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DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

49 CFR Parts 171, 172, 173, 178, and 180

[Docket No. PHMSA-2011-0140 (HM-234)]

RIN 2137-AE80

**Hazardous Materials; Miscellaneous Amendments Pertaining to DOT Specification
Cylinders (RRR).**

AGENCY: Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT.

ACTION: Advance notice of proposed rulemaking (ANPRM).

SUMMARY: The Pipeline and Hazardous Materials Safety Administration (PHMSA) is considering amendments to the Hazardous Materials Regulations (HMR) to revise certain requirements applicable to the manufacture, use, and requalification of DOT specification cylinders. PHMSA is taking this action in response to petitions for rulemaking submitted by the regulated community and a review of the regulations applicable to compressed gas cylinders. PHMSA is not proposing specific amendments to the HMR; rather, we are seeking comment on the issues discussed in the ANPRM. While this ANPRM focuses on specific petitions for rulemaking and special permits, we will accept comments on the HMR applicable to compressed gas cylinders. These comments will be combined with a retrospective review of existing requirements aimed to modify, streamline, expand, or repeal existing rules that are outmoded, ineffective, insufficient, or excessively burdensome.

DATES: Comments must be received by [INSERT DATE 90 DAYS AFTER PUBLICATION].

ADDRESSES: You may submit comments identified by the docket number PHMSA-2011-0140 (HM-234) by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov> Follow the instructions for submitting comments.
- Fax: 1-202-493-2251.
- Mail: Docket Management System; US Department of Transportation, West Building, Ground Floor, Room W12–140, Routing Symbol M–30, 1200 New Jersey Avenue, S.E., Washington, DC 20590.
- Hand Delivery: To the Docket Management System; Room W12–140 on the ground floor of the West Building, 1200 New Jersey Avenue, S.E., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Instructions: All submissions must include the agency name and docket number for this ANPRM at the beginning of the comment. To avoid duplication, please use only one of these four methods. All comments received will be posted without change to the Federal Docket Management System (FDMS), including any personal information.

Docket: For access to the dockets to read background documents or comments received, go to <http://www.regulations.gov> or DOT’s Docket Operations Office (see ADDRESSES).

Privacy Act: Anyone is able to search the electronic form of any written communications and comments received into any of our dockets by the name of the

individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477) or you may visit <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Kevin Leary or Robert Benedict,
Standards and Rulemaking Division, Pipeline and Hazardous Materials Safety
Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, S.E.,
Washington, DC 20590, at (202) 366-8553.

SUPPLEMENTARY INFORMATION:

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- II. Background
- III. Summary Review of Amendments Considered
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I. Executive Summary

PHMSA is considering amendments that would revise and clarify the HMR (49 CFR Parts 171-180) applicable to cylinder manufacture, maintenance, and use. This action responds to ten petitions for rulemaking submitted by the regulated community and seeks comment on incorporating the provisions of three special permits. These amendments would update and expand the use of currently authorized industry consensus standards, revise the construction, marking and testing requirements of DOT-4 series cylinders, clarify the filling requirements for cylinders, discuss the handling of cylinders used in fire suppression systems, and revise the requalification and condemnation requirements for cylinders. PHMSA will review comments on the amendments described in this ANPRM for their potential economic and safety implications and will use these comments to craft more specific proposals in any potential future rulemaking. PHMSA requests that commenters note the applicable petition when submitting comments.

II. Background

PHMSA requests public comment on various petitions for rulemaking submitted in accordance with § 106.95 and DOT special permits PHMSA has issued applicable to the manufacture, use, and requalification of cylinders. PHMSA is publishing this ANPRM to obtain the views of those who are likely to be affected by the changes discussed, including those who are likely to benefit from and those who are potentially subject to additional regulation if PHMSA were to adopt the petitions. This ANPRM is intended to provide the greatest opportunity for public participation in the development of

regulatory amendments, and promote greater exchange of information and perspectives among the various stakeholders. This additional step will lead to more focused and well-developed proposals that reflect the views of all regulated entities.

Access to Compressed Gas Association publications discussed in this ANPRM are available for public review at: www.cganet.com. Access to the petitions and background documents referenced in this ANPRM can be found at <http://www.regulations.gov> under Docket No. PHMSA-2011-0140 (HM-234) or at DOT's Docket Operations Office (see ADDRESSES).

III. Summary Review of Amendments Considered

A. Petitions for Rulemaking

Federal hazardous material transportation law (Federal hazmat law), 49 U.S.C. 5101–5127, authorizes the Secretary of Transportation to regulate the manufacture and continuing qualification of packagings used to transport hazardous materials in commerce, or packagings certified under Federal hazmat law for the transportation of hazardous materials in commerce. The HMR contain requirements for the manufacture, use, and requalification of cylinders subject to Federal hazmat law, including defining materials and methods of construction, the frequency and manner of inspection and testing, standards for cylinder rejection and condemnation, cylinder marking and recordkeeping, authorizations for packaging hazardous materials in cylinders, filling, loading, unloading, and carriage in transportation.

In accordance with 49 CFR 106.95, a person may petition PHMSA to add, amend or delete a regulation by filing a petition for rulemaking with all the information required in § 106.100. In this ANPRM, PHMSA seeks comment on ten petitions for rulemaking

submitted by the compressed gas industry, including cylinder manufacturers, cylinder requalifiers, hazardous materials trainers, shippers, and carriers of compressed gases.

These petitions are included in the docket for this proceeding. The following table provides a brief summary of the petitions addressed in this ANPRM and affected sections:

Petition	Party Submitting Petition	Summary
P-1499	The Compressed Gas Association (CGA)	Requests PHMSA incorporate by reference CGA <i>C-6 Standards for Visual Inspection of Steel Compressed Gas Cylinders</i> 2007, 10 th edition, in place of the 7 th edition (§§ 173.3, 173.198, 180.205, 180.209, 180.211, 180.411, and 180.519).
P-1501	The Compressed Gas Association	Requests modifications to the manufacturing and testing specifications for series 4 cylinders in §§ 178.50, 178.51, 178.61, and 178.68.
P-1515	Certified Training Co. (CTC)	Proposes numerous revisions to the requirements for the requalification of DOT specification cylinders in §§ 180.203 – 180.215.
P-1521	The Compressed Gas Association	Proposes to revise § 172.400a to allow the use of the labels described in CGA C-7 - 2004 Appendix A on cylinders that are overpacked.
P-1540	The Compressed Gas Association	Proposes to require manufacturers to mark newly-constructed DOT 4B, DOT 4BA, DOT 4BW and DOT 4E specification cylinders with the mass weight (MW) or tare weight (TW), and water capacity (WC) (§ 178.35).
P-1546	GSI Training Services, Inc.	Requests a revision to the HMR to allow cylinders used in fixed fire suppression systems to utilize the exceptions in § 173.309(a) for fire extinguishers.
P-1560	Air Products and Chemicals, Inc.	Requests increased maximum permitted filling densities for specification cylinders containing carbon dioxide and nitrous oxide (§ 173.304a).
P-1563	3M Inc.	Proposes to allow materials packaged in accordance with § 173.301(a)(9) to be marked with the OVERPACK marking.

P-1572	Barlen and Associates, Inc.	Requests clarification of the requirements for the filling density ^a for liquefied compressed gases contained in multiple element gas containers (MEGCs) and manifolded cylinders (§§ 173.301(g) and 173.312).
P-1580	HMT Associates Inc.	Proposes to resolve a discrepancy between the HMR and CGA S-1.1 regarding the pressure relief device tolerances for DOT 39 cylinders transported by aircraft (§§ 173.301(f)(2) and 173.304(f)(2)).

P-1499

The National Technology Transfer and Advancement Act of 1995 directs agencies to use voluntary consensus standards in lieu of government-unique standards except where inconsistent with law or otherwise impractical. Pub. L. No. 104-113, 110 Stat. 775 (codified in 15 U.S.C.); 15 U.S.C. 272. The HMR incorporate a variety of standards by reference in § 171.7, including numerous standards relevant to cylinder construction, maintenance, and use. With regard to the visual inspection of steel cylinders, PHMSA incorporates by reference the 7th edition of the Compressed Gas Association’s (CGA) publication *C-6 Standards for Visual Inspection of Steel Compressed Gas Cylinders 1993*. This CGA publication serves as a guide to cylinder requalfiers and users for establishing cylinder inspection procedures and standards. Inspection procedures include preparation of cylinders for inspection, exterior inspection, interior inspection if required, nature and extent of damage to be looked for, and tests that indicate the conditions of the cylinder. The 7th edition of this standard is currently referenced in §§ 173.3, 173.198, 180.205, 180.209, 180.211, 180.411, and 180.519.

^a Filling density means “the percent ratio of the weight of gas in a packaging to the weight of water that the container will hold at 16 °C (60 °F). (1 lb of water=27.737 in³ at 60 °F.)” 49 CFR 173.304a, Note 1.

The CGA represents all facets of the compressed gas industry, including manufacturers, distributors, suppliers, and transporters of gases, cryogenic liquids, and related products. The CGA submitted petition P-1499 requesting that PHMSA replace the currently-incorporated 7th edition of publication *C-6 Standards for Visual Inspection of Steel Compressed Gas Cylinders* with the revised 10th edition and update the appropriate references throughout the HMR. The 10th edition provides enhanced guidance for cylinder requalifiers including guidance on the inspection of multiple-element gas containers (MEGCs), requirements for thread inspection for cylinders used in corrosive gas service and clarifies maximum allowable depths and measuring techniques for various types of corrosion. PHMSA identified approximately 5,000 companies that would be subject to this standard. The majority of these companies are classified as small businesses using SBA size standards (<500 employees). This revision would impose a one-time cost of between \$78 and \$142 per document depending on the document format (electronic or hard copy) and if the purchaser is a member of the CGA.

This publication is available to view on the CGA website at: www.cganet.com. PHMSA requests comments from affected entities, particularly small entities, on the impacts, both positive and negative, that would result from incorporation of this revised standard. PHMSA is interested in technical differences between the 7th and 10th editions of CGA publication *C-6 Standards for Visual Inspection of Steel Compressed Gas Cylinders* including, but not limited to, the specific revisions that increase safety and cost implications associated with the adoption of the new standard.

P-1501

The authorized materials, manufacturing methods and testing requirements for DOT 4B, 4BA, 4BW, and 4E cylinders (DOT-4 series cylinders) are specified in §§ 178.50, 178.51, 178.61, and 178.68. Specifically, these sections describe material types permitted to be used in construction, size specifications, cylinder wall thickness and required tests.

The CGA submitted petition P-1501 requesting that PHMSA revise the manufacturing requirements for DOT 4B, 4BA, 4BW, and 4E cylinders. According to the petition, the current DOT-4 series welded cylinder manufacturing requirements are unclear in some respects and result in interpretation by the manufacturers and enforcement personnel. A summary of the changes proposed by P-1501 are outlined below:

- Revise §§ 178.50(b), 178.51(b), 178.61(b), and 178.68(b) to ensure material compositions and the heat treatment are within the specified tolerances and of uniform quality as follows:
 - Require a record of intentionally-added alloying elements, and
 - Require materials manufactured outside of the United States to have a ladle analysis confirmed by a check analysis.
- Revise the pressure tests in §§ 178.50(i), 178.51(i), 178.61(i), and 178.68(h) to permit use of the volumetric expansion test, a hydrostatic proof pressure test or a pneumatic proof pressure test.

- Revise the physical and flattening tests^b and retest criteria in §§ 178.50, 178.51, 178.61, and 178.68 for consistency. These revisions would clarify the location on the cylinder from which the test specimens are removed.
- Revise §§ 178.50(n), 178.51(n), and 178.61(o) to permit marking on the footing for cylinders with water capacities up to thirty pounds, rather than twenty-five pounds.
- Add requirements for the location of markings on DOT 4E cylinders in § 178.68.

The CGA states in its petition that the proposed changes do not present a significant economic impact to any single manufacturer or user, but will also enhance regulatory clarity, promote consistent manufacturing practices, and create greater uniformity between the specifications for DOT-4 series cylinders and the requirements for welded cylinders found in International Organization for Standardization (ISO) standard 4706-1, *Gas cylinders-Refillable welded steel cylinders -Part 1: Test pressure 60 bar and below* that are referenced in the United Nations Model Regulations.

PHMSA identified six U.S. based manufacturers of these cylinders. PHMSA requests comments on the economic and safety implications of all the proposed changes in P-1501. PHMSA seeks comment on the potential burden (time and/or cost) for compliance with the information collection activities associated with the requirement to keep a record of intentionally-added alloying elements and to perform a ladle analysis confirmed by a check analysis for materials manufactured outside of the United States.

^b The physical and flattening tests are destructive tests conducted on samples of welded cylinders. The samples are subjected to loading until they fail. The failed pieces are then compared to known certain pass/fail criteria to determine the quality of the weld or tube.

In addition to the cost of keeping the records, PHMSA seeks comment on the cost to implement and conduct the ladle and check analyses, pressure test, and physical/flattening test.

PHMSA seeks comment on CGA's proposed changes to pressure tests in §§ 178.50(i), 178.51(i), 178.61(i), and 178.68(h). Specifically, we seek comment on safety precautions that should be taken to protect personnel when a pneumatic pressure test is authorized^c and any additional considerations associated with revised testing requirements. PHMSA seeks information on whether the expansion of foot ring marking permissions will tangibly reduce costs.

P-1515

The requirements for the requalification of DOT specification cylinders found in Part 180 Subpart C outline the specific procedures for the requalification and maintenance of cylinders. These requirements include definitions for terms used in the subpart, references to CGA publications for the visual inspection of cylinders, specific requirements for hydrostatically testing cylinders including methods to ensure the accuracy of test equipment.

PHMSA received petition P-1515 from Certified Training Company (CTC) proposing numerous revisions to the requirements for the requalification of DOT specification cylinders found in Part 180 Subpart C. The petitioner states that the requalification requirements in the HMR create confusion for requalifiers and enforcement officials. PHMSA requests comments on the need to revise these

^c Pneumatic pressure tests present a greater hazard than hydraulic pressure tests. In the event of test failure, a container filled with a gas will release a greater amount of stored energy. Additional precautions must be taken to ensure the safety of the test operator.

requirements and two possible methods of resolving the confusion with regard to the requalification requirements for specification cylinders. The first, as suggested by CTC in P-1515, would modify the specific HMR provisions in § 180.203 through § 180.215 for requalification of cylinders. The second would incorporate by reference CGA *C-1 Methods for Pressure Testing Compressed Gas Cylinders*, 10th edition (2009) into § 180.205. CGA *C-1 Methods for Pressure Testing Compressed Gas Cylinders*, 10th edition (2009) contains most of the provisions and additions specified in P-1515 including revisions to definitions in § 180.203, appropriate procedures for conducting the hydraulic pressure tests, and marking and record keeping requirements.

CTC, in P-1515, requests that PHMSA revise the HMR as follows:

- Add the following terms and definitions to § 180.203:
 - “Accuracy” means the conformance of a particular reading to a known standard. Accuracy is expressed as the percentage of error of a reading from a true value.
 - “Accuracy grade” means the inherent quality of the device. It expresses the maximum error allowed for the device at any reading. Accuracy grade is expressed as a percentage of the full scale of the device.
 - “Actual test pressure” means the pressure applied to a cylinder during requalification.
 - “Calibrated cylinder” means a cylinder that has certified calibration points of pressure with corresponding expansion values. It is a secondary, derived standard used for the verification and demonstration of test system accuracy and integrity.

- “Master gauge” means a pressure indicating device that is used as a calibration standard, and has an inherent accuracy grade equal to or better than the requirement for the pressure indicating device in the test apparatus.
- “Over-pressurized” means a condition in which the internal pressure applied to a cylinder has reached or exceeded the yield point of the cylinder.
- “Percent permanent expansion” means the ratio of permanent expansion to total expansion, expressed as a percentage. The calculation for percent permanent expansion is permanent expansion divided by total expansion times 100.
- “Reference gauge” means the pressure indicating device that is used in the daily verification of a proof test system, and has an inherent accuracy equal to or better than the requirement for the device to be checked.
- “Service pressure” means the rated service pressure marked on the cylinder. The petitioner added this definition to differentiate the marked service pressure from the actual full pressure.
- Modify the definitions for the following terms used in § 180.203:
 - “Commercially free of corroding components” to also specify a moisture content less than 55 ppm.
 - “Defect” to mean an imperfection requiring a cylinder to be rejected.
 - “Test pressure” to state the minimum prescribed test pressure. This revision was suggested to differentiate test pressure from actual test pressure.

- Modify the requirements in § 180.205(f) (visual inspection) to permit the shot blasting^d of cylinders to remove surface corrosion, but prohibit grinding, sanding or any other method that may reduce cylinder wall thickness unless conducted by an authorized facility in accordance with § 180.212.
- Modify the requirements in § 180.205(g) (pressure test) to:
 - Clarify the pressure test procedure by:
 - Adding a requirement to isolate the cylinder undergoing the hydrostatic test from other sources of pressure that may influence the test results.
 - Separate requirements in § 180.205(g)(2) for pressure indicating devices (i.e. gauges) from expansion indicating devices (i.e. burettes, digital systems) and require periodic verification of these devices to confirm their accuracy.
 - Require a calibrated cylinder's markings to be checked and confirmed every five years.
 - Permit up to three repeat tests in the event of equipment malfunction and add a requirement to perform a system check at 90% of test pressure before repeating the pressure test.
 - Add a provision that would permit a cylinder that was over-pressurized (filled to a pressure greater than 10% of the test pressure) to continue in

^d Shot blasting aluminum cylinders may result in adverse effect on the cylinder's sidewall properties (e.g. aging and heat treatment).

compressed gas service provided the cylinder's permanent expansion does not exceed ½ of the normally-allowed limit.

- Permit cylinders that fail requalification to undergo repair and then attempt requalification a second time.
- Combine the condemnation requirements for DOT (found in § 180.205(i)) and UN cylinders (found in the applicable ISO Standard) under one uniform standard.
- Modify the requirements in § 180.209(b) (DOT 3A or 3AA cylinders) to revise the eligibility criteria for the use of the five-pointed star under § 180.209(b), which permits DOT 3A and DOT 3AA cylinders to be requalified every ten years instead of every five years. The current eligibility criteria for the use of the five-pointed star include that, (1) The cylinder was manufactured after December 31, 1945; (2) The cylinder is used exclusively for air; argon; cyclopropane; ethylene; helium; hydrogen; krypton; neon; nitrogen; nitrous oxide; oxygen; sulfur hexafluoride; xenon; chlorinated hydrocarbons, fluorinated hydrocarbons, liquefied hydrocarbons, and mixtures thereof that are commercially free from corroding components; permitted mixtures of these gases; and permitted mixtures of these gases with up to 30 percent by volume of carbon dioxide, provided the gas has a dew point at or below minus (52 °F) at 1 atmosphere; (3) Before each refill, the cylinder is removed from any cluster, bank, group, rack or vehicle and passes the hammer test specified in CGA Publication C– 6; (4) The cylinder is dried immediately after hydrostatic testing to remove all traces of water; and (5) Each cylinder is stamped with a five-pointed star at least one-fourth of an inch

high immediately following the test date. The petitioner's revisions to the eligibility criteria for the use of the five-pointed star include:

- Remove the restriction that cylinders must be made after December 31, 1945 in order to be requalified every ten years;
 - Remove the hammer test, as some question the utility of such a test;
 - Add a requirement that the cylinder must have not more than 5% permanent expansion;
 - Add a requirement that cylinders must not exceed the elastic expansion rejection limit (REE); and
 - Add self-contained breathing apparatus to the list of prohibited uses, as underwater breathing is already prohibited.
- Require requalification markings to begin immediately to the right of the manufacturer's markings and subsequent markings to proceed in columns downward to the bottom of the shoulder area. Additional markings would proceed in a similar column format.
 - Allow domestic requalifiers to stamp cylinders that do not conform to a DOT specification, special permit or authorized UN standard (i.e. foreign cylinders) with a requalifier identification number (RIN).
 - Specify in § 180.209(e)^e that cylinders used to transport reclaimed refrigerant gases must be requalified every five years using the volumetric expansion method.

^e This paragraph permits an increase in the interval between retest for cylinders used exclusively for certain non-corrosive gases and gas mixtures that are commercially free from corroding components. Many of

- Modify § 180.212 to permit grinding of DOT 3-series cylinders, provided the remaining wall thickness is measured by ultrasonic examination.

PHMSA is also considering incorporating into the HMR by reference, CGA *C-1 Methods for Pressure Testing Compressed Gas Cylinders*, 10th edition (2009), and referring to this standard in the cylinder requalification requirements specified in § 180.209. This publication provides extensive detail and instruction necessary to properly conduct the hydrostatic tests required by the HMR.^f PHMSA requests comment from the regulated community whether the requirements for the requalification of DOT specification cylinders found in Part 180 Subpart C need revision and if so, what specific provisions need further clarity.

PHMSA identified 980 entities that conduct hydrostatic retesting. Incorporation of CGA C-1 would impose a one-time cost of between \$102 and \$186 per document depending on the document format (electronic or hard copy) and if the purchaser is a member of the CGA. PHMSA requests data on the impact of incorporating CGA *C-1 Methods for Pressure Testing Compressed Gas Cylinders*, 10th edition (2009), the various changes proposed by CTC, and the relative benefits and drawbacks of the two options as a means of clarifying and enhancing the current requirements for requalification of DOT

these are refrigerant gases. Refrigerant gases recovered from machines and processes may contain water or other contaminants that could corrode the cylinder and compromise its integrity.

^f On April 12, 2007 PHMSA published a NPRM under docket number PHMSA-2006-25910 (HM-218E; 72 FR 18446) entitled “Cargo Tank Motor Vehicle and Cylinder Issues; Petitions for Rulemakings.” As part of this rulemaking PHMSA proposed the incorporation of the 2004 edition of CGA publication *C-1 Methods for Hydrostatic Testing of Compressed Gas Cylinders*, 8th edition (2004) in response to a petition from CGA (P-1485). In HM-218E, the 2004 edition of CGA C-1 was not adopted based partially on comments raised by CTC that cited concerns about the accuracy of certain provisions in the 8th edition of CGA C-1, including test equipment accuracy, calibrated cylinder design requirements, and certain omissions. On July 17, 2009, CGA published the revised CGA Pamphlet *C-1, Methods for Pressure Testing Compressed Gas Cylinders*, 10th edition. The 10th edition of CGA C-1 addresses the issues raised by CTC in the HM-218E NPRM.

specification cylinders. With regard to CTC's petition, PHMSA requests information about the safety implications, benefits, and costs of each bulleted item listed. We are particularly interested in comments regarding the safety implications of the various practices to remove surface corrosion from cylinders and whether PHMSA should regulate such practices. PHMSA is also interested in comments regarding the safety implications of requiring DOT cylinders used to transport reclaimed refrigerant gases to be requalified every five years and modifying the conditions for use of the five-pointed star. Beyond the purchase costs of *CGA C-1 Methods for Pressure Testing Compressed Gas Cylinders*, 10th edition (2009), PHMSA is interested in data on the impacts that would be encountered with incorporating CGA C-1 by reference. This publication is available to view on the CGA website at: www.cganet.com.

PHMSA requests comments on how these changes would potentially impact small entities. Finally, PHMSA seeks information on potential benefits of certain aspects of P-1515 including what benefits, if any, would be realized from permitting second requalification after failure, changing the five-year and ten-year requalification requirements, permitting the continued use of over-pressurized cylinders and allowing foreign cylinders to be stamped with a RIN.

P-1521

For many years the HMR have permitted the use of a neckring marking, under certain conditions, in accordance with the CGA publication *C-7, Guide to Preparation of Precautionary Labeling and Marking of Compressed Gas Containers, Appendix A*, 8th Edition (2004) under § 172.400a. This neckring marking identifies the contents of a cylinder by displaying the proper shipping name, the UN identification number and the

hazard class/division diamond within a single marking. Section 172.400a permits the use of this marking in lieu of the 100 mm x 100 mm square-on-point labels on a Dewar flask meeting the requirements in § 173.320 and cylinders containing Division 2.1, 2.2, and 2.3 materials that are not overpacked. This requirement is intended to provide flexibility in hazard communication for cylinders, especially small cylinders.

The CGA petitioned PHMSA (P-1521) to modify the provision in § 172.400a(a)(1)(i) to remove the limitation that would only allow the use of the neckring markings if the cylinders are not overpacked. The petition would still require the overpack to display the 100 mm x 100 mm square-on-point labels in accordance with 49 CFR Part 172, Subpart E.

The marking prescribed in Appendix A to CGA publication *C-7, Guide to Preparation of Precautionary Labeling and Marking of Compressed Gas Containers, Appendix A*, 8th Edition (2004) provides useful information in a clear and consistent manner and its widespread use on cylinders for many years has enhanced its recognition. CGA's proposed change would provide greater flexibility for shipments of overpacked cylinders while ensuring adequate hazard communication. If cylinders are contained in an overpack, the overpack must display the appropriate markings and labels.

According to figures obtained from the U.S. Census Bureau, approximately 86 entities are engaged in Industrial Gas Manufacturing of which 74 are classed as small entities (<500 employees). Other potentially impacted entities include medical equipment wholesalers, service establishment equipment and supplies merchant wholesalers and other miscellaneous durable goods merchant wholesalers. While firms in these industries total over 20,000, PHMSA expects that only a tiny fraction of these

firms would be affected by CGA's proposed change. PHMSA seeks comment on the potential implications of this change. Specifically, PHMSA seeks comment as to whether this change is necessary and what, if any, safety and economic impacts would result. PHMSA seeks data concerning how many shipments the proposal would impact. Finally, PHMSA seeks information on how the increased flexibility of marking would economically affect shippers.

P-1540

As specified in § 178.35(f), the HMR require DOT specification cylinders to be permanently marked with specific information including the DOT specification, the service pressure, a serial number, an inspector's mark, and the date manufacturing tests were completed. These marks provide vital information to fillers and uniquely identify the cylinder.

Liquefied gases are normally filled by weight. The tare weight and water capacity must be known by the filler to properly fill a cylinder by weight. However, the HMR do not require tare weight, mass weight, or water capacity markings on DOT specification cylinders. This information is essential for cylinders filled by weight, as cylinders overfilled with a liquefied gas can become liquid full as the ambient temperature increases. If temperatures continue to rise, pressure in the overfilled cylinder will rise disproportionately, potentially leading to leakage or a violent rupture of the cylinder after only a small rise in temperature.

To address this, the CGA submitted a petition (P-1540) requesting that PHMSA require tare weight or mass weight, and water capacity to be marked on newly constructed DOT 4B, 4BA, 4BW, and 4E specification cylinders. The petition also

requests that PHMSA provide guidance on the accuracy of these markings and define the party responsible for applying the markings. In its petition, CGA notes that PHMSA incorporates by reference, the National Fire Protection Association's *58-Liquefied Petroleum Gas Code* (NFPA-58), which requires cylinders used for liquefied petroleum gases to be marked with the tare weight and water capacity. However, as stated in the petition, NFPA-58 gives no guidance as to the accuracy of these markings or who is required to provide the marking. The petitioner states that this lack of guidance can lead to overfilling cylinders that can potentially create unsafe conditions.

The CGA petition states that accurate marking of cylinder tare weight, mass weight, and water capacity at the time of manufacture is necessary for safe filling and transportation of these cylinders. While DOT 4B, 4BA, 4BW, and 4E cylinders are often used to transport liquefied compressed gas, we note that these are not the only cylinder types used to transport compressed gas.

In response to the petition, PHMSA is considering modifying § 178.35 to require all DOT specification cylinders suitable for the transport of liquefied gases, to be marked with the cylinder's tare weight and water capacity. This proposal would further align the marking requirements for DOT specification cylinders with the marking requirements for UN ISO Cylinders in § 178.71. However, we stress that while cylinder markings are important to ensure the safe filling of liquefied compressed gas they do not take the place of adequate personnel training, procedures to ensure proper filling, and continued requalification and maintenance of cylinders in preventing incidents.

PHMSA understands that many in the compressed gas industry, especially the liquefied petroleum gas industry, already request manufacturers mark cylinders with this

additional information as an added safety measure. Based on this assumption, PHMSA estimates the impact on the compressed gas industry will be minimal as many in the industry are already voluntarily applying these markings. We request comment on this assertion.

PHMSA identified six U.S. based manufacturers of the cylinders identified in the petition. Five of these companies are classed as small businesses (< 500 employees). PHMSA requests comments and supporting data regarding the increased safety benefits and the economic impact of this proposal. With regard to the cost associated with this modification, PHMSA has the following specific questions:

- What is the average total cost per cylinder to complete these markings (i.e. is an estimated cost of \$0.10 per character for new markings accurate)?
- What is the estimated quantity of newly manufactured 4B, 4BA, 4BW and 4E cylinders each year? Furthermore, how many of these cylinders already display mass weight, tare weight and water capacity markings in compliance with the Liquefied Petroleum Gas Code or other codes?
- How many manufacturers of the above-mentioned cylinders are considered small businesses by the Small Business Administration (SBA)?

PHMSA seeks to identify how often the mass weight, tare weight and water capacity markings are already permissively applied to cylinders and the costs associated with applying these marks. Finally, PHMSA is interested in identifying any relevant data about increased safety benefits associated with the additional markings and alternate methods/safeguards against overfilling of cylinders currently being implemented.

P-1546

The Hazardous Materials Table in § 172.101 provides a shipping description for cylinders used as fire extinguishers (UN1044, fire extinguishers, 2.2) and references § 173.309 for exceptions and non-bulk packaging requirements. Fire extinguishers charged with a limited quantity of compressed gas are excepted from labeling and the specification packaging requirements if the cylinder is packaged and offered for transportation in accordance with § 173.309(a)(1) through § 173.309(a)(3). Additionally, fire extinguishers filled in accordance with the requirements of § 173.309 may use non-specification cylinders (i.e. cylinders not manufactured to specifications in Part 178). Part 180 also provides special requirements for cylinders used as fire extinguishers. Specifically, § 180.209(j) includes different requalification intervals for DOT specification cylinders used as fire extinguishers.

PHMSA has written several letters of clarification regarding the applicability of § 173.309 to fire extinguishers. Notably on March 9, 2005, PHMSA wrote a letter to Safecraft Safety Equipment, Ref. No. 04-0202, regarding non-specification stainless steel cylinders used as a component in a fire suppression system for installation in vehicles. In that letter, PHMSA stated that the cylinders used in the fire suppression system appeared to meet the requirements of § 173.309(a). PHMSA issued another letter on May 30, 2008 to Buckeye Fire Equipment, Ref. No. 06-0101 stating that the company could not use the shipping name “Fire extinguishers” for their cylinders that served as a component of a kitchen fire suppression system and must use the proper shipping name that best describes the material contained in the cylinder since these cylinders were not equipped

to function as fire extinguishers. This latter clarification effectively required cylinders that are part of a fixed fire suppression system to meet an appropriate DOT specification.

In response to this letter, GSI Training Services submitted a petition for rulemaking (P-1546) requesting PHMSA allow cylinders that form a component of fire suppression systems to use the proper shipping name “Fire extinguishers” when offered for transportation. This petitioner states that at least one company manufactured over 39,000 non-specification cylinders for use in fire suppression systems based on the information provided in the March 9, 2005 letter and that the May 30, 2008 clarification effectively placed this company out of compliance. The petitioner further suggests that cylinders comprising a component of a fixed fire suppression system will provide an equal or greater level of safety than portable fire extinguishers since cylinders in fire suppression systems are typically installed in buildings where they are protected from damage and not handled on a regular basis.

In response to P-1546, PHMSA is considering modifying § 173.309 to state that the requirements applicable to fire extinguishers also apply to cylinders used as part of a fire suppression system. The controls outlined in § 173.309(a), including limits on the internal volume, the cylinder contents, the initial testing and subsequent retesting requirements, may provide an acceptable level of safety regardless of whether the cylinder is equipped for use as a fire extinguisher or is a component of a fixed fire suppression system.

According to figures obtained from the U.S. Census Bureau, approximately 568 companies are engaged in heavy tank manufacturing that would include pressure vessels for fire suppression systems. Additionally, equipment wholesalers and retailers may

benefit from this proposal. PHMSA is concerned with the specific safety impacts associated with providing an exception for the transport of compressed gases in non-DOT specification cylinders. In other words, are the requirements in § 173.309 appropriate for cylinders used in a fixed extinguishing system? PHMSA is interested in whether allowing non-specification cylinders to utilize the fire extinguisher exception would result in a cost saving and if so how much? Finally, PHMSA is interested in other safety standards that apply to fire suppression systems and how those standards would influence transport safety.

P-1560

Additional requirements for shipments of liquefied compressed gases in DOT specification cylinders are specified in § 173.304a. In § 173.304a(a)(2), a table provides the maximum filling densities and permissible cylinder types for certain named gases. Currently, § 173.304a(a)(2) permits a maximum filling density of 68% for carbon dioxide and nitrous oxide in DOT 3, DOT 3HT2000 and DOT 39 cylinders as well as DOT 3A, 3AX, 3AA, 3AAX, 3E, 3T, and 3AL cylinders with a marked service pressure of 1800 psi.

Air Products and Chemicals Inc. (Air Products) submitted a petition for rulemaking (P-1560) requesting PHMSA revise § 173.304a(a)(2) to modify the maximum permitted filling densities for carbon dioxide and nitrous oxide to include 70.3%, 73.2%, and 74.5% in DOT 3A, 3AA, 3AX, 3AAX, and 3T cylinders with marked service pressures of 2000, 2265, and 2400 psi respectively. Air Products stated in its petition that the proposed increase in the maximum permitted filling densities would yield various benefits including increased harmonization of compressed gas filling

requirements with the UN Model Regulations, benefits to the carbonated beverage industry, decreased fuel costs associated with the transportation and delivery of carbon dioxide and nitrous oxide and reduced administrative costs through the elimination of DOT SP-13599.

PHMSA has a high degree of confidence that the increased filling densities for these gases will not adversely impact safety and this action supports several PHMSA initiatives, including incorporating special permits into the HMR. Therefore, we are considering modifying the entries currently in the table in § 173.304a(a)(2) for carbon dioxide and nitrous oxide to include the maximum filling densities listed in P-1560 and DOT SP-13599.

We note that the current HMR prescribe only one filling density for carbon dioxide and nitrous oxide (68%), while the UN Model Regulations prescribe two filling densities (68% and 76%) and incorporating the provisions of P-1560 would expand the list of allowable filling densities and permissible cylinder types beyond what is currently permitted in the UN Model Regulations. PHMSA requests comments on the safety and economic implications of permitting expanded maximum filling densities for carbon dioxide and nitrous oxide gases. PHMSA seeks estimates on the number of carbon dioxide and nitrous oxide cylinders currently in use that would be affected by this authorization. PHMSA also requests feedback on how these proposed changes would positively and negatively affect both holders of this special permit and non-holders. Specifically, PHMSA seeks data on the costs associated with the process of applying for and maintaining DOT SP-13599 that would be obviated by incorporating this special permit into the regulations.

P-1563

In accordance with § 173.301(a)(9), specification 2P, 2Q, 3E, 3HT, spherical 4BA, 4D, 4DA, 4DS, and 39 cylinders must be packed in strong non-bulk outer packagings. This configuration meets the definition of a combination package as it is defined in § 171.8 of the HMR. The HMR require the outside of the combination packaging to be marked with an indication that the inner packagings conform to the prescribed specifications; however, the inner packagings do not have to be marked. Since these are combination packages and not overpacks, the HMR do not permit the use of the “OVERPACK” marking to comply with this requirement. In contrast to a combination package, each package in an overpack must bear the appropriate markings and labels. The overpack must also display these markings and labels unless they are visible through the overpack (§ 173.25(a)(2), (a)(4)). The absence of the “OVERPACK” marking on outside packages required by § 173.301(a)(9) removes the implication that each inner packaging (cylinders in this case) must meet the applicable marking and labeling requirements of Part 172.

PHMSA received a petition for rulemaking (P-1563) from the 3M Corporation addressing the regulatory confusion between marking requirements for overpacks in § 173.25 and outside packages for certain thin-walled cylinders specified in § 173.301(a)(9). The petitioner notes that the differing marking requirements in §§ 173.25 and 173.301(a)(9) create confusion and make training difficult. This petition requests PHMSA modify the HMR to permit materials packaged in accordance with

§ 173.301(a)(9), except aerosols “2P” and “2Q,” to display the OVERPACK marking described in § 173.25, in lieu of the current requirement for “an indication that the inner packaging conforms to prescribed specifications.”

The marking "Inner packages comply with prescribed specifications" for overpacks in § 173.25 was changed in 2004 to "OVERPACK" in an effort to better align with global overpack requirements. The petitioner states that prior to 2004 both the overpack requirements in § 173.25 and the requirement in § 173.301(a)(9) used very similar language intended to inform package handlers that although not visible, the inner packages contained specification packagings and these packagings conform to appropriate DOT or UN standards.

PHMSA recognizes that different marking requirements in § 173.301(a)(9) and § 173.25 may have caused confusion without enhancing safety. PHMSA is considering modifying § 173.301(a)(9) to specifically require the use of the “OVERPACK” marking for the specified cylinders. However, this change would mean that both the inner packaging (cylinder) and the overpack would have to display hazardous materials markings and labels in accordance with § 173.25, thereby creating an additional burden. To avoid this consequence, PHMSA is considering revising the exceptions for labeling in § 172.400a, to specify that labels are not required on cylinders packed in accordance with § 173.301(a)(9) provided the outer packaging is labeled as required by the subchapter. This modification would eliminate the confusion cited by the petitioner while excepting the inner packages from the marking and labeling requirements.

PHMSA requests comments on the potential consequences of these changes. Specifically, PHMSA seeks comment on whether others have experienced difficulty with

the requirements of § 173.301(a)(9) and thus see the necessity for such a change.

PHMSA also seeks information on the safety and economic impacts of this proposed modification, including the quantity of shipments per year this modification would impact.

P-1572

Requirements for shipping MEGCs are specified in § 173.312. Specifically, § 173.312(b) details the filling requirements for MEGCs and states that a “MEGC may not be filled to a pressure greater than the lowest marked working pressure of any pressure receptacle [and a] MEGC may not be filled above its marked maximum permissible gross mass.” This requirement that each pressure receptacle contained in the MEGC may not be filled above the working pressure of the lowest marked working pressure of any pressure receptacle is clear for permanent (non-liquefied compressed) gases which are generally filled by pressure. However, § 173.312(b) does not contain a corresponding requirement addressing pressure receptacles containing a liquefied compressed gas which are most often filled by weight. This lack of specificity for MEGCs containing liquefied compressed gas has led to some confusion on the proper filling methods for such MEGCs.

Barlen and Associates, Inc. filed a petition for rulemaking (P-1572) requesting PHMSA explicitly state in § 173.312 that for liquefied compressed gases in MEGCs, the filling ratio of each pressure receptacle must not exceed the values contained in Packing Instruction P200 of the United Nations *Recommendations on the Transport of Dangerous Goods - Model Regulations* (17th ed. 2011), as specified in § 173.304b, and liquefied

compressed gases in manifolded DOT cylinders cannot exceed the filling densities specified in § 173.304a(a)(2).

PHMSA does not anticipate this provision will impose any new burden, as this proposal would only restate an important safety requirement already stated in § 173.304a for DOT cylinders and § 173.304b for UN pressure receptacles. However, PHMSA welcomes comments from affected entities on the safety and economic impacts of this proposal. PHMSA also seeks comment on whether others find the requirements of § 173.312(b) confusing and thus, see a need for more specific requirements as proposed in P-1572.

P-1580

As provided by § 173.301(f), a cylinder filled with a compressed gas and offered for transportation “must be equipped with one or more [pressure relief devices (PRDs)] sized and selected as to type, location and quantity and tested in accordance with CGA [publication] S-1.1 [*Pressure Relief Device Standards-Part 1-Cylinders for Compressed Gases*, 12th edition (2005)] and CGA [publication] S-7 [*Method for Selecting Pressure Relief Devices for Compressed Gas Mixtures in Cylinders* (2005)].” As specified in §§ 172.302(f)(2) and 172.304(f)(2), the rated burst pressure of a rupture disc for DOT 3A, 3AA, 3AL, 3E, and 39 cylinders, and UN pressure receptacles ISO 9809-1, ISO 9809-2, ISO 9809-3, and ISO 7866 cylinders containing oxygen, compressed; compressed gas, oxidizing, n.o.s.; or nitrogen trifluoride must be 100% of the cylinder minimum test pressure with a tolerance of plus zero to minus 10%.

In response to PHMSA’s NPRM entitled “Hazardous Materials; Miscellaneous Amendments” published in the Federal Register on September 29, 2010 [75 FR 60017]

under Docket No. PHMSA-2009-0151 (HM-218F), HMT Associates, Inc. submitted a late-filed comment that identified a potential discrepancy between the HMR and CGA publication S-1.1 *Pressure Relief Device Standards-Part 1-Cylinders for Compressed Gases*, 12th edition (2005). Specifically, this commenter stated the HMR have different PRD settings than CGA S-1.1 for DOT 39 cylinders that make it virtually impossible to comply with both the HMR and CGA S-1.1. Sections 173.302(f)(2) and 173.304(f)(2) require the rated burst pressure of a rupture disc for DOT 3A, 3AA, 3AL, 3E, and 39 cylinders to be 100% of the cylinder minimum test pressure with a tolerance of plus zero to minus 10%, whereas 4.2.2 of CGA S-1.1 requires the rated burst pressure of the rupture disc on DOT 39 cylinders to be not less than 105% of the cylinder test pressure.

In P-1580, the petitioner proposes revising §§ 173.302(f)(2) and 173.304(f)(2) to require that the burst pressure of a rupture disc coincide with CGA S-1.1 for DOT 39 cylinders offered for transportation after October 1, 2008, other DOT specification cylinders with the first requalification due after October 1, 2008, and UN pressure receptacles prior to initial use. Specifically, as prescribed in 4.2.2 of CGA S-1.1, the required burst pressure of the rupture disc “shall not exceed 80% of the minimum cylinder burst pressure and shall not be less than 105% of the cylinder test pressure.”

PHMSA notes that the HMR do not specify that the rated burst pressure on a rupture disc must be in accordance with CGA S-1.1, thus we do not see the need for the changes proposed in P-1580. However, PHMSA requests comments from the compressed gas industry regarding the potential discrepancy. We ask if others see this as a contradiction in the regulations in need of modification. Furthermore, if a change is

deemed necessary, PHMSA requests comment concerning the safety and economic implications of such a revision.

B. Special Permits

The HMR includes many performance-oriented regulations, which provide the regulated community with flexibility in meeting safety requirements. Even so, not every transportation situation can be anticipated and built into the regulations. Special permits enable the hazardous materials industry to quickly, effectively and safely integrate new products and technologies into the production and transportation stream. Federal hazmat law authorizes the Secretary to issue variances—termed special permits—from the HMR only if a special permit provides for a safety level “at least equal to the safety level required under [Federal hazmat law/regulations]...or consistent with the public interest and [Federal hazmat law], if a required safety level does not exist.” 49 U.S.C. 5117(a)(1). Thus, special permits provide a mechanism for testing new technologies, promoting increased transportation efficiency and productivity, and ensuring global competitiveness. Within the DOT, PHMSA is primarily responsible for implementing the Federal hazmat law and issuing special permits.

PHMSA periodically conducts reviews of active special permits to identify variances that should be adopted into regulations for broader applicability. Converting these special permits into regulations reduces paperwork burdens and facilitates commerce while maintaining an acceptable level of safety. Additionally, adopting special permits as rules of general applicability provides wider access to the benefits and regulatory flexibility of the provisions granted in the special permits. Factors that influence whether a specific special permit is a candidate for regulatory action include:

the safety record for transporting hazardous materials; transportation operations conducted under a special permit; the potential for broad application of a special permit; suitability of provisions in the special permit for incorporation into the HMR; rulemaking activity in related areas; and agency priorities.

In this ANPRM, PHMSA is considering incorporating three special permits relating to the transportation of compressed gases into the HMR. These special permits have a strong record of safety and incorporating them into the HMR will provide wider access to the benefits of their provisions, therefore fostering greater regulatory flexibility without compromising transportation safety.

Pressure Relief Devices (PRD)

Section 173.301(f)(2) of the HMR states that “a pressure relief device, when installed, must be in communication with the vapor space of a cylinder containing a Division 2.1 (flammable gas material).” Special Permit 13318 (SP-13318) authorizes the transportation in commerce of DOT specification 39 cylinders of 75 cubic inches or less volume, without the PRD in direct communication with the vapor space. A copy of this special permit can be viewed in the docket for this ANPRM. PHMSA is considering amending paragraph (f)(2) to state that this provision does not apply to cylinders of 75 cubic inches or less in volume filled with a liquefied petroleum gas or to cylinders installed with PRDs at both ends. This special permit was originally issued in 2003 subsequent to the publication of HM-220D (67 FR 51625; August 8, 2002) and continues to allow a shipping practice that previously had been successfully used for over 40 years with an acceptable safety record. This amendment would eliminate the need for this special permit.

PHMSA is considering whether incorporating this special permit into the regulations is appropriate and seeks comment on the potential impacts of such incorporation.

Filling Limits for Carbon Dioxide and Nitrous Oxide

Section 173.304a(a)(2) provides the maximum permitted filling densities for various gases for shipment of liquefied compressed gases, including carbon dioxide and nitrous oxide, in specification cylinders. Special permit (SP-13599) authorizes a higher permitted filling density for carbon dioxide and nitrous oxide. The specifics of this issue, including the expected costs and benefits of this revision, are discussed above in Section III. A. entitled Petitions for Rulemaking, under the heading P-1560.

Pressure Relief Device Requirement for Export Cylinders

As currently stated in § 171.23(a)(4), a cylinder not manufactured, inspected and tested in accordance with Part 178 that is filled for export must be equipped with a pressure relief device. PHMSA issued SP-12929 to authorize the transportation of non-DOT and non-UN specification (i.e. foreign manufactured cylinders) to be filled in the United States and transported for export, without the PRD, provided specific conditions are met. These conditions include requiring: (1) the cylinder to meet the maximum filling density and service pressure requirements prescribed in the HMR, (2) the shipping paper include the notation “DOT-SP 12929” and a certification that the cylinder was retested and refilled in accordance with the requirements for export in the HMR and (3) the emergency response information indicate that the cylinders are not fitted with PRDs. A copy of this special permit can be viewed in the docket for this ANPRM.

In this ANPRM, we are considering incorporating the provisions of SP-12929 into the HMR. We solicit comments on the impacts, if any that adopting these provisions would have on import and export shipments of cylinders.

IV. Regulatory Review and Analysis

A. Statutory/Legal Authority for this ANPRM

This ANPRM is published under the authority of 49 U.S.C. 5103(b), which authorizes the Secretary to “prescribe regulations for the safe transportation, including security, of hazardous material in intrastate, interstate, and foreign commerce.” Section 5117(a) authorizes the Secretary of Transportation to issue a special permit exempting compliance with a regulation prescribed in §§ 5103(b), 5104, 5110, or 5112 “to a person transporting, or causing to be transported, hazardous material in a way that achieves a safety level at least equal to the safety level required under [the Federal hazmat law], or consistent with the public interest...if a required safety level does not exist.” The issues described in this ANPRM respond to ten outstanding petitions for rulemaking and would incorporate into the HMR three special permits with an established history of safety.

B. Executive Order 12866, Executive Order 13563 and DOT Regulatory Policies and Procedures

This ANPRM is not considered a significant regulatory action under section 3(f) and was not reviewed by the Office of Management and Budget (OMB). The ANPRM is not considered a significant rule under the Regulatory Policies and Procedures order issued by the Department of Transportation [44 FR 11034].

Executive Order 13563 is “supplemental to and reaffirms the principles, structures, and definitions governing regulatory review that were established in Executive

Order 12866 of September 30, 1993.” In addition, Executive Order 13563 specifically requires agencies to: (1) involve the public in the regulatory process; (2) promote simplification and harmonization through interagency coordination; (3) “identify and consider regulatory approaches that reduce burdens and maintain flexibility;” (4) ensure the objectivity of any scientific or technological information used to support regulatory action; and (5) consider how to best promote retrospective analysis to modify, streamline, expand, or repeal existing rules that are outmoded, ineffective, insufficient, or excessively burdensome.

PHMSA has involved the public in the regulatory process in a variety of ways. First, in this ANPRM, PHMSA is addressing issues identified for possible future rulemaking in letters of interpretation and other correspondence submitted to PHMSA by the regulated community and other stakeholders. Overall, the issues discussed in this ANPRM promote the continued safe transportation of hazardous materials while producing a net benefit. PHMSA is responding to ten petitions for rulemaking submitted by the compressed gas industry in accordance with 49 CFR 106.95 and is considering incorporating the provisions of three special permits.

These petitions clarify the existing regulatory text in the HMR, incorporate widely-used industry publications and address specific safety concerns, thus enhancing the safe transportation of compressed gases while limiting the impact on the regulated community. Incorporating the provisions of special permits into regulations with general applicability will provide shippers and carriers with additional flexibility to comply with established safety requirements, thereby reducing burdens and costs and increasing productivity.

PHMSA requests public comments and feedback on these issues to help inform its determination in how to address the issues presented in this ANPRM.

C. Executive Order 13132

E.O. 13132 requires agencies to assure meaningful and timely input by state and local officials in the development of regulatory policies that may have a substantial, direct effect on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. We invite state and local governments with an interest in the issues presented in this ANPRM to comment on the effect that adoption of specific proposals may have on state or local governments.

D. Executive Order 13175

This ANPRM was analyzed in accordance with the principles and criteria contained in Executive Order 13175 entitled “Consultation and Coordination with Indian Tribal Governments”. Because this ANPRM does not have tribal implications and does not impose substantial direct compliance costs on Indian tribal governments, the funding and consultation requirements of Executive Order 13175 do not apply, and a tribal summary impact statement is not required. We invite Indian tribal governments to provide comments on the effect that adoption of specific proposals may have on Indian communities.

E. Regulatory Flexibility Act, Executive Order 13272, and DOT Procedures and Policies

The Regulatory Flexibility Act (5 U.S.C. 601 et seq.) requires an agency to review regulations to assess their impact on small entities. An agency must conduct a

regulatory flexibility analysis unless it determines and certifies that a rule is not expected to have a significant impact on a substantial number of small entities. The term “small entities” comprises small businesses and not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000. 5 U.S.C. 601. Accordingly, DOT policy requires an analysis of the impact of all regulations on small entities, and mandates that agencies strive to lessen any adverse effects on these businesses. Section 603(b) of the Regulatory Flexibility Act requires an analysis of the possible impact of the proposed rule on small entities, including reasons for the proposed action, the objectives of the proposed rule, an estimate of the number of small entities affected and alternative proposals considered. Such analysis for this ANPRM is as follows:

Need for the ANPRM. Current requirements for the manufacture, use, and requalification of cylinders can be traced to standards first applied in the early 1900s. Over the years, the regulations have been revised to reflect advancements in transportation efficiency and changes in the national and international economic environment. This ANPRM is part of a retrospective analysis to modify and streamline existing requirements that are outmoded, ineffective, insufficient, or excessively burdensome.

Description of action. This ANPRM considers incorporating the provisions of three special permits, responds to ten petitions for rulemaking, considers clarifying other requirements in the HMR, and addresses areas of concern that are currently not addressed in the HMR. The amendments discussed in this ANPRM are designed to facilitate

international transportation, increase flexibility for the regulated community and promote technological advancement while maintaining a comparable level of safety.

Identification of potentially affected small entities. The amendments considered here are likely to affect cylinder manufacturers (NAICS code 332420; approximately 568 companies), cylinder requalifiers, independent inspection agencies, and commercial establishments that own and use DOT specification cylinders and UN pressure receptacles, as well as individuals who export non-UN/ISO compressed gas cylinders (NAICS codes 32512, 336992, 423450, 423850, 423990, 454312, 541380). Nearly all of these companies, particularly cylinder requalification facilities (approximately 5000 companies), are small entities based on the criteria developed by the Small Business Administration.

Reporting and recordkeeping requirements. This ANPRM does not include any new reporting or recordkeeping requirements.

Related Federal rules and regulations. The Occupational Safety and Health Administration (OSHA) prescribes requirements for the use, maintenance, and testing of portable fire extinguishers in 29 CFR 1910.157 and requirements for fixed fire suppression systems in 29 CFR 1910.160. The issues discussed in this ANPRM pertaining to the transportation of fire extinguishers and compressed gas cylinders that are a component of a fixed fire suppression system do not conflict with the requirements in 29 CFR. With respect to the transportation of compressed gases in cylinders, there are no related rules or regulations issued by other departments or agencies of the Federal government.

Alternate proposals for small business. Certain regulatory actions may affect the competitive situation of an individual company or group of companies by imposing relatively greater burdens on small, rather than large, enterprises. PHMSA requests comments from small entities on the impacts of these additional requirements.

Conclusion.

This ANPRM requests information on a series of questions which will be used to develop a proposal to amend provisions of the HMR addressing the manufacture, maintenance and use of cylinders. PHMSA anticipates that this ANPRM will generally reduce burdens for most persons and any costs resulting from adoption of new requirements will be offset by the benefits derived from elimination of the need to apply for special permits, increased regulatory flexibility, and the improved safety derived from enhanced compliance with the clarified portions of the HMR. Since there are no specific proposals in this ANPRM, there are no costs to be evaluated. If your business or organization is a small entity and if adoption of proposals contained in this ANPRM could have a significant economic impact on your operations, please submit a comment to explain how and to what extent your business or organization could be affected.

F. Paperwork Reduction Act

This ANPRM does not impose new information collection requirements. Depending on the results of our request for comments to this ANPRM, a decrease may result in the annual burden and costs under OMB proposed changes to incorporate provisions contained in certain widely used or longstanding special permits that have an established safety record.

PHMSA specifically requests comments on the information collection and recordkeeping burdens associated with developing, implementing, and maintaining these requirements for approval under this ANPRM.

Address written comments to the Dockets Unit as identified in the ADDRESSES section of this ANPRM. We must receive comments regarding information collection burdens prior to the close of the comment period identified in the DATES section of this ANPRM.

G. Regulation Identifier Number (RIN)

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document may be used to cross-reference this action with the Unified Agenda.

H. Unfunded Mandates Reform Act of 1995

This ANPRM does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of \$141.3 million or more to either state, local or tribal governments, in the aggregate, or to the private sector, and is the least burdensome alternative that achieves the objective of the rule. Further, in compliance with the Unfunded Mandates Reform Act of 1995, PHMSA will evaluate any regulatory action that might be proposed in subsequent stages of the proceeding to assess the effects on State, local, and tribal governments and the private sector.

I. Environmental Assessment

The National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321–4347), requires Federal agencies to consider the consequences of major Federal actions and prepare a detailed statement on actions that significantly affect the quality of the human environment. The Council on Environmental Quality (CEQ) regulations require federal agencies to conduct an environmental review considering: (1) the need for the proposed action; (2) alternatives to the proposed action; (3) probable environmental impacts of the proposed action and alternatives; and (4) the agencies and persons consulted during the consideration process.

Description of Action

This ANPRM responds to ten petitions for rulemaking submitted by the regulated community and seeks comment on incorporating the provisions of three special permits. These issues discussed in this ANPRM would, if eventually adopted, update and expand the use of currently authorized industry consensus standards, revise the construction, marking and testing requirements of DOT-4 series cylinders, clarify the filling requirements for cylinders, discuss the handling of cylinders used in fire suppression systems, and revise the requalification and condemnation requirements for cylinders.

Amendments to the HMR discussed in this ANPRM:

- Replace the currently incorporated 7th edition of the Compressed Gas Association's (CGA) publication *C-6 Standards for Visual Inspection of Steel Compressed Gas Cylinders* with the revised 10th edition and update the appropriate references throughout the HMR.
- Revise the manufacturing requirements for certain DOT-4 series cylinders.

- Revise the requirements for the requalification of DOT specification cylinders by the volumetric expansion method found in Part 180 Subpart C.
- Allow the use of the labels described in the 8th edition of CGA's publication *C-7 Guide to the Preparation of Precautionary Labeling and Marking of Compressed Gas Containers* (currently incorporated by reference in the HMR) Appendix A on cylinders contained in overpacks.
- Require manufacturers to mark newly- manufactured cylinders suitable for the transport of liquefied compressed gas to be marked with the mass weight, tare weight and water capacity.
- Allow non-specification cylinders used in a fixed fire suppression system to be transported under the same exceptions as those provided for fire extinguishers.
- Increase maximum allowable filling density for carbon dioxide and nitrous oxide consistent with the UN Model Regulations.
- Permit use of the OVERPACK marking for cylinders packed in accordance with § 173.301(a)(9).
- Clarify filling limits for a liquefied compressed gas in a manifold or a multiple element gas container (MEGC).
- Harmonize the pressure relief device tolerances for DOT 39 cylinders transporting oxidizing gases by aircraft with the 12th edition of CGA's publication *S-1.1 Pressure Relief Device Standards-Part 1-Cylinders for Compressed Gases*.

- Incorporate into the HMR the requirements of DOT Special Permit (SP) 13318 that authorizes DOT specification 39 cylinders of 75 cubic inches or less volume to be transported without the pressure relief device being in direct communication with the vapor space of the cylinders.
- Clarify the requirements for filling non-specification cylinders for export or for use on board a vessel.

Alternatives Considered:

Alternative (1): Do nothing

Our goal is to update, clarify and provide relief from certain existing regulatory requirements to promote safer transportation practices, eliminate unnecessary regulatory requirements, and facilitate international commerce. We rejected the do-nothing alternative.

Alternative (2): Publish an ANPRM seeking public comment on the issues raised in 10 petitions for rulemaking and the incorporation of 3 special permits. Subsequently, review the comments received on the amendments described in this ANPRM and their potential economic and safety implications. If deemed necessary, PHMSA will use these comments to craft more specific proposals which will be published in a notice of proposed rulemaking. This is the selected alternative.

Environmental Consequences

Hazardous materials are substances that may pose a threat to public safety or the environment during transportation because of their physical, chemical, or nuclear properties. The hazardous materials regulatory system is a risk management system that

is prevention oriented and focused on identifying a safety hazard and reducing the probability and quantity of a hazardous material release. Hazardous materials are categorized by hazard analysis and experience into hazard classes and packing groups. The regulations require each shipper to classify a material in accordance with these hazard classes and packing groups. The process of classifying a hazardous material is itself a form of hazard analysis. Further, the regulations require the shipper to communicate a material's hazards through use of the hazard class, packing group, and proper shipping name on the shipping paper and the use of labels on packages and placards on transport vehicles. Thus, the shipping paper, labels, and placards communicate the most significant findings of the shipper's hazard analysis. A hazardous material is assigned to one of three packing groups based upon its degree of hazard, from a high hazard, Packing Group I to a low hazard, Packing Group III material. The quality, damage resistance, and performance standards of the packaging in each packing group are appropriate for the hazards of the material transported.

Under the HMR, hazardous materials are transported by aircraft, vessel, rail, and highway. The potential for environmental damage or contamination exists when packages of hazardous materials are involved in accidents or en route incidents resulting from cargo shifts, valve failures, package failures, loading, unloading, collisions, handling problems, or deliberate sabotage. The release of hazardous materials can cause the loss of ecological resources (e.g. wildlife habitats) and the contamination of air, aquatic environments, and soil. Contamination of soil can lead to the contamination of ground water. Compliance with the HMR substantially reduces the possibility of accidental release of hazardous materials. It is anticipated that the petitions and special

permits discussed in this ANPRM, if adopted in a future rulemaking, would have minimal, if any, environmental consequences. PHMSA will more thoroughly examine the extent of the environmental impacts of the petitions and special permits discussed in this ANPRM should these issues be proposed in a future rulemaking.

Agencies Consulted

Occupational Safety and Health Administration

National Institute of Standards and Technology

U.S. Environmental Protection Agency

Conclusion

PHMSA has conducted a technical review of the amendments discussed in this ANPRM and determined that the amendments considered would provide protection against overfilling and where a proposal would remove restrictions these revisions are based on sound scientific methods and would not result in unusual stresses on the cylinder or adversely impact human health or the environment. PHMSA welcomes any data or information related to environmental impacts, both positive and negative, that may result from a future rulemaking addressing the issues discussed in this ANPRM.

J. Privacy Act

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or at <http://www.regulations.gov>.

K. International Trade Analysis

The Trade Agreements Act of 1979 (Pub. L. 96-39), as amended by the Uruguay Round Agreements Act (Pub. L. 103-465), prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standards have a legitimate domestic objective, such as the protection of safety, and do not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. PHMSA notes the purpose is to ensure the safety of the American public, and has assessed the effects of this ANPRM to ensure that it does not exclude imports that meet this objective. As a result, this ANPRM is not considered as creating an unnecessary obstacle to foreign commerce.

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Magdy El-Sibaie,

Associate Administrator for Hazardous Materials Safety

Pipeline and Hazardous Materials Safety Administration

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