



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

MAR 9 2007

400 Seventh Street, S.W.
Washington, D.C. 20590

Mr. J.E. Pomajzl
Second Class Marine Science Technician (MST2)
United States Coast Guard
2760 Sherwood Lane Suite 2A
Juneau, AK 99801

Ref. No.: 07-0010

Dear Mr. Pomajzl:

This is in response to your January 10, 2007 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to vessel stowage requirements. Your questions are paraphrased and answered below:

- Q1. Certain deck barges stow containers perpendicular to the center line (container entrance facing either port or starboard on deck) versus parallel to the centerline as found on most container ships. For deck barges that stow containers perpendicular to the centerline, does the term "container space" still need to meet the definition found in § 176.83(f)(4) which defines a "container space" as distance of not less than 6 m (20 feet) fore and aft or not less than 2.5 m (8 feet) athwartship.
- A1. The answer is yes. Although the definition of "container space" in § 176.83(f)(4) is based on the dimensions of a typical 20 foot container when in parallel with the keel, the definition is a distance, 6 m (20 feet) fore and aft or not less than 2.5 m (8 feet) athwartship.
- Q2. Can the definition of "container space" change to 2.5 m (8 feet) fore and aft when the containers are stowed on deck perpendicular to the centerline?
- A2. The answer is no, the definition does not change when containers are stowed on deck perpendicular to the centerline. However, § 176.65 does allow for alternative stowage procedures at the discretion of the Captain of the Port (COTP), who must determine if the alternative stowage procedures will insure a level of safety at least equal to that afforded by regulatory requirement concerned.
- Q3. What method is used by the COTP to "insure a level of safety at least equal to that afforded by regulatory requirement concerned?"



070010

176.83
176.65

A3. The COTP has the discretion to use any method when allowing an alternative stowage procedure. For example, the COTP may require fire resistant barriers between containers to prevent a fire from spreading to other containers, if such an event occurs.

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in black ink, appearing to read "Hattie L. Mitchell". The signature is fluid and cursive, with a large loop at the end.

Hattie L. Mitchell
Chief, Regulatory Review and Reinvention
Office of Hazardous Materials Standards

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
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16703
10 Jan 2007

Satterthwaite
§ 176.83
§ 176.65
Vessel
07-0010.

MEMORANDUM

From: J. E. POMAJZL, MST2, USCG

Reply to
Attn of: J. E. POMAJZL, MST2,
USCG

To: PHMSA - OFFICE OF HAZARDOUS MATERIALS STANDARDS

Subj: GUIDANCE REGARDING THE APPLIATION OF STOWAGE AND
SEGREGATION REGULATIONS TO DECK BARGES WITH NON-STANDARD
STOWAGE

Ref: (a) Title 49 Code of Federal Regulations (CFR), Parts 100-185

1. As per Title 49 CFR, Part 105.20, I am seeking guidance on the following situation:

a. Certain deck barges in Southeast Alaska stow containers perpendicular to the centerline (container entrance facing either port or starboard on deck) versus parallel to the centerline as found on most container ships (container entrance facing bow or stern).

b. For deck barges that stow containers perpendicular to the centerline, does the term 'container space' still need to meet the definition found in Title 49 CFR, Part 176.83(f)(4) which states a container space means a distance of not less than 6m (20 feet) fore and aft or not less than 2.5m (8 feet) athwartship? Can the definition of container space change to 2.5m (8 feet) fore and aft when the containers are stowed on deck perpendicular to the centerline?

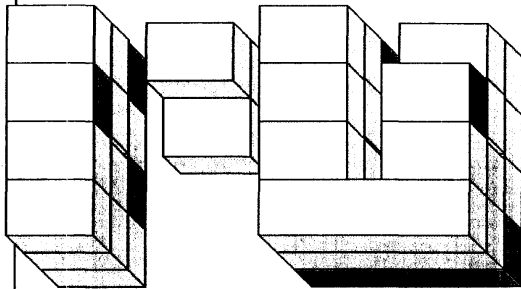
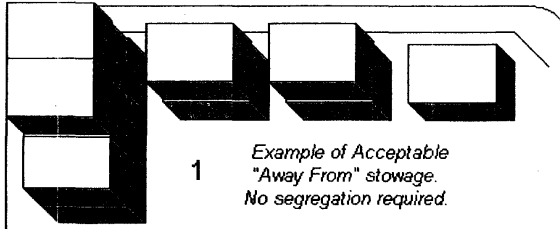
c. What method is used to determine an 'equivalent level of safety' as found in Title 49 CFR, Part 176.65? I ask this because if the definition of a container space is fixed at 6m (20 feet) than shippers in Southeast Alaska may run into compliance difficulties and need to develop different solutions to stowage problems on barges that carry containers perpendicular to the centerline.

2. Any guidance on this would be appreciated. I have enclosed an example of the stowage problem based on a real incident Coast Guard inspectors found. If you require further clarification of the problem, please call me at (907) 463-2454. Thank you.

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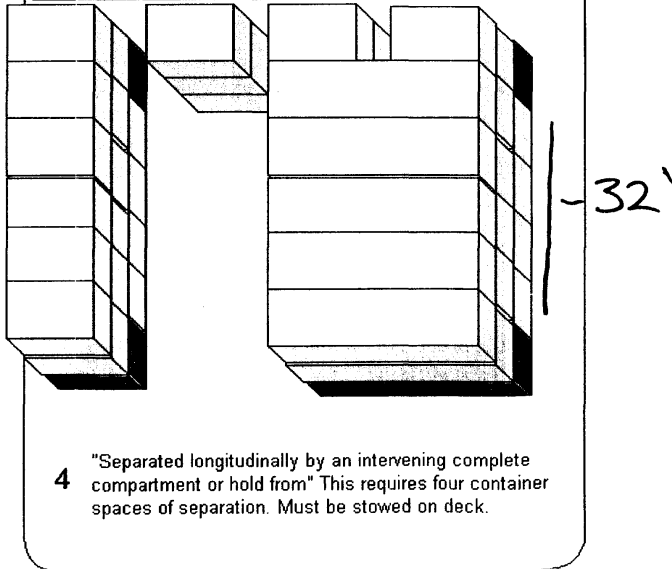
Bow

Red / Dark Color represent hazardous containers



PORT

STARBOARD



Note: Containers of like Hazard classes require no separation and containers with DOT-E 111503 decals adjacent to the placards are exempt from segregation requirements. These stowage restrictions are based on our interpretation of 49 CFR. These regulations are modified every year by the federal government so the actual 49 CFR supersedes anything printed in this diagram.

STERN

Chapter 6 Barge Segregation of Hazardous Materials

We are required to provide segregation or separation between containers when they contain some classes of hazardous material per section 176.83. The table below shows the segregation requirements for placarded hazardous containers when stowed on a barge. Note that if a container has a placard and a DOT exemption sticker (DOT-E 11503) adjacent to the placard it is exempt from segregation requirements. If there is not an exemption sticker it must be segregated as required below. Note that two containers of the same hazard class are considered compatible and can be stowed together with no segregation between them.

TABLE 176.83(b)—GENERAL SEGREGATION REQUIREMENTS FOR HAZARDOUS MATERIALS
[Segregation must also take account of a single secondary hazard label, as required by paragraph (a)(6) of this section.]

Class	1.1 1.2 1.5	1.3	1.4 1.6	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	7	8	9
Explosives, 1.1, 1.2, 1.5	(*)	(*)	(*)	4	2	2	4	4	4	4	4	4	2	4	2	4	X
Explosives, 1.3	(*)	(*)	(*)	4	2	2	4	3	3	4	4	4	2	4	2	2	X
Explosives, 1.4, 1.6	(*)	(*)	(*)	2	1	1	2	2	2	2	2	2	2	X	4	2	X
Flammable gases 2.1	4	4	2	X	X	X	2	1	2	X	2	2	X	4	2	1	X
Non-toxic, non-flammable gases 2.2	2	2	1	X	X	X	1	X	1	X	X	1	X	2	1	X	X
Poisonous gases 2.3	2	2	1	X	X	X	2	X	2	X	X	2	X	2	1	X	X
Flammable liquids 3	4	4	2	2	1	2	X	X	2	1	2	2	X	3	2	X	X
Flammable solids 4.1	4	3	2	1	X	X	X	X	1	X	1	2	X	3	2	1	X
Spontaneously combustible substances 4.2	4	3	2	2	1	2	2	1	X	1	2	2	1	3	2	1	X
Substances which are dangerous when wet 4.3	4	4	2	X	X	X	1	X	1	X	2	2	X	2	2	1	X
Oxidizing substances 5.1	4	4	2	2	X	X	2	1	2	2	X	2	1	3	1	2	X
Organic peroxides 5.2	4	4	2	2	1	2	2	2	2	2	2	2	X	1	3	2	X
Poisons 6.1	2	2	X	X	X	X	X	1	X	1	1	1	X	1	X	X	X
Infectious substances 6.2	4	4	4	4	2	2	3	3	3	2	3	3	1	X	3	3	X
Radioactive materials 7	2	2	2	2	1	1	2	2	2	2	1	2	X	3	X	2	X
Corrosives 8	4	2	2	1	X	X	X	1	1	1	2	2	X	3	2	X	X
Miscellaneous dangerous substances 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

For "On Deck" Barge Stowage Segregation refer to Table 176.83(f). Columns for closed versus closed. Below is the description of segregation required for each case. The stowage restrictions below are based on our interpretation of 49CFR. These regulations are modified every year by the Federal Government so the current 49 CFR supersedes anything printed in this section.

1 & X = Requires no segregation.

2 & 3 = Separated by one container space horizontally and stowage in the same vertical stack is not permitted.

4 = Requires 4 container spaces separation horizontally and must be stowed on deck.

(*) = Maintain 20' of separation unless compatibility groups are compatible as determined in Table 176.144(a).

Below is a quick reference of segregation requirements for some of the containers containing hazardous materials that we handle most often.

Haz-Mat	Haz-Mat	Segregation Required
Non-flammable gas 2.2	Corrosive 8	None
Non-flammable gas 2.2	Oxidizer 5.1	None
Flammable gas 2.1	Corrosive 8	None
Flammable gas 2.1	Oxidizer 5.1	One container space
Flammable gas 2.1	Non-flammable gas 2.2	None
Oxidizer 5.1	Corrosive 8	One container space

Note: All Explosives Containers regardless of their classification must be stowed in first tier on deck only.