U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

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

MAR 1 1 2013

Mr. Damien Belot
SIEMENS Industry, Inc.
Building Technologies
CPS FS Research Unit
8 Fernwood Road
Florham Park, NJ 07932

Reference No. 12-0231

Dear Mr. Belot:

This is in response to your October 11, 2012 e-mail and subsequent telephone conversation with a member of my staff requesting clarification applicable to a fire extinguisher system under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). In your letter, you describe a fire extinguisher system which uses cylinders containing inert gases such as Argon, Nitrogen, and Inergen+. This fire extinguishing system is installed where critical devices or precious goods must not be damaged by fire. The fire extinguishing system contains non-Department of Transportation (DOT) specification cylinders with pressures of up to 3000 psi that are equipped with a valve on which threaded bosses can receive gauges. When the boss is not used, it is covered with a protection cap. You ask what are the transportation requirements under the HMR when shipping the described fire extinguishing systems as a whole. You also ask whether the cylinders in the fire extinguisher systems would be required to have a pressure gauge installed.

Based on the information you provided, the system you describe cannot be transported in conformance with the HMR. It is the opinion of this Office that the cylinders in the fire suppression system you describe are required to be specification cylinders in accordance with requirements for Class 2 non-flammable gas. Because the cylinders are non-specification cylinders, your company would need to apply for a special permit under § 107.105 of the HMR.

I hope this satisfies your request.

Sincerely,

T. Glenn Foster

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

Andrews
§173.309
Fire Extinguishers/
Cylinder
12-0231

**Drakeford, Carolyn (PHMSA)**

**From:** INFOCNTR (PHMSA)
**Sent:** Thursday, October 11, 2012 1:33 PM
**To:** Drakeford, Carolyn (PHMSA)
**Subject:** FW: Transportation of cylinders filled with high pressure inert gas (3000 psi)

Hi Carolyn,

We received the following request for a written letter of interpretation. Mr. Belot spoke with Chris Ludwa in the Hazmat Info Center on 10/2/2012 regarding this matter.

Thanks,
Victoria

**From:** BELOT, DAMIEN (ext) [mailto:damien.belot.ext@siemens.com]
**Sent:** Thursday, October 11, 2012 4:59 AM
**To:** INFOCNTR (PHMSA)
**Subject:** Transportation of cylinders filled with high pressure inert gas (3000 psi)

Dear Sir or Madam,

I recently made a request through a webform and I was answered the following :

Recently you requested assistance from the US Department of Transportation. Below is our response to your request.

| **Subject** | |
|---|---|
| Transportation of cylinders filled with high pressure inert gas (3000 psi) | |
| | |
| **Discussion Thread** | |
| **Response Via Email (USDOT Reference Service)** | 10/08/2012 03:52 PM |

Good day,

We are the general information source for the Department of Transportation.

I believe your probably spoke to someone in the Pipeline and Hazardous Materials Safety Administration Office of Hazardous Materials Safety or the Hazardous Materials Information Center.

Please email these details directly to them For questions regarding hazardous materials, cylinders, scuba tanks, etc., please contact the Office of Hazardous Materials Safety (HAZMAT). Contact information is as follows:

E-mail: infocntr@dot.gov or webform: http://www.phmsa.dot.gov/phmsa-ext/feedback/hazmatInformationCenterFeedbackForm.jsp

Sincerely,

Reference Services
National Transportation Library
Bureau of Transportation Statistics
Research and Innovative Technology Administration

You will find below my request:

10/03/2012

Dear Sir or Madam,

Further to a phone conversation I had yesterday with a person from the DOT, I write to you in order to receive a formal answer to my question. I was told to provide as many details as I could, so I am going to be thorough. To start off, here is the question: when transporting a cylinder filled with gas, does the DOT require that we install a pressure gauge on it? The person answered that is was not required. However, I need a written answer.

Siemens Inc. is currently designing a new Fire Extinguishing System working with Inert Gas such as Argon, Nitrogen and Inergen. This system is installed where critical devices or precious goods or data must not be damaged by the fire itself or by the mean used to extinguish it (nuclear plants, datacenters, banks...). Should a fire be detected in a room, the system triggers: the gas is released from the cylinder, goes through hoses and pipes until it reaches the room. As the room is filled with gas, the amount of oxygen decreases and the fire smothers.

The gases used in this system are not flammable or toxic. They are stored in a cylinder at a pressure of 200 bar (2900 psi, round up to 3000 psi). The cylinder is equipped with a valve on which you have threaded bosses that can receive actuators, pressure gauges, pressure switches, hoses... When a boss is not used, it is covered with a protection cap. If the valve opens itself during transportation or handling, the gas will slowly escape through a small hole in one of the caps and whistle loudly. The cylinders are transported by semi-trailer trucks.

Is it also possible that you provide us with the requirements that apply when transporting such cylinders? (marking, colors, ...)

You will find attached a datasheet of the cylinder equipped the valve and – for you information – an example of an installation.

I remain at your disposal for any question you may have.

Kind Regards

**Damien BELOT**
**SIEMENS Industry, Inc.**
**Building Technologies**
CPS FS Research Unit

Mechanical Engineer

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