has been surveyed as being in accordance with its design.

4503(e)(3)

- Requirement: The vessel must complete a stability test performed by a qualified individual; has written stability and loading instructions from a qualified individual that are provided to the owner or operator; and has an assigned loading mark.
- Recommendation for compliance:
  - The most common test for a "qualified individual" is state licensing as a naval architect and/or marine engineer. In states where this Professional Engineer license is offered, an individual must be licensed as a Professional Engineer to perform stability tests because it is considered an engineering function in those states.
  - Stability criteria must meet current regulations in 46 CFR Part 28, with maximum righting arm adjustment allowed by *IMO Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels 2005, Regulation 3.2.1.2*.
  - Alternatively, if specific geographical and weather restrictions are applied to the vessel routing, lesser stability criteria may be applied at the discretion of the naval architect or marine engineer. This is commonly done for U.S. flag passenger vessels and cargo vessels.

4503(e)(4)

- Requirement: The vessel shall not be substantially altered without the review and approval of an individual licensed by a State as a naval architect or marine engineer before the beginning of such substantial alteration.
- Recommendation for compliance: This requirement is self-evident.

4503(e)(5)

- Requirement: The vessel must undergo a condition survey at least twice in 5 years, not to exceed 3 years between surveys, to the satisfaction of a marine surveyor of an organization accepted by the Secretary.
- Recommendation for compliance: This requirement is self-evident.

4503(e)(6)

- Requirement: The vessel must undergo an out-of-water survey at least once every 5 years to the satisfaction of a marine surveyor of an organization accepted by the Secretary.
- Recommendation for compliance: This requirement is self-evident.

4503(e)(7)

- Requirement: Once every 5 years and at the time of a substantial alteration to such vessel, compliance of the vessel with the requirements of paragraph (3) must be reviewed and updated as necessary.
- Recommendation for compliance: The naval architect or marine engineer must review the vessel's stability at these stages. This can be either by inclining experiment, deadweight survey, or weight estimate; as determined by the naval architect or marine engineer. If the changes constitute a Substantial Alteration as defined by 46 CFR 28.501 then new stability calculations and instructions shall be provided by the naval architect or marine engineer.

4503(e)(8)

- Requirement: For the life of the vessel, the owner of the vessel must maintain records to demonstrate compliance with this subsection and makes such records readily available for inspection by an official authorized to enforce this chapter.
- Recommendation for compliance: This requirement is self-evident but the owner should enlist a naval architect or marine engineer to coordinate the recordkeeping effort.

Exhibit (1): Recommended format for documenting design compliance with 4503(e)(1)

FISHING VESSELS OF 50 TO 79 FEET IN LENGTH: Certification of compliance with design requirements of 46 USC 4503(e)(1). Classification rule basis, or alternate standard if applicable, must be indicated for all vessel parts and systems normally requiring classification. This document must be accompanied by the naval architect's or marine engineer's Professional Engineer seal and signature, that designed the vessel. The document must be submitted to the Coast Guard District Commander (Attn: Fishing Vessel Safety Coordinator) in charge of the district in which the vessel is built and where the vessel is homeported.

Vessel Dimensions and General Description: 78.7'L x 37.0'B x 13.5'D Steel Fishing Vessel (87.0' LOA)			
DESIGN DRAWINGS AND DOCUMENTS			
Note: Drawings and documents should be developed that are equivalent to those required by classification societies. This task will vary in scope and presentation, depending on the size and complexity of the vessel, so a specific list of Coast Guard required drawings and documents is not recommended but rather should be developed by the designer for each vessel project. However, each classification society lists design document requirements in their rule books so it is recommended that the Coast Guard simply require that "design documents must be developed that are equivalent to those required by classification societies" or similar effective wording. If this is done, it may be a good idea to offer a definition of "design documents" as drawings, plans, reports … etc.			
Vessel Part or System	**Classification Rule Reference**	**Alternate Standard**	**Comments and/or Reasoning for Alternate Standard**
ABS RULES FOR MATERIALS AND WELDING (MW) 2018 EDITION			
Materials - Hull Construction	Chapter 1	ASTM A-36 steel	Common material with similar characteristics to ABS Grade A steel. Other materials are considered on a case by case basis.
Materials – Equipment	Chapter 2	Commercial	Equipment (anchors, anchor chain, etc.) is optional class, not applied to this project.
Materials – Machinery, etc.	Chapter 3		Compliance with ABS is intended, except no ABS witness of material tests
Welding and Fabrication	Chapter 4		Compliance with ABS is intended, except no ABS witness of weld material
ABS RULES FOR BUILDING AND CLASSING STEEL VESSELS UNDER 90 METERS (295 FEET) IN LENGTH (SMR) 2018 EDITION PART 3 HULL CONSTRUCTION AND EQUIPMENT			
Hull Structures and Arrangements	Chapter 2		Use ABS rules except where not compatible with fishing vessels. ABS structural rules were generally developed for larger vessels.
Subdivision and Stability	Chapter 3		See Part 5, Chapter 12, Sections 3-5
Fire Safety Measures	Chapter 4		Section 1 Structural Fire Protection is not required for this size vessel. Appendix 1 Fiber Reinforced Plastic (FRP) Gratings standards will be complied with.

Equipment	Chapter 5	46 CFR 28.235	Equipment (anchors, anchor chain, etc.) is not required to be classed but the alternate standard is required.
Navigation	Chapter 6		Parts of this rule are not reasonable for fishing vessels but as much as practical will be applied.
Testing, Trials and Surveys During Construction – Hull	Chapter 7		Compliance with ABS is intended, except no ABS witness of tests
ABS RULES FOR BUILDING AND CLASSING STEEL VESSELS UNDER 90 METERS (295 FEET) IN LENGTH (SMR) 2018 EDITION PART 4 VESSEL SYSTEMS AND MACHINERY			
General	Chapter 1		Certification of machinery is not required for this vessel. Submittal of plans to classification society is not required for this vessel. Definitions in this Chapter are acknowledged and used in the design.
Prime Movers	Chapter 2		Compliance with ABS is intended, except no ABS witness of material tests
Propulsion and Maneuvering Machinery	Chapter 3		Compliance with ABS is intended, except no ABS witness of material tests
Pumps and Piping Systems	Chapter 4		Compliance with ABS is intended, except no ABS witness of material tests
Fire Extinguishing Systems	Chapter 5		Compliance with ABS is intended, except no ABS witness of material tests
Electrical Installations	Chapter 6		Compliance with ABS is intended, except no ABS witness of material tests
Shipboard Automatic or Remote Control and Monitoring Systems	Chapter 7		Compliance with ABS is intended, except no ABS witness of material tests

ABS RULES FOR BUILDING AND CLASSING STEEL VESSELS UNDER 90 METERS (295 FEET) IN LENGTH (SMR) 2018 EDITION PART 5 SPECIALIZED VESSELS AND SERVICES			
Fishing Vessels: General	Chapter 12 Section 1		Compliance with ABS is intended, except no ABS witness of material tests.
Fishing Vessels: Vessel Design	Chapter 12 Section 2		Compliance with ABS is intended, except no ABS witness of material tests.
Fishing Vessels: Stability and Subdivision	Chapter 12 Sections 3-5	46 CFR Part 28 Subpart E and IMO	• Stability is per 46 CFR Part 28 Subpart E except by substituting *IMO Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels 2005, Regulation 3.2.1.2.* instead of 46 CFR 28.570(a)(2). • Freeing port area by ABS and Load Lines standards is not practical for vessels less than 79' so we will substitute *IMO Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels 2005, Regulation 2.14* instead of 46 CFR 28.555. • Unintentional flooding in 46 CFR 28.580 is not practical for vessels less than 79' except for a collision bulkhead below the main deck.
Fishing Vessels: Equipment	Chapter 12 Section 6		Compliance with ABS is intended, except no ABS witness of material tests.
Fishing Vessels: Machinery and Equipment Systems	Chapter 12 Section 7		Compliance with ABS is intended, except no ABS witness of material tests.
Fishing Vessels: Ammonia Refrigeration Systems	Chapter 12 Section 8		Ammonia refrigeration will not be used because compliance with ABS requirements for separation of spaces is not practical for this size of vessel.
Fishing Vessels: Safety Requirements	Chapter 12 Section 9		Compliance with ABS is intended, except no ABS witness of material tests. Structural Fire Protection is optional for this vessel size so selected principles will be applied only where practical. Lifesaving equipment will be installed in accordance with 46 CFR Part 28 requirements.

Exhibit (2): Recommended format for documenting marine survey compliance with 4503(e)(2)

This part should be filled in by Jake Jacobson and/or Joe Derie.