July 12, 2011

U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety Administration**

East Building, PHH-30
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

DOT-SP 12607
(SIXTH REVISION)

EXPIRATION DATE: February 28, 2014

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: FIBA Technologies Inc.
Millbury, MA

2. PURPOSE AND LIMITATION:

a. This special permit authorizes the use of certain DOT Specification 3AL cylinders used for the transportation in commerce of the compressed gases described in paragraph 6 below, when retested by a 100% ultrasonic examination in lieu of the internal visual and the hydrostatic retest required in § 180.209. 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. No party status will be granted to this special permit.

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

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 180.205(c), (f), and (g); § 180.215; and § 180.209(h) and (k) in that the ultrasonic examination is performed in lieu of the specified internal visual examination and hydrostatic pressure test.

NOTE: This does not relieve the holder of this special permit from securing an approval for retesting cylinders from the Associate Administrator for Hazardous Materials Safety.

5. BASIS: This special permit is based on the application of FIBA Technologies dated December 21, 2009, submitted in accordance with § 107.109 and additional information dated April 12, 2011.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identi- fication Number	Packing Group
Liquefied or non-liquefied compressed gases, or mixtures of such compressed gases classed as Division 2.1 (flammable gas), Division 2.2 (nonflammable gas), or Division 2.3 (gases which are Toxic by Inhalation (TIH)), which are authorized in the HMR for transportation in DOT Specification 3AL cylinders.	2.1, 2.2 or 2.3 as appro- priate	As appro- priate	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packaging is a DOT Specification 3AL cylinder manufactured from 6061 alloy aluminum that is subjected to periodic retesting, reinspection and marking prescribed in § 180.205, except that the cylinder is examined by an ultrasonic method in lieu of the hydrostatic pressure test and internal visual inspection. Each cylinder must be subjected to an external visual examination and retested and marked in accordance with the procedure described herein and FIBA's December 29, 2000 application for special permit and additional information dated March 14, and April 19, 2001, on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA). A cylinder that has been exposed to fire or to excessive heat may not be retested under the terms of this special permit.

b. Ultrasonic equipment. The ultrasonic examination (UT) equipment described in FIBA's application for special permit, on file with OHMSPA, must be used and perform in accordance with the procedures delineated therein and as detailed in this special permit. The equipment will be a fully automated, pulse echo type, and incorporate multiple transducers, with interactive software. The transducers must be arranged so that the ultrasonic beams are focused on a single location in the cylinder wall and exit at the same location. The ultrasonic pulses must enter into the cylinder wall in both longitudinal and circumferential directions to ensure 100 percent coverage of the cylinder wall. The equipment must incorporate continuous automatic monitoring of the transducer to cylinder wall acoustic coupling to assure 100 percent cylinder wall coverage during UT. The frequency used for this UT may not be less than 2 MH_z and greater than 10 MH_z. It must be capable of discerning and aborting the test when the ultrasonic data indicate a loss of acoustic coupling between the transducer assembly and the cylinder wall. This safety control measure must be an integral part of the test equipment design incorporating Lack-of-Expected-Response (L.E.R.) monitoring independent of operator actions. All defects must be detected and measured. The UT equipment must be capable of monitoring all acceptance/rejection criteria described in paragraph 7.d. of this special permit.

c. Equipment performance and test procedure. The ultrasonic equipment performance, test procedure, and rejection criteria must conform to FIBA's application except as specifically stated herein:

(1) Calibration Standards

(i) A cylinder used as a calibration standard must be within +/- 10% of the nominal diameter and minimum design wall thickness (t_m), similar surface finish and metallurgical condition as the cylinders under the test.

(ii) The calibration cylinders must include the following simulated defects:

(A) An artificial defect must be placed in the internal diameter (ID) for reduction in wall thickness (area corrosion). The artificial defect must be at least 0.70

square inch (in^2) and the remaining wall thickness must be at least the design minimum for cylinder being tested.

(B) The artificial defect for isolated pits in cylinders less than or equal to 4 inches in diameter must be an internal flat bottom hole (FBH) of 1/8 inch diameter and $1/3t_m$ in depth.

(C) The artificial defect for isolated pits in cylinders greater than 4 inches in diameter must be an internal FBH of 1/4 inch diameter and $1/3t_m$ in depth.

(D) The artificial defects for line corrosion must be four notches, consisting of two internal (one circumferential and one longitudinal) and two external (one circumferential and one longitudinal). These notches must be electro discharge machined (EDM), measuring 0.10 t_m in depth, 1 inch in length and less than or equal to 0.010 inch in width.

(iii) A drawing representing the above defects and a certification statement signed by a person certified as a Level III operator (in UT) must be available for inspection for each calibrated cylinder at each site where testing is performed.

(2) Calibration of Equipment.

System calibration must be performed using the calibration standards referenced in section 7.c. of this special permit. The equipment may not allow testing of a cylinder unless the system has been properly calibrated. A signal used, during calibration, for detection of an isolated pit or a line corrosion must have a peak amplitude equal or greater than 80% of the A-Scan screen height.

(3) Test Procedure.

A written test procedure for performing UE of cylinder under the terms of this special permit must be at each facility performing ultrasonic examination. At a minimum, this procedure must:

(i) include a description of the test set-up; test parameters; transducer model number, frequency, and size; transducer assembly; couplant used; system calibration method and threshold gain used during the test; and other pertinent information such as additional gain used during the UE to confirm the defects.

(ii) require re-calibration of the test equipment when ultrasonic examination of 200 cylinders has been completed, or a time period of more than 4 hours has elapsed since equipment calibration, whichever occurs first. The equipment must be re-calibrated in accordance with paragraph 7.c.(2).

(iii) require that the rotational speed of a calibration piece must be such that all artificial defects are adequately detected, measured and recorded. The rotational speed of the cylinder under UE must not exceed the rotational speed used during the calibration.

(iv) be made available to a DOT official when requested. Any change to the written procedure must be submitted to OHMSPA as soon as practicable.

d. Ultrasonic Examination Acceptance/Rejection Criteria.

The equipment calibration, set up for testing and test procedure must be such that any cylinder found with the following defects must be rejected:

(1) In any area 0.70 in^2 or larger, the remaining wall thickness is less than the design minimum wall thickness (t_m).

(2) In any area 0.060 in^2 or larger and smaller than 0.70 in^2, the remaining wall thickness is less than 90% of the design minimum wall thickness (t_m).

(3) An isolated pit which produces an amplitude signal crossing the reference threshold set in section 7.c.(1)(ii)(B) or 7.c.(1)(ii)(C) of this special permit.

(4) Flaws which produces an amplitude signal greater than the reference notches set in section 7.c.(1)(ii)(D) of this special permit.

e. Rejected cylinders. When a cylinder is rejected, the retester must stamp a series of X's over the DOT Specification number and marked service pressure, or stamp "CONDEMNED" on the shoulder, top head, or neck using a steel stamp, and must notify the cylinder owner, in writing, that the cylinder is rejected and may not be filled with hazardous material for transportation in commerce.

(1) Alternatively, at the direction of the owner, the retester may render the cylinder incapable of holding pressure.

(2) If a condemned cylinder contains hazardous materials and the testing facility does not have the capability of safely removing the hazardous material, the retester must stamp the cylinder "CONDEMNED" and affix conspicuous labels on the cylinder(s) stating: "UE REJECTED DOT-SP 12607. RETURNING TO ORIGIN FOR PROPER DISPOSITION".

The retester may only offer the condemned cylinders for transportation by motor vehicle operated by a private carrier to a facility, identified to, and acknowledged in writing with OHMSPA, that is capable of safely removing the hazardous material. A current copy of this special permit must accompany each shipment of condemned cylinders transported for the disposal of hazardous material.

f. Marking. Each cylinder passing retest under the provisions of this special permit must be marked as prescribed in § 180.213(d). In addition, each cylinder must be marked UE, in characters not less than 1/4 inch high at a location close to the retester's marking.

g. Report. A report must be generated for each cylinder that is examined. The ultrasonic examination (UE) report must include the following:

(1) UE equipment, model and serial No.
(2) Transducer specification, size, frequency and manufacturer.
(3) Specification of the calibration standard used to UE the cylinder. Calibration standards must be identified by serial number or other stamped identification marking.
(4) Cylinder serial no. and type.
(5) UE technicians' name and certification level
(6) Test Date
(7) Location and type of each defect on the cylinder
(e.g. longitudinal line corrosion 5 inches from base).
(8) Dimensions (area, depth and remaining wall thickness) and brief description of each defect.
(9) Acceptance/rejection results.
(10) The UE report must be on file at the test site, and made available to a DOT official when requested.

h. Personnel Qualification: Each person who performs retesting, and evaluates and certifies retest results must meet the following qualification requirements:

(1) Project Manager/Director of Product Technology - is the senior manager of FIBA responsible for compliance with DOT regulations including this special permit. Additionally, the project manager must ensure that each operator and senior review technologist maintains the required certifications described herein.

(2) The personnel responsible for performing cylinder testing under this special permit must be qualified to an appropriate Ultrasonic Testing Certification Level (Level I, II or III) in accordance with the American Society for Nondestructive Testing (ASNT) Recommended Practice SNT-TC-1A depending upon the assigned responsibility as described below:

(i) System startup and calibration must be performed by a Level II operator. A Level II operator may review and certify test results. However, written procedures for accepting/rejecting a cylinder must be provided by the senior review technologist. Based upon

written criteria, the Level II Operator may authorize cylinders that pass the retest to be marked in accordance with paragraph 7.h of this special permit. A person with Level I certification may perform a system startup, check calibration, and perform ultrasonic testing under the direct guidance and supervision of a Senior Review Technologist or a Level II Operator, either of whom must be physically present at the test site so as to be able to observe testing conducted under this special permit.

(ii) Senior Review Technologist (SRT) - is a person who provides written UE procedure, supervisory training, examinations (Level I and II) and technical guidance to operators, and reviews and verifies the retest results. A SRT must have a thorough understanding of the DOT Regulations (49 CFR) pertaining to the requalification and reuse of DOT cylinders that are authorized under both this special permit and ASNT Recommended Practice SNT-TC-1A and must possess either:

A. A Level III certification from ASNT in Ultrasonic Testing; or,

B. A Professional Engineer (PE) License with a documented experience for a minimum of 2 years experience in Non-Destructive Evaluation (NDE) of pressure vessels or pipelines using the ultrasonic examination technique; or,

C. A PhD degree in a discipline of Engineering/Physics with documented evidence of experience in Non-Destructive Evaluation (NDE) of pressure vessels or pipelines using the ultrasonic examination technique or research/thesis work and authoring/co-authoring of technical papers published, in recognized technical journals, in the fields of ultrasonic testing methods.

D. The SRT must prepare and submit the reports required in paragraphs 7.i. and annually verify that the UE program is being operated in accordance with the requirements of this special permit.

The most recent copies of certification (e.g. ASNT Level III, P.E.) must be available for inspection at each requalification facility.

i. OPERATIONAL CONTROLS.

(1) No person may perform inspection and testing of cylinders subject to this special permit unless:

(i) that person is an employee or agent of FIBA and has a current copy of this special permit at the location of such inspection and testing, and

(ii) complies with all the terms and conditions of this special permit.

(iii) that person is listed on Attachment 1 of this special permit.

(2) The marking of the retester's symbol on the cylinders certifies compliance with all of the terms and conditions of this special permit.

(3) Each facility approved by OHMSPA to test cylinders under the terms of this special permit must have a resident operator with at least a Level II Certification in UT.

8. SPECIAL PROVISIONS:

a. During the initial use of the special permit, the test data, results, and additional technical information deemed pertinent in successful application of the retest procedure must be reported to OHMSPA. The purpose of this information is to determine whether certain testing procedures and criteria require modification. In particular, special attention should be paid to evaluating and compiling information on cylinders rejected by the ultrasonic examination procedure. For these rejected cylinder, the defect causing the rejection must be fully characterized and profiled. That is, the specific type of defect should be

identified (e.g. pit or general corrosion etc.) and the specific size of the defect should be determined (i.e. length, depth, width, diameter, area, etc.). Cylinder type, size, minimum design wall thickness, age, etc. of the rejected cylinder must be reported. The ultrasonic signal profile should be reported for any defect causing the cylinder to be rejected. These results must be summarized and reported to OHMSPA on an annual basis. FIBA must submit to DOT an evaluation of the effectiveness of the ultrasonic testing program authorized by this special permit as part of any request to renew the special permit submitted in accordance with § 107.109.

b. The total number of cylinders tested and the number of cylinders rejected under this special permit must be reported to OHMSPA. These results must be summarized and reported to DOT on an annual basis.

c. Offerors may use the cylinders specified and tested in accordance with the provisions of this special permit for the transportation in commerce of those hazardous materials specified herein, provided no modifications or changes are made to the cylinders, and all terms of this special permit are complied with.

d. Shippers using the cylinders covered by this special permit must comply with the provisions of this special permit, and all other applicable requirements contained in 49 CFR Parts 100-180.

e. Transportation of Division 2.1 (flammable gases) and Division 2.3 (gases which are poisonous by inhalation) are not authorized aboard cargo vessel or aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).

f. Transportation of oxygen is only authorized by aircraft when in accordance with § 175.501.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only and passenger-carrying aircraft, as currently authorized by the regulations for the hazardous materials being transported.

10. MODAL REQUIREMENTS: None, other than as required by the HMR.

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.

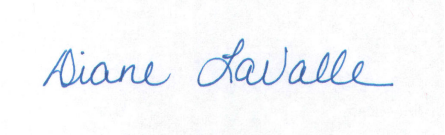
    No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

    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: 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 special permit.) In addition, the holder(s) of this special permit must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-31.

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.

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Only the following locations have been authorized by OHMSPA to perform requalification functions described in this special permit. Each authorization is valid only when the associated RIN approval and this exemption remain current. As acknowledged by the list of names and locations below, the grantee of this special permit must notify OHMSPA of any change in approval status, company name, address, or new test facility additions within 20 days of that change.

A152 Air Products & Chemicals
RR #1
Tamaqua, PA 18252

A103 Praxair 2
2771 South Maple Street
Fresno, CA 93725

A372 Airgas Northeast
325 McCausland Court Road
Chesire, CT 06410

A132 Airgas West
11711 S. Alameda
Los Angeles, CA 90059

B935 FIBA Technologies
1120 Industrial Blvd
Louisville, KY 40219

A748 FIBA Mobile
1786 Friedensville Road
Bethlehem, PA 18015

B804 Oxarc
716 South Oregon Avenue
Pasco, WA 99301

B921 Fireking of Seattle
240 South Holden Street
Seattle, WA 98108

D199 Roberts Oxygen
17011 Railroad Street
Gaithersburg, MD 20877

A337 Praxair 3
192200 Hawthorne Blvd
Torrance, CA 90503

B359 United Welding Supply
600 South Santa Fe Drive
Denver, Co 80223

C935 Airgas Northern CA, NV
1728 Kathleen Avenue
Sacramento, CA 95815

C290 FIBA Testing Gulf
245 Lexington Drive
Rayne, LA 70578

D031 FIBA Mid Atlantic
1645 State Road,
East Greenville, PA 18041

B302 National Welders Supply 1
5313 Old Down Road
Charlotte, NC 28208

C419 Norco Cylinder Maintenance
2076 Century Way
Boise, ID 83709

C398 Air Liquide America Corp.
11444 Fairmont Parkway
Laporte, TX 77571

D500 Northeast Pressure Vessel Testing
97 turnpike RD, Bldg #1
Westboro, MA 01581

D054 Airgas Mid South
31 N. Peoria
Tulsa, OK 74120

B328 National Welders Supply 2
153 Nahunta Road
Goldsboro, NC 27530

A473 Airgas East Inc.
2900 52nd Avenue
Hyattsville, MD 20781

G510 Gas Inovations
18005 East Highway 225
Laporte, Tx 77571

B935 FIBA Technologies
1535 Grafton Road
Milbury, MA 01527

D658 Mountain Testing & Sales
881 East 57th Avenue
Denver, CO 80216

D491 Sky Cylinder Testing
2220 Lexington Road
Evansville, IN 47720

A483 Airgas Gulf States
5480 Hamilton Blvd
Theodore, Al 36582

G772 Air Products SanFu Co. Ltd.
No. 772, Singnong Rd.
Shanhua Township
Tainan County, 741
Taiwan

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