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United States Coast Guard

Marine Safety Center Technical Note

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MARINE SAFETY CENTER TECHNICAL NOTE (MTN) NO. 02-00, CH-2

Subj: LONGITUDINAL EXTENT OF MACHINERY SPACES ON OFFSHORE SUPPLY VESSELS

Ref: (a) International Convention for the Safety of Life at Sea, 1974 and its Protocol of 1988. (Consolidated Edition 2009)

1. Purpose: This Technical Note provides guidance for arranging main machinery spaces on Offshore Supply Vessels (OSVs). This change to MTN 02-00 incorporates minor administrative changes including the latest edition of reference (a).

2. Applicability: The guidelines provided in this Technical Note apply to all U.S. flag offshore supply vessels that have keel laying dates or contract dates for major modification after the first issue date of MTN 02-00, May 02, 2000.

3. Discussion:

a. In an effort to maximize cargo deck area and minimize obstructions in the vicinity of the cargo deck, many modern supply vessel designs place the exhaust stacks forward of the cargo deck, adjacent to or located outboard of the deckhouse. While this is advantageous for cargo operations, it can be problematic for arranging and separating spaces in accordance with 46 CFR Subchapter L and SOLAS. In particular, for vessels with an aft engine room, it may be impractical to route engine room ventilation and exhaust ductwork through bulkheads required to be watertight.

b. This guidance discusses acceptable arrangements for vessel designs that incorporate an extended machinery space that includes spaces that, in the past, were considered beyond the bounds of the main machinery space. There is sufficient flexibility in the definitions in Subchapter L and SOLAS to allow for an extended machinery space, provided that all applicable regulations for the machinery space are met, and the content and usage of the extended space is acceptable as a machinery space. This is supported by SOLAS Regulation II-1/2.15, which states, “In the case of unusual arrangements, the Administration may define the limits of the machinery space.”

4. Action: Any previous plan review determinations pertaining to this issue are superseded. The Coast Guard Marine Safety Center (MSC), as well as authorized organizations conducting reviews of U.S. flag vessels on behalf of the Coast Guard, may accept extended machinery spaces on OSVs provided the requirements outlined in paragraphs 4.a and 4.b below, as

applicable, are satisfied. This Technical Note does not relieve the vessel representatives of the responsibility to ensure compliance with the appropriate regulatory requirements.

a. Requirements for all OSVs:

i. Hazardous Areas - Flammable or combustible cargo with a flashpoint below 140 ºF (60 ºC), hazardous cargo, or equipment used to store or transfer these cargoes is not permitted within the boundaries of the extended machinery space. This includes pumps, piping, manifolds, or other associated equipment for drilling fluids, dry bulk mud, or excess fuel oil. The intent of 46 CFR 129.520 is to only allow equipment certified as explosion-proof or intrinsically safe within spaces storing or transferring these cargoes. Cargo tanks must be segregated from machinery spaces by means of a cofferdam, void space, cargo pump room, empty tank, oil fuel tank, or other similar spaces.

ii. Damage Stability - The bulkheads of the extended machinery space must be watertight to the bulkhead deck per 46 CFR 174.195. Additionally, the damage stability criteria of 46 CFR 174.200 and 174.207 will apply to extended machinery spaces, as appropriate.

iii. Means of escape - As discussed in 46 CFR 127.240, a minimum of two means of escape must be provided from the extended machinery space. If members of the crew may normally be employed in the space, one of the means of escape must lead as directly to an open deck as practicable, and it must be independent of watertight doors in bulkheads required by 46 CFR 174 to be watertight. Where extended machinery spaces are significantly larger than conventional machinery spaces, the adequacy of the proposed means of escape must be reviewed to consider travel distances, types of ladders, and pre-discharge delay times associated with fixed gas fire extinguishing systems. Again, whether or not an extended machinery space is normally manned, at least two means of escape must be provided.

iv. Fixed Fire Extinguishing and Detection Systems - For vessels also designed to comply with 46 CFR Subchapter I, per 46 CFR 95.05-10, fixed fire extinguishing must be installed to protect all portions of the extended machinery space. Similarly, per 46 CFR Subpart 62.50, vessels with minimally attended or periodically unattended machinery plants must have a fire detection system which protects all portions of the extended machinery space.

b. Additional Requirements for OSVs subject to SOLAS: Designs incorporating an extended machinery space may be accepted, provided that the content and usage of the extended space is consistent with the definition contained in SOLAS Regulation II-

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2/3.30. Since SOLAS requires spaces of different type and usage to be separated by thermal and structural boundaries (see Regulation II-2/2 and II-2/9.2.3), the extended machinery space cannot serve as a cargo, service, accommodation, or other type space. In addition to the items listed above in paragraph 4.a, the evaluation and acceptance of an arrangement incorporating an extended machinery space must consider the following:

i. Double Bottom Protection – The double bottom of the extended machinery space must meet the requirements of SOLAS Regulation II-1/9.

ii. Fixed Fire Extinguishing and Detection Systems - If required for any portion of the machinery space, fixed fire extinguishing and detection systems required by SOLAS Chapter II-2 must protect the entire machinery space, and persons who may be working therein, including the extended portion(s).

iii. Emergency Fire Pump - Location of the emergency fire pump, if required and fitted, must be considered. SOLAS Regulation II-2/10.2.2.3.2.2 does not permit direct access between the machinery space and the space containing the emergency fire pump.

5. Disclaimer: While the guidance contained in this document may assist the industry, the public, the Coast Guard, and other Federal and State agencies in applying statutory and regulatory requirements, this guidance is not a substitute for the applicable legal requirements, nor is it in itself a regulation. It is not intended to, nor does it impose legally binding requirements on any party, including the Coast Guard, other Federal agencies, the States, or the regulated community.

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