



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

April 18, 2025

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 12629
(FIFTEENTH REVISION)

EXPIRATION DATE: 2026-05-31

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: TEA Technologies Inc.
Amarillo, TX
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the transportation in commerce of certain gases in DOT 3A, 3AA, 3AX, 3AAX, and 3T cylinders and UN cylinders manufactured in accordance with ISO 11120. The cylinders (tubes) are retested by acoustic emission and ultrasonic examination (AE/UE) described in paragraph 7. below in place of the internal visual inspection and the hydrostatic retest required in § 180.205. 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 § 180.209(a); § 180.205(c), (f), (g), and (i) and § 173.302a(b)(2), (3), (4), and (5) in that the AE and UE are performed in place of the hydrostatic test and the internal visual inspection; and § 180.213 in that the retest month and year are stamped on the data plate and affixed to the rear bulkhead of the unit when tested as a unit.

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 show cause letter issued by the Pipeline and Hazardous Materials Safety Administration dated November 18, 2024, in accordance with § 107.121.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Liquefied or non-liquefied compressed gases, or mixtures of such compressed gases, classed as Division 2.1, Division 2.2, or Division 2.3, which are authorized for transportation in DOT 3A, 3AA, 3AX, 3AAX, and 3T cylinders and UN cylinders manufactured in accordance with ISO 11120	2.1, 2.2, or 2.3 As appropriate	As appropriate	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packaging prescribed are DOT 3A, 3AA, 3AX, 3AAX, and 3T cylinders and UN cylinders manufactured in accordance with ISO 11120, mounted on a tube trailer vehicle chassis, MEGC, or a tube module equipped with a frame that is subjected to periodic retesting, reinspection and marking prescribed in §§ 180.205, 180.209, and 180.213, except that:

- (1) Each cylinder is examined by external visual examination in accordance with the CGA Pamphlet C6.
- (2) The acoustic emission and ultrasonic examination (AE/UE) are used in lieu of hydrostatic pressure test and internal visual inspection.
- (3) The retest month and year are stamped on the dataplate and affixed to the rear bulkhead of the unit when tested as a unit in lieu of the stampings on the cylinder.
- (4) Each cylinder must have an outside diameter equal to or greater than 245 mm (9-5/8 inch) and a minimum water capacity of 120 liters (31.7 U.S. gallons). The minimum wall thickness must be equal to or greater than those specified in the table given below:

Spec	Diameter (inch)	Minimum Design Wall Thickness (inch)	Marked Service Pressure(psi)
3T	22	0.400	2400
3AAX	22	0.514	2400
3A	22	0.514	2400
3AA	22	0.514	2400
3A	9-5/8	0.283	2400
3AA	9-5/8	0.224	2400

(5) Each cylinder must be retested in accordance with the procedures specified in the TEA Technologies' application for special permit on file with the Office of Hazardous Materials Safety (OHMS) and as prescribed in this special permit.

b. Requalification: Cylinders must be retested at least once every five (5) years. The following apply to cylinders tested as a unit (tube trailer and ISO framed) as well as tubes tested individually. Prior to retest, a copy of the previous retest report must be reviewed to verify the date of external thread inspection. The external threads of each tube must be inspected once every ten (10) years.

(1) Visual Examination: Each tube must receive an external visual examination in accordance with CGA Pamphlet C-6.

(2) Neck Threads: Effective July 31, 2007, the external threads of each tube with diameter greater than or equal to 18" and mounted on tube trailer or modules must be inspected once every ten (10) years in accordance with CGA C-23, "Inspection of Tube Neck Mounting Surfaces."

(3) Acoustic Emission (AE) Examination: The AE equipment and examination including equipment and calibration must be in accordance with all requirements of the American Society for Testing and Materials (ASTM), 1419-02b Standard Test Method for Examination of Seamless, Gas-Filled, Pressure Vessels Using Acoustic Emission.

NOTE: AE retest per this special permit shall not be used to requalify a cylinder that had been hydrotested within the last 1 year.

(4) Ultrasonic Examination (UE) Equipment (Apparatus): The UE equipment must be in accordance with the specification described in ASTM E 2223 “Examination of Seamless, Gas Filled, Steel Pressure Vessels, Using Angle Beam Ultrasonics”.

(5) UE Standardization ring with reference notches (Reference Ring): The standardization ring must be prepared in accordance with specification described in ASTM E 2223-02. A separate reference ring must be prepared for each DOT specification cylinder that is being examined under this special permit. The standard reference ring must conform to the following table:

DOT Specification	Outside Diameter (inch)	Reference Notch Depth (inch)	Reference Notch Length, Max. Width (inch)
3AAX	22	0.100	1,0.060
3AX	22	0.100	1,0.060
3T	22	0.100	1,0.060
3A	9-5/8	0.068	1,0.060
3AA	9-5/8	0.068	1,0.060

A certification statement signed by a TEA Technologies Inc. senior review technologist (SRT) must be available for all standard references at each site where retesting is performed. The certification statement must include a standard reference drawing for each size and type of cylinder. A standard reference drawing must include dimensions and the locations of each simulated defect.

(6) UE Standardization Procedure: The UE equipment must be standardized for each cylinder type by using the Standardization Ring and in accordance with procedure described in ASTM E 2223-02.

(7) UE Procedure:

(i) The UE of each cylinder must be in accordance with the ultrasonic examination described in ASTM E 2223-02 except that:

(A) The extent of the examination shall be 18 inches on either side of the axial location (on the cylindrical portion) as determined through AE.

(B) The examination shall be performed within a single “V-path” if any flaw indication exceeds 20% of DAC. For indications exceeding 20% of DAC, flaw characterization & sizing shall be performed by TOFD or other suitable technique.

(ii) A copy of the most recent approved operating test procedure must be at each facility performing ultrasonic examination and be made available to a DOT representative when requested. Any change to the written procedures or in UE equipment (software or hardware), other than as supplied by the original equipment manufacturer, must be submitted to and approved by AAHMS prior to implementation.

(8) Rejection criteria: The rejection criteria must conform to the following table:

DOT Specification	Outside Diameter (inch)	Rejection Crack Depth (inch)
3AAX	22	≥ 0.100
3AX	22	≥ 0.100
3T	22	≥ 0.100
3A	9-5/8	≥ 0.068
3AA	9-5/8	≥ 0.068

When a cylinder is rejected, it must be suspended from service until the final decision on the disposition of the tube is decided. When a cylinder is condemned the retester must stamp a series of X’s over the special permit or DOT specification number and marked test pressure, or stamp “CONDEMNED” on the shoulder, or neck using a steel stamp, and must notify the cylinder owner, in writing, that the cylinder is condemned and may not be filled with hazardous material for transportation in commerce. Alternatively, at the direction of the owner, the retester may render the cylinder incapable of holding pressure. Upon rejecting/condemning a cylinder, the same must be informed to Associate Administrator for Hazardous Materials Safety, PHMSA along with the pertaining inspection information.

c. MARKING:

(1) The exterior of the trailer cabinet of the vehicle chassis to which the cylinders are affixed must be marked with letters at least 2 inches high on a contrasting background “DOT-SP 12629”.

- (2) An exterior tube on each side of a tube trailer vehicle chassis, MEGC or tube module equipped with frame must be marked with letters at least 2 inches high on a contrasting background “DOT-SP 12629”.
 - (3) The current retest date must be marked on the rear bulkhead inside the trailer cabinet at approximately eye level above the withdrawal valve for tube trailers and on the bulkhead near the withdrawal valve for MEGCs and tube modules. In the event retest dates of cylinders differ in a trailer cluster, the retest date displayed will be that of the oldest retest date, meaning the date of the retest that must occur first.
- d. **REPORT:** A report must be generated for each unit listing all cylinders that were examined. The AE and UE reports must include the following:
- (1) Unit/Module/Batch control identification.
 - (2) AE and UE equipment, model, and serial No.
 - (3) Specification of the standard reference used to UE the cylinder. Standard reference (calibration ring) must be identified by serial number or other stamped identification marking.
 - (4) Cylinder serial number, type, and stamped pressure.
 - (5) Maximum allowable filling pressure.
 - (6) Minimum prescribed sidewall.
 - (7) Number of events at each location.
 - (8) Description of each AE event (amplitude, duration, energy, etc.).
 - (9) Size of each defect measured (length and depth).
 - (10) Type of each defect measured (crack, pitting, etc.).
 - (11) Defect location relative to each sensor.
 - (12) Defect angular location defined by clock direction (3, 5, or 9 O'clock).
 - (13) Defect location relative to sidewall (interior, outer surface, inner surface).
 - (14) AE and UE technicians' name and certification level.
 - (15) Test Date.

- (16) Thread inspection results (passed/failed/NA).
- (17) Internal inspection results (passed/failed/NA).
- (18) Acceptance/rejection results.

The AE and UE reports must be on file at the test site and made available to a DOT official when requested.

- e. PERSONNEL QUALIFICATION: Each person who performs retesting or who evaluates or certifies retest results must meet the following requirements:

- (1) Project Manager is the senior manager of TEA Technologies Inc. responsible for compliance with DOT regulations including this special permit. Additionally, the project manager must ensure that each operator and senior review technologist maintain the required certifications described herein.

- (2) The personnel responsible for performing cylinder retesting under this special permit shall be qualified to an appropriate Level (Level I, II, or III) acoustic emission and ultrasonic examination (AE/UE) in accordance with the American Society for Nondestructive Testing (ASNT) Recommended Practice SNT-TC-1A-1996 depending upon the assigned responsibility as described below:

- (i) As a minimum, a Level II Operator must perform system startup, calibrate the system, and review and certify the test results when written acceptance and rejection criteria for cylinders has been provided by a 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.c. of this special permit. However, a person with Level I certification may perform a system startup, check calibration, and perform AE/UE 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 to be able to observe examination conducted under this special permit.

- (ii) Senior Review Technologist (SRT) is a person who provides written AE/UE procedure, supervisory training and examinations (level I and II), technical guidance to operators and reviews and verifies the retest results. The SRT must prepare and submit the reports required in paragraph 7.d. and annually verify that the UE program is being operated in accordance with the requirements of this special permit. An SRT must have a thorough understanding of the DOT Regulations (49 CFR) pertaining to the requalification and reuse of DOT cylinders authorized under this special permit and ASNT Recommended Practice SNT-TC-1A and possess:

(A) A Level III certification from ASNT in Acoustic Emission and Ultrasonic Testing;

(B) Professional Engineer (PE) License with a documented experience for a minimum of 2 years of experience in Non-Destructive Evaluation (NDE) of pressure vessels or pipelines using the Acoustic Emission and ultrasonic examination techniques; or

(C) A PhD degree in 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 Acoustic Emission and ultrasonic testing methods.

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

f. OPERATIONAL CONTROLS:

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

(i) That person is an employee of TEA Technologies Inc. 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.

(2) The marking of the retester's symbol along with the letters AE on the cylinders (when individually tested) and/or affixing a data plate certifies compliance with all of the terms and conditions of this special permit. The data plate should at minimum include the following:

(i) Retesting company name.

(ii) RIN.

(iii) DOT Special permit number.

(iv) Trailer/Module's identification.

(v) Filling pressure (lowest stamped working pressure) at 70 °F.

(vi) Maximum allowed filling pressure including overfill if applicable at 70 °F.

(vii) Test date.

(viii) Retest date.

(ix) Water capacity.

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

(4) In the event of retest with more than one method of retest being performed at the time of retest, the markings per paragraph 7.c. of this special permit shall be displayed only if the final method of retest is as per this special permit.

8. SPECIAL PROVISIONS:

a. The designated SRT must review the AE/UE program annually. The designated SRT must submit a letter to OHMS verifying that the AE/UE program is meeting the terms and requirements of this special permit.

b. Cylinders requalified under this special permit by AE/UE may be authorized for 110 percent of marked service pressure for certain dry gases described in § 180.209(b), if one of the following criterion is satisfied:

(1) The cylinder (tube) in the frame has a plus (+) marking stamp on the tube's shoulder from the previous requalification; or

(2) If a cylinder (tube) in the frame does not have a (+) stamp, the tube must be removed from the frame and the tube must be examined by 100% ultrasonic examination (UE) as described in CGA pamphlet C-20. The remaining wall thickness of the tube that was examined by 100% UE must meet the following conditions:

(i) The accumulated area corrosion in the sidewall ≤ 0.70 square inches; and

(ii) The remaining wall thickness for the accumulated area corrosion is above the minimum design wall thickness, t_m .

c. The acoustic emission and ultrasonic examination (AE/UE) data, results, and additional technical information deemed pertinent in successful application of the AE/UE must be recorded and kept at each facility for a minimum of 5 years after completion of AE/UE. For any rejected cylinder, the defect causing the rejection must be fully

characterized and profiled. That is, the specific type of defect should be identified (i.e., isolated pits, line corrosion, or SBT crack) and the specific size of the defect should be determined (i.e., length, depth, width, diameter, area, etc.). The record includes cylinder type, size, minimum design wall thickness, age, etc. of the rejected cylinder.

d. TEA Technologies Inc. must maintain statements of qualification and supporting information for each “qualified AE/UE tester” who makes use of this special permit. The location of this statement, for each “qualified AE/UE tester”, must be identified to OHMS.

e. Shippers (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. All terms of this special permit and other applicable requirements contained in 49 CFR Parts 100-185 must be met.

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

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, and cargo-only aircraft as currently authorized for the hazardous materials being transported.
10. MODAL REQUIREMENTS: A copy of this special permit, the revision per which the current retest was performed, must be carried aboard each cargo vessel, motor vehicle, or cargo only aircraft used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier at or before the time the shipment is tendered.
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:
 - o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
 - o 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.
 - o 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:** 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 William Schoonover
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-13, 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 <https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search>. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Toughiry/NICKS