United States Coast Guard
U.S. Department of Homeland Security

**CG-5431**
**Office of Vessel Activities**
**Domestic Compliance Division**

**MI Notice 01-08**
**December 24, 2008**

# Marine Inspection Notice

## PORTABLE FOAM APPLICATORS FOR SOLAS VESSELS

U.S. Coast Guard Marine Inspectors and vessel owners/operators required to comply with the provisions of the International Convention for the Safety of Life at Sea (SOLAS) are reminded that carriage of portable foam applicators in machinery and ro-ro spaces is required on SOLAS vessels. Although this carriage requirement has been part of SOLAS since 1974, it is sometimes overlooked because it is located in the portable fire extinguisher sections of SOLAS and the Fire Safety Systems (FSS) Code, and because there is no such requirement for non-SOLAS vessels.

The relevant SOLAS and FSS Code regulations are cited in the attached enclosure (1). There are similar provisions in the 1994 and 2000 versions of the IMO High Speed Craft Code.

These foam applicators are not the same as applicators (nozzle extensions) referred to in the fire main sections of the Code of Federal Regulations (CFR). Portable foam applicators are educting nozzles of the type that are sometimes used as part of an approved deck foam system on tank vessels (which may be known to inspectors as “mechanical foam nozzle with pick-up tube” or “mechanical foam pick-up nozzle”) in combination with a portable supply of foam liquid concentrate. To be used, the applicator (nozzle) is screwed onto a fire hose and a pick-up is inserted into a container filled with foam liquid concentrate. When water is supplied to the fire hose, a vacuum-siphon effect created by the water passing through the nozzle draws (educts) the foam concentrate into the nozzle where it is mixed with the water and expanded with air to be discharged as foam. Sometimes an inline eductor in the hose line separate from the nozzle is used to siphon the concentrate from the container.

Vessel operators have been advised in the past that SOLAS requirements for foam applicators in the machinery space could be met with the carriage of components of an approved deck foam system, such as the combination of an educting foam nozzle, or nozzle and a separate inline eductor, together with portable containers of the corresponding foam concentrates. However, an educting nozzle which is provided as part of a deck foam system on a tanker may not also be counted toward meeting the requirements for portable foam applicators for machinery spaces.

As another option, to facilitate compliance and enforcement, the Coast Guard has recently established a new approval category 162.163, entitled “Portable Foam Applicators (SOLAS)” for applicators which are not comprised of components of an approved deck foam system. Its purpose is to allow for the approval of these stand-alone applicators in combination with a portable supply of foam liquid concentrate as a complete system to meet the applicable SOLAS requirements. Pictures of a typical mechanical foam nozzle with pick-up tube, and a portable foam applicator system approved under approval series 162.163, are shown in enclosure (2).

Portable foam applicators are shown as a symbol on the fire control plans required by SOLAS. This symbol, copied from IMO Resolution. A.952 (23), is reproduced in enclosure (3).

Recognizing the need for to ensure vessel crews are provided with all necessary fire fighting equipment as required by SOLAS, Marine Inspectors and SOLAS vessel operators should:

1. Review the fire control plans of SOLAS vessels to verify that portable foam applicators are properly depicted.

2. Determine that SOLAS vessel machinery, vehicle, and ro-ro spaces are equipped with one of the following combinations of approved equipment:

a. Portable foam applicators approved under approval category 162.163 with two 5 gallon containers of the foam liquid concentrate specified on the approval certificate. The nozzle should be identifiable by the approval number on its name plate or stamped on the nozzle.

b. Educting nozzles as specified in the instruction manual of an approved deck foam system, approval series 162.033, with two 5 gallon containers of the foam liquid concentrate specified in the instruction manual or the system approval certificate. The nozzles should be identifiable by their part or model numbers and their identification in the approved foam system instruction manual, or their listing in the online UL Certification Directory.

c. Nozzles and separate inline eductors as specified in the instruction manual of an approved deck foam system, approval series 162.033, with two 5 gallon containers of the foam liquid concentrate specified in the instruction manual or the system approval certificate. The nozzles and inline eductors should be identifiable by their part or model numbers and their identification in the approved foam system instruction manual, or their listing in the online UL Certification Directory.

Questions concerning this notice may be directed to Mr. Klaus Wahle at Coast Guard Headquarters Lifesaving and Fire Safety Division (CG-5214) at (202) 372-1392 or Lieutenant Commander Patrick Lee in the Office of Vessel Activities, Domestic Compliance Division (CG-5431) at 202-372-1135.

**PORTABLE FOAM APPLICATORS FOR MACHINERY AND RO-RO SPACES**

Enclosure (1)

REG. CITATIONS

SOLAS Ch.II-2, Regulation 10
Fire fighting
Par. 5.1 Machinery spaces containing oil-fire boilers or oil fuel units:
Par. 5.1.2.1 “There shall be in each boiler room or at an entrance outside of the boiler room at least one portable foam applicator unit complying with the provisions of the Fire Safety System Code.” (FSS Code)
Par. 5.2 Machinery space containing internal combustion machinery:
Par.5.2.2.1 “There shall be at least one portable foam applicator unit complying with the provisions of the Fire Safety System Code.”

SOLAS Ch.II-2, Regulation 20
Protection of vehicle, special category and ro-ro spaces
Par. 6.2.2.2
“one portable foam applicator unit complying with the provisions of the Fire Systems Safety Code, provided that at least two such units are available in the ship for use in such spaces.”
(A similar carriage requirement for two applicators is also contained in the High Speed Craft (HSC) Code, Section 7.8.4.2).

FSS Code Chapter 4 Fire Extinguishers
(Definition of portable foam applicators)
Par. 3.2 Portable foam applicators
”A portable foam applicator unit shall consist of a foam nozzle of an inductor type capable of being connected to the fire main by a fire hose, together with a portable tank containing at least 20 liter of foam-forming liquid and one spare tank of foam making liquid. The nozzle shall be capable of producing effective foam suitable for extinguishing an oil fire at the minimum rate of 1.5 $m^3$/min” (appr. 395 gal/min).*
Interpretation: An English unit 5 gallon (19 liter) pail is an acceptable substitute for a metric 20 liter pail.

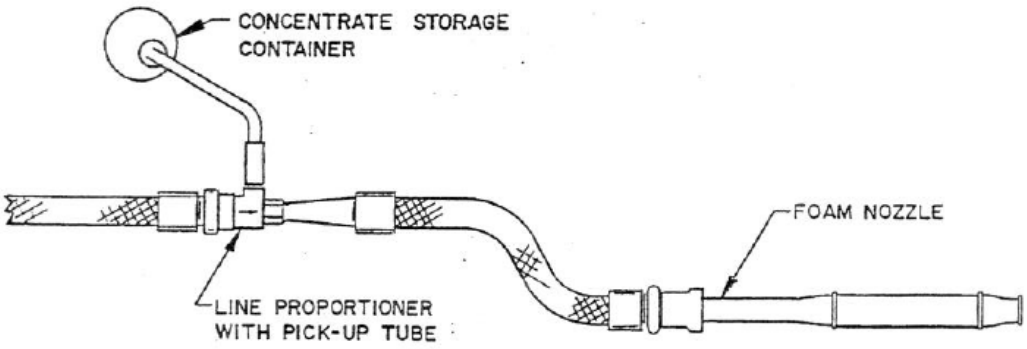
*This means that a 95 gpm nozzle would have to produce foam with an expansion of at least 4.15.

**PORTABLE FOAM APPLICATORS FOR MACHINERY AND RO-RO SPACES**

Enclosure (2)

APPLICATOR APPROVED UNDER APPROVAL SERIES 162.163

ALTERNATE ARRANGEMENT
PORTABLE NOZZLE AND INLINE PROPORTIONER COMBINATION



**PORTABLE FOAM APPLICATORS FOR MACHINERY AND RO-RO SPACES**

Enclosure (3)

SYMBOL FOR SOLAS PORTABLE FOAM APPLICATORS

SOLAS FIRE CONTROL PLAN

Portable foam applicator unit or relevant spare tank(s)