Coast Guard, DHS

§ 167.45—Special Fighting and Fire Prevention Requirements

§ 167.45–1 Steam, carbon dioxide, Halon 1301, and clean agent fire extinguishing systems.

(a) General requirements. (1) Nautical school ships shall be provided with an inert-gas fire-extinguishing system when required.

(2) All nautical school ships carrying combustible cargo in the holds, between decks, or other closed cargo compartments shall be equipped with means for extinguishing fire in such compartments by the use of any inert-gas fire-extinguishing system approved by the Coast Guard or Navy. However, in specific cases where by reason of the design, such compartments are normally accessible and considered to be part of the working or living quarters, a water sprinkling system may be installed in lieu of an inert-gas fire-extinguishing system. On such vessels contracted for prior to January 1, 1962,
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a steam smothering system may be ac-
cepted in lieu of the inert gas system
for the protection of cargo holds, paint
lockers, and similar spaces. However,
although existing steam smothering
systems may be repaired, replaced, or
extended, no new systems contracted
for on or after January 1, 1962, will be
permitted.

(3) Cabinets, boxes, or casings enclos-
ing manifolds or valves must be
marked in conspicuous red letters at
least 2 inches high: “[STEAM/CARBON
DIOXIDE/HALON/CLEAN AGENT—as
appropriate] FIRE APPARATUS.”

(4) Steam or gas piping fitted for ex-
tinguishing fire shall not be used for
any other purpose except that it may
be used for fire-detecting purposes.

(5) Pipes for conveying steam from
the boilers for the purpose of extin-
guishing fire shall not be led into the
cabins, other living spaces, or working
spaces. Pipes for conveying carbon di-
oxide or other extinguishing vapors for
the purpose of extinguishing fire shall
not be led into the cabins or other liv-
ing spaces.

(6) Steam smothering lines shall be
tested with at least 50 pounds air pres-
sure with ends of the smothering lines
capped, or by blowing steam through
the lines, and a survey made for detect-
ing corrosion and defects, using the
hammer test or such other means as
may be necessary.

(7) At annual inspections, each car-
bon dioxide cylinder, whether fixed or
portable, each Halon 1301 cylinder, and
each clean agent cylinder must be ex-
amined externally and replaced if ex-
cessive corrosion is found; and:

(i) Each carbon dioxide cylinder must
be weighed and recharged if its weight
loss exceeds 10 percent of the charge;
(ii) Each Halon 1301 and halocarbon
cylinder must be weighed and checked,
and recharged or replaced if weight loss
exceeds 5 percent of required weight of
charge or if cylinder pressure loss ex-
ceed 10 percent of specified gauge
pressure, adjusted for temperature; and
(iii) Each inert gas cylinder must be
checked and recharged or replaced if
cylinder pressure loss exceeds 5 percent
of specified gauge pressure adjusted for
temperature.

(8) Carbon dioxide, Halon 1301, and
clean agent cylinders carried on board
nautical school ships must be tested
and marked in accordance with the re-
quirements of 46 CFR 147.60, 147.65,
147.66, and 147.67.

(9) On all systems test time delays,
alarms, and ventilation shutdowns
with carbon dioxide, nitrogen, or other
nonflammable gas as stated in the sys-
tem manufacturer’s instruction man-
ual. Inspect hoses for damage or decay.
Ensure that nozzles are unobstructed.

(b) Steam systems.

(1) As noted in sub-
paragraph (a)(2) of this section, steam
smothering systems are not permitted
on nautical school ships contracted for
on or after January 1, 1962, nor for new
installations on vessels contracted for
prior to that date. Where steam smoth-
ering systems are installed, the provi-
sions of this paragraph shall be met.

(2) Steam for fire-extinguishing sys-
tems shall be available at a suitable
pressure from the main boilers or a
donkey or auxiliary boiler.

(3) The pipe lines shall be led from
not more than three stations in easily
accessible locations on the weather
deck to each cargo hold, cargo ’tween-
decks, or other closed cargo compart-
ments, and to each cargo-oil deep tank,
lamp locker, oil room, and like com-
partments, which lamp locker, oil
room, and like compartments, shall be
wholly and tightly lined with metal.
The steam connections to the lamp
lockers, oil rooms, and like compart-
ments may be taken from the nearest
steam supply line, independent of the
extinguishing manifolds. In lamp lock-
ners, oil rooms, and like compartments,
adequate means may be provided for
ventilation if suitable dampers capable
of being operated from outside the
spaces are fitted in each vent duct.

(4) Each pipe in the extinguishing
manifolds shall be fitted with a shut-
off valve plainly and permanently
marked to indicate into which com-
partment it discharges. This require-
ment also applies to independent extin-
guishing lines.

(5) Manifold steam supply pipes shall
be fitted with master valves at the
manifolds, and provision shall be made
for draining the manifold and indi-
vidual lines to protect them against
freezing. If the manifolds are located
on an open deck, they shall be enclosed
in a metal box.
§ 167.45–5  Steam fire pumps or their equivalent.

(a) All nautical school ships shall be equipped with fire pumps.

(b) Nautical school ships of 100 gross tons and under shall be equipped with one hand fire pump with a pump-cylinder capacity not less than 100 cubic inches, or a power-driven pump of equivalent discharge capacity.

(c) Nautical school ships over 100 gross tons shall be equipped with fire pumps and piping as follows:

(1) All nautical school ships shall be provided with powerful pumps available for use as fire pumps. When of less than 1,000 gross tons it shall have 1, and when larger it shall have at least 2 independently driven pumps connected to the fire main. Each pump shall be capable of delivering two powerful jets of water simultaneously from the highest outlets on the fire main at a Pitot tube pressure of approximately 50 pounds per square inch.

(2) On oil-burning nautical school ships, where two pumps are required,