July 28, 2009

U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety Administration**

East Building, PHH – 30
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

DOT-SP 11722
(EIGHTH REVISION)

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: (See individual authorization letter)

2. PURPOSE AND LIMITATION:

a. This special permit authorizes the transportation in commerce of certain non-DOT specification spherical pressure vessels containing Division 2.1, 2.2 and 2.3 compressed gases. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.

b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce.

c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.302a(a)(1) and § 173.304(a)(1) in that non-DOT specification spherical pressure vessels, are not authorized, except as specified herein.

5. BASIS: This special permit is based on the Pipeline and Hazardous Materials Safety Administration's (PHMSA) editorial review under § 107.121 initiated on December 4, 2008.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	**Hazard Class/ Division**	**Identi-fication Number**	**Packing Group**
Boron trifluoride	2.3	UN1008	N/A Hazard Zone B
Difluoroethylene *or* Refrigerant gas, R1132a	2.1	UN1959	N/A
Hexafluoroethane, compressed *or* Refrigerant gas, R116	2.2	UN2193	N/A
Hydrogen chloride, anhydrous	2.3	UN1050	N/A Hazard Zone C
Nitrogen trifluoride, compressed	2.2	UN2451	N/A
Nitrous oxide	2.2	UN1070	N/A
Trifluoromethane *or* Refrigerant gas R23	2.2	UN1984	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packagings are non-DOT specification spherical pressure vessels, designated as CITERGAZ C11S000C spherical cylinders. Each pressure vessel must be constructed in accordance with CITERGAZ SA drawing number 110004, other drawings, technical specifications, and calculations on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA) and in conformance with the following provisions:

(1)Code - Each spherical pressure vessel is designed, constructed, and certified in accordance with the ASME Code Section VIII, Division 1, including the ASME "U" stamp, and qualified to contain "lethal substances" as specified in Part UW-2 of the ASME Code. The vessel is

made from two hemispherical dished heads, joined by a single butt weld circumferential seam, fully radiographed per ASME Code Part UW-51.

(2) Material - ASME SA-302 Grade C (carbon steel)

(3) Vessel Size:

Water capacity - 600 L (160 U.S. Gallons)
Outside Diameter - 112 cm (44 inches)
Wall Thickness - 3.94 cm (1.551 inches)
Weld Joint Efficiency - 1.0
Corrosion Allowance - 0.0

(4) Design pressure - 200 bar (2900 psig)
Note: Design pressure means "maximum allowable working pressure (MAWP)" as used in the ASME Code.

(5) Pressure relief system - one (1) rupture disc inboard of and in series with a spring loaded pressure relief valve. The burst pressure of the rupture disc is 190 bar and the start-to-discharge pressure of the pressure relief valve is 200 bar.

b. TESTING -

(1) Prior to first use under the terms of this special permit:

(i) Each pressure vessel must be hydrostatically tested at 400 bar (5800 psig) using the direct expansion method specified in the Compressed Gas Association (CGA) Pamphlet C-1. Permanent volumetric expansion may not be greater than 10% of the total volumetric expansion at test pressure.

(ii) All welds must be inspected by 100% X-ray examination in accordance with ASME Procedure PRO008 on file with OHMSPA.

(iii) A Brinell Hardness Test must be performed on each pressure vessel at 2 locations 180° opposite each other. Test locations may not be on the circumferential weld, but must be within 10 cm (4 inches) of the weld. The Brinell Hardness

Number must not exceed 240.

(2) Every three years:

(i) Each pressure vessel must be hydrostatically tested at 400 bar (5800 psig) using the direct expansion method specified in the Compressed Gas Association (CGA) Pamphlet C-1. Permanent volumetric expansion may not be greater than 10% of the total volumetric expansion at test pressure.

(ii) A Brinell Hardness Test must be performed on each pressure vessel at 2 locations 180° opposite each other. Test locations may not be on the circumferential weld, but must be within 10 cm (4 inches) of the weld. The Brinell Hardness Number must not exceed 240.

(iii) Each pressure vessel must be given an external and internal examination, wall thickness measurement and leakage test in accordance with the CITERGAZ SA procedures on file with OHMSPA.

(3) Every six years, all welds must be inspected by 100% X-ray examination in accordance with ASME Procedure PRO008 on file with OHMSPA.

c. The following provisions apply to non-DOT specification spherical pressure vessels manufactured after the issuance of DOT-SP 11722 (3rd Revision):

(1) MANUFACTURE - The manufacturer of pressure vessels under this special permit must secure an approval in accordance with the provisions of 49 CFR Part 107, Subpart H, that apply. Each facility located outside the United States where pressure vessels are to be manufactured or where any part of the manufacture is to take place under this special permit, must secure an authorization under § 107.805(a) in addition to the applicable requirements of 49 CFR Part 107, Subpart H.

(2) Inspection - Compliance with the requirements of §§ 178.35 and 107.803(a), which are not specifically addressed or excepted in this special permit, is required. In addition to the information required by § 178.35, the inspector's report must include the

pertinent signed and dated ASME Data Report Form.

d. OPERATIONAL CONTROLS –

(1) The maximum net weight of ladings authorized in each pressure vessel is as follows:

Boron trifluoride, compressed	402 kg
Difluoroethylene *or* Refrigerant gas (R1132a)	462 kg
Hexafluoroethane, compressed *or Refrigerant gas* (R116)	660 kg
Hydrogen chloride, anhydrous	444 kg
Nitrogen trifluoride, compressed	450 kg
Nitrous oxide	450 kg
Trifluoromethane *or* Refrigerant gas, (R23)	570 kg

(2) Prior to the first shipment under this special permit, grantee must submit in writing to OHMSPA a list of all serial numbers of pressure vessels to be qualified under this special permit.

(3) Transportation is authorized with the mounting of up to 10 pressure vessels on an ISO platform container.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit and the HMR.

b. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

c. MARKING – Each pressure vessel must be plainly and durably marked on opposing sides near the middle, in letters

and numerals at least 5 cm (2 inches) high on a contrasting

background, "DOT-SP 11722". Additionally, each pressure relief device must be marked with a start-to-discharge pressure in psig and a rated relief device capacity in SCFH.

d. Each non-DOT specification spherical pressure vessel manufactured after the issuance of DOT-SP 11722 (3rd Revision) must be marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each motor vehicle or cargo vessel used to transport packages covered by this special permit.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when the special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) - 'The Hazardous Materials Safety and Security

Reauthorization Act of 2005' (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:

for Theodore L. Willke
Associate Administrator for Hazardous Materials Safety
Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm
Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: sln