



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

1200 New Jersey Avenue, SE  
Washington, DC 20590

MAR 28 2011

Mr. Ben McGeever  
Dive Xtras, Inc.  
4433 Russell Rd., Ste 106  
Mukilteo, WA 98275

Ref. No. 10-0267

Dear Mr. McGeever:

This responds to your December 20, 2010 email regarding exceptions for passengers, crewmembers, and air operators under § 175.10 of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). According to your letter, your company produces an LED diving light (diving lamp) designed and constructed to not produce significant heat. The diving lamp does not allow access to internal components of the article to remove the light bulb or the energy source (a lithium-ion battery). Additionally, you indicate extensive testing to demonstrate your product is not a source of a significant amount of heat. You are concerned that § 175.10(a)(14) implies all diving lamps are heat-producing which presents problems for customers who want to carry your product aboard a passenger aircraft because the design does not allow removal of the light bulb or the battery. You request clarification of what defines a heat-producing article as well as the applicability of § 175.10(a)(14) if the diving lamp is not a heat-producing article.

A passenger, in collaboration with available resources including product manufacturers, is responsible for ensuring that a hazardous article carried aboard a passenger aircraft is in compliance with § 175.10. This Office does not certify articles for conformance with § 175.10. Section 175.10(a)(14) specifically applies to the carriage of heat-producing articles that are electrically-powered (e.g., battery-powered articles). The example of diving lamps as a heat-producing article provided in the regulatory text does not infer that all diving lamps are heat-producing. If the results of testing on your diving lamp are accurate and the design and construction of the diving lamp are such that, if unintentionally activated during transport, it would not generate an amount of heat sufficient to be a source of ignition, then the article may be considered as not being a heat-producing article and would not be subject to the conditions and limitations of § 175.10(a)(14). Note, however, that a battery-powered article not considered to be heat-producing is still subject to § 175.10(a)(18) related to portable electronic devices, including the size limitations for lithium batteries.

I hope this information is helpful. If you have further questions, please contact this office.

Sincerely,

Ben Supko  
Acting Chief, Standards Development  
Standards and Rulemaking Division

**Drakeford, Carolyn (PHMSA)**

Der Kinderen  
\$175.10  
\$173.185

**From:** INFOCNTR (PHMSA)  
**Sent:** Tuesday, December 21, 2010 9:34 AM  
**To:** Drakeford, Carolyn (PHMSA)  
**Subject:** FW: Request for letter of interpretation.

Air / Lithium Batteries  
10-0267

Hi Carolyn,

We received the following request for a formal letter of interpretation at the Info Center. In his conversation with Info Center staff, Mr. McGeever noted that the lamp contains an installed, factory-sealed lithium battery.

Thanks,

Victoria Lehman  
202-366-1035

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**From:** ben McGeever [<mailto:ben@dive-xtras.com>]  
**Sent:** Monday, December 20, 2010 4:46 PM  
**To:** INFOCNTR (PHMSA)  
**Cc:** Dave Heiss  
**Subject:** Request for letter of interpretation.

Dear Sir/Madam

I would like to request a letter of interpretation on 49CFR175.10 (a) 14

Electrically powered heat-producing articles (e.g., battery-operated equipment such as diving lamps and soldering equipment) as carry-on baggage only and with the approval of the operator of the aircraft. The heat-producing component, or the energy source, must be removed to prevent unintentional functioning during transport.

My company, Dive Xtras, is producing an new LED diving light. I would like clarification on what exactly defines a heat producing article and what happens if a diving lamp is not a significant source of heat

We have designed our new light to not be a significant heat producing device, yet the text implies all diving lamps are. Unlike soldering irons which inherently have to generate heat to melt solder and perform their primary function, diving lights only produce heat as a byproduct, waste of inefficient light production, and as technology advances and efficiencies improve, less heat is generated.

Diving lights are constantly developing and, in the past, halogen and high intensity discharge (HID) bulbs were predominant in products. These bulb technologies potentially generate huge amounts of heat and do warrant the above rules. However, in the last few years LED bulbs are becoming more common and do not generate the same amounts of heat.

My concern is that if we release our new LED dive light in the current form, it will potentially be a problem for customers who would like to travel by air. It is a diving lamp, as described, but they will not be able to comply with the above mentioned exception. Our new dive light is designed for high reliability and to achieve this the user has no access to any of the internal components and there are no connectors, this increases reliability as user error and connectors are a major source of failures. This means they have no ability to remove any part.

We have extensively tested our product and can demonstrate it does not generate significant amounts of heat nor is a ignition risk for ordinary combustibles or flammable liquids. If you could give further interpretation of 49CFR175.10 (a) 14 with these considerations I would be very grateful.

Your Sincerely

*Ben McGeever*

President

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