



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

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

JUL 02 2010

Mr. Eric Lieberman
President
High Angle Construction, Inc.
11200 Donner Pass Road #126
Truckee, CA 96161

Ref. No. 10-0035

Dear Mr. Lieberman:

This responds to your letter regarding the applicability of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) to your helicopter-based avalanche mitigation company. Specifically, you ask whether the HMR apply to the *Daisybell* operation you describe that is used for avalanche control while suspended from a cargo-only helicopter. The *Daisybell* system utilizes two lead-acid batteries (24V) to power controlled explosions created by a compressed hydrogen and oxygen mixture. Gases are independently packaged in two hydrogen cylinders and one oxygen cylinder and are injected separately into an explosion chamber. The *Daisybell* system is activated while suspended 3-meters above the ground and the resulting explosion creates an overpressure of 80 millibars measured at ground level and for 12-meters horizontally.

Under the conditions set forth in § 175.9(f), the avalanche control operations you describe using the *Daisybell* system are not subject to the HMR. The operational guidelines and handling procedures manual specified in § 175.9(f)(2) is, however, subject to approval by the Federal Aviation Administration's Principal Operations Inspector assigned to the operator.

I trust this satisfies your inquiry. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Hattie L. Mitchell".

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



High Angle Construction, Inc.

General Engineering

CA Lic. #654931

U.S. DOT
PHMSA Office of Hazardous Materials Standards
Attn: PHH-10
East Building
1200 New Jersey Avenue, SE.
Washington, DC 20590-0001

Stevens
§175.1
§175.9
Aircraft
10-0035

January 28, 2010

Re: Helicopter Based Avalanche Mitigation

Dear Sirs:

Several State Departments of Transportation, including the Utah Department of Transportation (UDOT), the Washington Department of Transportation (WADOT), the Alaska Department of Transportation (AKDOT), and the Colorado Department of Transportation (CDOT), as well as certain helicopter skiing service providers and the Burlington Northern Santa Fe Railroad, currently contract with licensed Part 135 operators to conduct helicopter based avalanche mitigation procedures. These operations include the transportation and dispensation of assembled explosives from a helicopter and are completed in accordance with 49 CFR §175.9(f).

UDOT, in conjunction with the Snowbird and Alta ski resorts and their local Part 135 helicopter operator, are considering the purchase of a new helicopter based system for the initiation and mitigation of avalanches for protection of roads and resort facilities. The device, called a Daisybell, mixes and then ignites hydrogen and oxygen gases from compressed gas cylinders attached to the device, in a steel, conical shaped vessel to produce a controlled pressure wave of air having sufficient force to trigger an avalanche. The Daisybell device is intended to be transported via Part 133 (External Load) and does not affect flight characteristics during operation.

It is our understanding that, under §175.1, Purpose, Scope and Applicability, hazardous materials attached to or suspended from the helicopter is considered transportation in commerce. However, it is our belief that this type of operation, utilizing the Daisybell, can be accomplished in compliance with 49 CFR §175.9(f).

We would appreciate your confirming, at your earliest convenience, that the described Daisybell operations for mitigation of avalanche hazards falls under 49 CFR §175.9(f) so that these public and business entities can proceed with their plans to procure and deploy this new type of avalanche hazard mitigation system.



High Angle Construction, Inc.

General Engineering

CA Lic. #654931

Please review the attached documentation for further information and let me know if you have any questions.

Thank you for your anticipated cooperation.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Eric Lieberman', with a long, sweeping horizontal stroke at the end.

Eric Lieberman, President