



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

1200 New Jersey Ave, SE
Washington, D.C. 20590

APR 27 2011

Mr. Robert Morrow
California National Guard
U.S. Army
Building 101, Highway 101
Camp Roberts, CA 93451-5000

Reference No. 10-0107

Dear Mr. Morrow:

This is in response to your e-mail to the Pipeline and Hazardous Materials Safety Administration's Hazardous Materials Information Center requesting clarification on the Reference No. 08-0119 letter that this agency issued on November 17, 2009 concerning detonating fuzes. Specifically, you ask if fuzes are considered detonators and subject to requirements that prohibit them from being loaded on the same motor vehicle with other Class 1 materials unless certain conditions are met that are prescribed in § 177.835(g) under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). We apologize for the delay in responding and any inconvenience this may have caused.

You provide several reasons why you believe the Reference No. 08-0119 letter should be rescinded. We have paraphrased and listed them here:

1. The examples the HMR provides in its definition of "fuzes" in § 173.59 identify detonating fuzes as fuzes. Its definition for detonators in the same section does not. Therefore, "fuzes, detonating" are fuzes and not "detonators."
2. This letter creates a problem in that it states Division 1.1D (*explosives with a mass explosion hazard*) materials must be transported in a different motor vehicle from other Division 1.1D materials, including detonating fuzes, but the § 177.848(f) Compatibility Table for Class 1 (Explosive) Materials leads one to believe level "D" explosives have no segregation restrictions. Note "4" on the § 177.848(f) Table directs motor vehicle shippers to § 177.835(g) only when transporting explosive materials that are compatibility group S, B and D (see § 177.848(g)(3)(iv)). As a result, Division 1.4S (*explosives with no significant blast hazard*) detonators must be transported in a separate motor vehicle from Division 1.1D materials that are not detonators, but Division 1.1B detonators can go in the same motor vehicle trailer with Division 1.1E materials that are not detonators. Note "4" on the § 177.848(f) Table for compatibility group "S" only refers to § 177.835(g) when transporting Division 1.4S detonators with any other compatibility group, or compatibility group "B" detonators when transporting only with compatibility group D explosives.

3. Under § 173.59, the term “detonators” includes “detonators for ammunition” and “detonators for blasting,” both electric and non-electric. Detonator assemblies are related detonator items that are not fuzes, in the same way that detonators are not fuzes.
4. Section § 177.835(g) addresses detonators, detonator assemblies, and boosters with detonators and § 173.59, by definition under “detonators,” addresses detonators for ammunition and detonators for blasting, but neither address detonating fuzes.
5. Detonators were originally blasting caps that were classed as Division 1.1B and then later repackaged as Division 1.4B. Detonators were also incompatible with other explosive compatibility groups because of their “B” designation. Later, when detonators were created that met the Division 1.4S hazard class, the group letter was no longer enough to maintain segregation and the name “detonator” was introduced (see Reference No. 98-0376). I believe letter Reference No. 08-0119 improperly places detonating fuzes under the jurisdiction of § 177.835(g) because the definition for fuzes under the HMR does not include the word “detonator,” and the definition for detonator does not include the word “fuzes.”
6. When transported by highway, Division 1.1D detonating fuzes are adequately segregated from other Division 1.1D materials by the compatibility group “D” under the § 177.848(f) Table. However, this table does not segregate Division 1.1D materials from compatibility groups C, D, or E because they are fuzes, not detonators. Remember, detonators were compatibility group B until the Modern Demolitions Initiator (MDI) materials were developed and classed as Division 1.4S, creating problems with U.S. Department of Transportation regulations, but not those of the Department of Defense in storage situations.

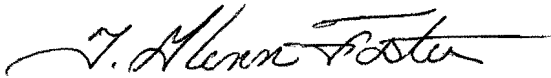
It is the opinion of this Office that the explosive effect of a detonator and a detonating fuze exhibit no significant difference in hazard characteristics when an equivalent amount of energetic content of explosive is used. Similarly, it is also the opinion of this Office that if a package containing detonators is placed next to a package containing detonating fuzes of the approximate same number and energetic content per article they would exhibit few significant differences after deflagration in terms of the damage they cause an outer packaging and the numbers of fragments they can emit. Therefore, we consider the risks detonators and detonating fuzes pose essentially equal for causing a mass initiation of high level explosives if stowed with these materials. In addition, it is the opinion of this Office that all materials of this type should be segregated from high level explosives, and that regulatory prohibitions that segregate one type of detonator from high level explosives should also apply to another type of detonator. Therefore, this Office is not considering revising the definition for detonators prescribed in § 173.59 to not include detonating fuzes, or expanding segregation exceptions in the HMR to permit detonating fuzes to be loaded on the same transport vehicle with other explosives at this time. However, you may wish to submit a petition for rulemaking or an application for a special permit to obtain the requested relief. See 49 CFR §§ 106.95-106.130 and 107.101-107.127, respectively. Also, please note that examples in the HMR are provided as guidance and must not be used to exclude materials that also meet the definition of a specific hazard class or classes but are not listed in the example.

You also ask if it is the intent of § 173.61(c) to allow detonators and fuzes to be packed with items like themselves as a group and to not allow them to be packaged with any other Class 1

material, including “UN 0012, Cartridges for weapons, inert projectile *or* Cartridges, small arms, 1.4S (explosive), Packing Group (PG) II,” and “UN 0014, Cartridges for weapons, black *or* Cartridges, small arms, blank, 1.4S, PG II.” Section 173.61 prohibits the packaging of explosive items with any other material in the same outside packaging. Paragraph (c) of this section prohibits detonators from being packed with other Class 1 materials except other detonators that meet the compatibility requirements prescribed in § 173.61(e).

I hope this satisfies your request.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Glenn Foster". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

Edmonson
§ 173.59
§ 177.835(g)

Drakeford, Carolyn (PHMSA)

Explosives / Highway
10-0107

From: INFOCNTR (PHMSA)
Sent: Thursday, May 13, 2010 11:07 AM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: Hazmat Information Center Feedback: General Information, Regulations, and Definitions (Sections 171.1 & 171.26)

Carolyn,
A written request for formal interpretation. See Below.
Rob

-----Original Message-----

From: PHMSA-Feedback [mailto:PHMSA-Feedback]
Sent: Wednesday, May 12, 2010 5:27 PM
To: PHMSA HM InfoCenter; PHMSA Webmaster
Subject: Hazmat Information Center Feedback: General Information, Regulations, and Definitions (Sections 171.1 & 171.26)

1. I Request that you rescind interpretation letter 08-0119 that places "Fuzes, Detonating" in the same category as "detonators" instead of remaining as "fuzes" as I believe they should be.
2. One problem that the letter creates is that explosives classed as 1.1D have to be transported in a separate transport vehicle from other 1.1D, if the other 1.1D is a fuze, detonating... No... correct that, In a different MOTOR Vehicle from other 1.1D. But the table alone leads one to believe that D to D has no restrictions. The table only sends one to 177.835(g) when transporting 1.4S detonators with any other group, or group "B" detonators when transported with only "D".
3. IAW 49 cfr, 173.59, the term fuzes include "Fuzes, detonating"; "fuzes detonating with protective features" and "fuzes igniting". Therefore "Fuzes, detonating" are fuzes.
4. IAW CFR 49 173.59 the term detonators include "detonators for ammunition", "detonators for blasting", both electric and non electric... Detonator assemblies are related detonator type items that are Not fuzes the same as detonators are Not fuzes.
5. 49 cfr 177.835(g) addresses "detonators", "detonator assemblies" and "boosters with detonators" and by definition, "detonators for ammunition" and "detonators for blasting". Not "fuzes, detonating". The footnote (4) in the explosive compatibility table sends us to 177.835(g) only when transporting Group S, and when group B and D collide. This would mean that detonators that are 1.4S must go a separate MOTOR vehicle from 1.1D (that are not detonators themselves). But detonators that are 1.1B could go on a trailer attached to a truck loaded with 1.1E (not detonators). Because there is no note (4) at the intersection of "B" and any other group except "D".
6. History: detonators were originally blasting caps that were classed 1.1B, and then were repackaged to be 1.4B, and were incompatible with other groups because of the "B". Later when detonators were created that were 1.4S, the group letter was no longer enough to maintain segregation and the name "detonator" was brought into play (ref: letter 98-0376). Interpretation letter, Reference No. 08-0119, places "Fuzes, detonating" under the jurisdiction of 177.835(g), I believe, improperly, because the definition of Fuzes, does not include the term "detonator" and the definition of "detonator" or "detonator assemblies" or "Booster with detonator" does not include any fuzes.

7. Also, there are "Fuzes, detonating" that are classed 1.1D and are adequately segregated from other 1.1D items by the letter "D" and the table. i.e. no segregation from C, D, or E, because they are Fuzes, not detonators. Remember, detonators were group "B" until the MDI stuff came out and was classed as 1.4S, creating problems with the DOT. Though not the DOD in storage situations.

8. Request clarification to 173.61(c), prohibiting many UN numbers (detonators and fuzes, detonating) from packaging with other class 1. That would include 1.4S that are not detonators in the prohibition. But the exception in 173.61(e)(3) allows "S" to be packaged with anything except L and A. Is the intent to allow detonators and fuzes, detonating to be packaged only with like themselves as a group, and not packaged with any other class 1, including 1.4S that are cartridges, small arms, UN0012 and UN0014?

Name: Robert Morrow
Organization: Army, National Guard
Email: robert.d.morrow@us.army.mil
Address: bldg 101, hwy 101
City: Camp Roberts
Phone: 805-238-8731