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United States Coast Guard

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MOC Policy Ltr 99-002
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From: Commandant (G-MOC)
To: Distribution

Subj: COMMERCIAL EXPLOSIVES HANDLING; APPLICATION OF QUANTITY/DISTANCE TABLES

Ref: (a) COMDTINST 16000.11, Marine Safety Manual Vol.1
(b) DOD 6055.9-STD, DOD Ammunition & Explosives Safety Standards

1. Coast Guard regulations and policies are intended to protect the public from harm. But as technology and practices change over time, so must those regulations and policies change to keep pace. Improvements in safety should be acknowledged as it encourages continued development. Where possible, these improvements should be quantified and considered against whatever baseline safety measures are in effect.

2. Advances in containerization, performance-based packaging, and product sensitivity stabilization have combined to reduce the risk of accidental explosion during the handling of commercial explosives. Hazardous materials transportation regulations in Title 49 of the Code of Federal Regulations contain specific product and packaging test requirements they must meet before they are approved for transportation, like the 12 meter drop test to ensure product stability (see 49 CFR 178). These current standards exceed those that were in force when the Coast Guard policy in reference (a) was promulgated. It is the opinion of this Office that these improved standards significantly reduce the potential of explosion caused by rough handling.

3. A review of major incident data from 1917 to the present involving transportation of explosives reveals a total of only five incidents where rough handling was the causative factor. In fact, of the fifty-three recorded incidents, thirty-seven involved fire hazards, more than all other causes combined. The explosives industry, through widely used voluntary standards, enjoys this enviable safety record by constantly improving handling procedures, equipment, and training. The Institute of Makers of Explosives (IME) maintains ground surface transportation standards in their Safety Library Publications that offer detailed shipping procedures. These can be easily adapted for use in the marine transportation mode, and the IME has agreed to partner with the Coast Guard to do so.

4. Enclosure (6-1) of reference (a) cites the use of K=40 as the standard level of safety when establishing Quantity and Distance (Q/D), except that for loads in excess of 250,000 pounds net explosive weight (NEW), K=50 is used. This constant was adopted based on the product stability and packaging standards of the time, the assumed catastrophic risk potential, and other risk criteria noted in reference (b).

5. In light of the above discussion, this Office has determined that the "public traffic route distance" constants of K=24 for less than 100,000 pounds NEW, and K=30 for over 100,000 pounds NEW are more appropriate minimum standards of safety to use when establishing Q/D. Further, Q/D does not apply to the waterway, unless the COTP determines the level of passenger vessel traffic or other local uniqueness would warrant inclusion.

6. Before applying these new constants, however, local, municipal, and/or state governments need to be consulted as to the level of risk they will accept. The state fire marshal's office and the Local Emergency Planning Council (LEPC) may be appropriate bodies to speak for the concerns of the affected community as a whole. Any partnering agreements (whether an individual or blanket agreement) made with the cognizant government accepting or rejecting this reduced K factor must be documented and noted as conditions to the permit. All other applicable regulations, policies, and procedures remain in effect. In addition to the above and any local COTP requirements, at a minimum, the following will be noted as conditions to the permit:

a. Explosive cargoes must be containerized or otherwise secured within a rigid structure to reduce movement or deformation of individual packages while being lifted.

b. No lifts or picks from ship to shore or shore to ship can be in excess of 12 meters in height from the ground unless packages are containerized.

c. If two holds or two areas of a single hold are being worked, there must be a central safety overseer with direct communications with both crews. Further, if two cranes are employed, they must be separated in such a way that they will not encroach on each other's swing arc.

d. Two manned and charged fire hose watches must be at the ready above or in the holds being worked.

e. A Local Broadcast Notice to Mariners will be issued describing the Q/D arc of influence, where it intersects with the affected waterway, hours of intended operations, person in charge contact information, and other safety information deemed necessary.

f. A requirement to prepare shipments as per the appropriate IME Safety Library Publications will be noted on the permit.

7. Questions about this policy should be addressed to the G-MOC-3 program manager.

C. OELSCHLEGEL
Acting