



U.S. Department
of Transportation

1200 New Jersey Avenue SE
Washington, DC 20590

**Pipeline and Hazardous
Materials Safety
Administration**

FEB 13 2012

Mr. Steve Therneau
Chart Inc.
1300 Airport Drive
Ball Ground, GA 30107

Reference No.: 11-0237

Dear Mr. Therneau:

This responds to your letter requesting clarification of Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the repair and rebuild of Department of Transportation (DOT) 4 series specification cylinders. Specifically, you seek clarification of the definitions of “repair” and “rebuild” with regard to DOT specification cylinders and the associated requirements for the repair and rebuild of DOT specification cylinders.

In your letter, you state it is your understanding that if the inner vessel of a DOT-4 series cylinder has not been compromised, there is no requirement to test the cylinder in accordance with the specifications under which the cylinder was originally manufactured as specified in § 180.211(c)(2)(i).

Your understanding with regard to cylinder repair is not correct. The term “repair” is defined in § 180.203 as a procedure for correction of a rejected cylinder that may involve welding. A repair is not limited to the correction of a rejected cylinder that has had only its’ inner vessel compromised. Therefore, DOT-4 series cylinders requiring repair, as defined in § 180.203, must do so in accordance with § 180.211. In addition, DOT 4L cylinders must meet additional requirements for repair specified in § 180.211(c) including being pressure-tested in accordance with the specifications under which the cylinder was originally manufactured. DOT 4L cylinders which undergo procedures that are not defined as a repair in § 180.203 are not subject to the requirements of § 180.211(c) including the requirement to be pressure-tested in accordance with the specifications under which the cylinder was originally manufactured.

Furthermore, you also state it is your understanding that if the inner vessel of a DOT-4 series cylinder has been compromised, it constitutes a rebuild and must be subjected to the requirements specified in § 180.211(d), and a proof pressure test, as specified in § 180.211(e)(3).

Your understanding with regard to cylinder rebuild is partially correct. The term “rebuild” is defined in § 180.203 as the replacement of a pressure part (e.g. a wall, head, or pressure fitting) by welding. While a “rebuild” would be required when the inner vessel of a DOT-

4 series cylinder is compromised, it is not the only scenario that would constitute a "rebuild." DOT-4 series cylinders requiring rebuild, as defined in § 180.203, must do so in accordance with § 180.211. In addition, DOT 4L cylinders must meet additional requirements for repair specified in § 180.211(e) including proof pressure testing each inner containment vessel at 2 times its service pressure. DOT 4L cylinders which undergo procedures that are not defined as a rebuild in § 180.203 are not subject to the requirements of § 180.203(e).

If a DOT-4 series cylinder needs repair or rebuild as defined in § 180.203 and that cylinder is designed so that it is not possible to safely pressure test the cylinder in accordance with the specification which the cylinder was originally manufactured, you may request a special permit to except the cylinder from the requirement to be subjected to the pressure tests specified in § 180.211(c) and (e). Your application should be directed to the Approvals and Permits Division and should include specific and detailed information concerning the rationale for excepting the cylinder from the pressure test requirements. The procedures for applying for a special permit are in 49 CFR Part 107, Subpart B. You may also obtain this information at our website at <http://www.phmsa.dot.gov/hazmat/regs/sp-a>.

We appreciate your bringing this issue to our attention. PHMSA will attempt to improve the clarity of this issue in a future rulemaking.

Sincerely,

A handwritten signature in cursive script, appearing to read "T. Glenn Foster".

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



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September 12, 2011

U.S. DOT
PHMSA Office of Hazardous Materials Standards
Attn: PHH-10
East Building
1200 New Jersey Avenue, SE
Washington, D.C. 20590-0001

Benedict
3180.211
Cylinders
11-0237

Attn: Glenn Foster

Reference: Registration K-058

Dear Mr. Foster,

After discussions with DOT enforcement personnel and DOT engineering personnel, it was recommended that we request a formal interpretation related to CFR 49 paragraph 180.211 (c) (2) (i). The text in question states that "after repair, the cylinder must be pressure tested in accordance with the specifications under which the cylinder was originally manufactured."

It has been our position that if the inner vessel has not been compromised in accordance with 180.211 (c) (ii) then there are no original manufacturing pressure test requirements applicable. If the inner vessel is compromised, then it constitutes a rebuild as defined in 180.211 (d) (iv) (A) and the requirements of 180.211 (e) (3) are then applicable.

For additional information, we do conduct an integrity pressure test of the plumbing components at a pressure less than allowed by the primary relief device. The tests defined in 180.211 (c) (2) (ii) and (iii) are completed as specified.

If you require further clarification, the position has been discussed in detail with Duane Cassidy, Ben Smith, Wayne Chaney, John Heneghan, Rafaat Shafkey, and Mark Toughiry. They can provide further insight into the background for the interpretation.

Thank you for your consideration. We look forward to a favorable response. Please advise if you have any questions or concerns. Thank you in advance for your prompt reply.

Regards,

Steve Therneau

Steve Therneau
Quality Assurance / Regulatory Compliance Manager