U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

MAY 29 2002

DOT-E 12497
(SECOND REVISION)

EXPIRATION DATE: September 30, 2003

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: GreenField Compression, Inc.
Richardson, TX
(Former Grantee: Henderson International Technologies, Inc.)

(See Appendix A of this exemption for a list of additional grantees)

2. PURPOSE AND LIMITATION:

a. This exemption authorizes transportation in commerce of compressed hydrogen in manifolded and framed non-DOT specification seamless steel cylinders originally certified as Specification DOT-107A seamless steel tank car tanks. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.

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

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

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302(a)(1) and 173.314(c) in that non-DOT specification cylinders are not authorized, except as specified herein.

5. BASIS: This exemption is based on the application of Henderson International Technologies, Inc. dated June 29, 2000 and February 9, 2001, submitted in accordance with § 107.105 and public proceeding thereon and additional correspondence from GreenField Compression, Inc. dated May 1, 2002.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Hydrogen, compressed	2.1	UN1049	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packagings are seamless steel cylinders (flanged-end tube), of 50 cubic feet nominal water capacity each, originally manufactured and maintained in conformance to the requirements for DOT Specification 107A seamless steel tank car tanks (§§ 179.500 and 180.500). The cylinders have been removed from the trucks and are framed, manifolded and mounted on a trailer in accordance with Henderson International Drawing 103-229, dated July 20, 2000, on file with the Office of Hazardous Materials Exemptions & Approvals (OHMEA).

(1) Each cylinder must be tested for hardness in accordance with Henderson International procedures on file with OHMEA.

(2) Each cylinder must be equipped with one shut-off valve that is rated for maximum stamped test pressure of the cylinder.

(3) A minimum of 1% of flange stud bolts must be tested for the required strength and elongation. The test must be in accordance with Henderson International procedures on file with OHMEA.

(4) Each flange gasket must be leak tight and would not be prone to cold flow for the maximum operating pressure at 149°F (65°C) temperature when the cylinder is filled with hydrogen. The gaskets must meet all requirements described in Henderson International application on file with OHMEA.

(5) Each cylinder must be equipped with two safety relief devices (PRD), one at each end. The discharge of each PRD must be connected to a single header (pipe) having non-obstructed passage, pointed upward and extended to the top of the trailer.

b. TESTING - Each cylinder must be retested and reinspected as prescribed in § 173.34(e) for DOT-3AAX except the test pressure is equal to the marked test pressure stamped on each cylinder.

c. OPERATIONAL CONTROLS -

(1) The maximum fill pressure for any cylinder may not exceed 7/10 of the marked test pressure for that cylinder. The maximum fill pressure for any cylinder covered by this exemption may not exceed 4000 psi.

(2) The maximum fill pressure for any cylinder in the frame assembly is limited by the cylinder with the lowest marked test pressure in that assembly.

8. SPECIAL PROVISIONS:

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

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

c. Each cylinder must be marked "DOT-E 12497" as specified in §§ 172.302(b) and (c). The existing DOT-107A marking must be removed or permanently covered.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo vessel.

10. MODAL REQUIREMENTS:

a. A current copy of this exemption must be carried aboard each cargo vessel, or motor vehicle used to transport packages covered by this exemption.

b. The cylinders must be loaded on the motor vehicle in accordance with § 177.840(b).

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

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.

- Registration required by § 107.601 et seq., when applicable.

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

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

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

R. Ryan

MAY 29 2002
(DATE)

for Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590. Attention: DHM-31.

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

PO: MMToughiry/alb