



This document is scheduled to be published in the Federal Register on 07/05/2012 and available online at <http://federalregister.gov/a/2012-16177>, and on [FDsys.gov](http://FDsys.gov)

**Billing Code 4910-60-P**

**DEPARTMENT OF TRANSPORTATION**

**Pipeline and Hazardous Materials Safety Administration**

**49 CFR Parts 171, 173, and 178**

**[Docket No. PHMSA-2011-0143 (HM-253)]**

**RIN 2137-AE81**

**Hazardous Materials; Reverse Logistics (RRR)**

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

**ACTION:** Advance notice of proposed rulemaking (ANPRM).

**SUMMARY:** PHMSA is publishing this ANPRM to identify ways to reduce the regulatory burden for persons who ship consumer products containing hazardous materials in the “reverse logistics” supply chain. Reverse logistics is the process that is initiated when a consumer product goes backwards in the distribution chain. It may be initiated by the consumer, the retailer, or anyone else in the chain. Therefore, the process may involve consumers, retailers, manufacturers, and even disposal facilities. Following this ANPRM, PHMSA anticipates publishing an NPRM that will propose to simplify the regulations for reverse logistics shipments and provide avenue means for regulatory compliance that maintains transportation safety. This action is part of DOT’s retrospective plan under EO 13563 completed in August 2011 DOT’s plan is available at: <http://www.dot.gov/open/docs/dot-final-rrr-plan-08-23-2011.pdf>. To fully engage the broad spectrum of stakeholders affected by reverse logistics, this ANPRM solicits comments and input on several questions in the context of reverse logistics. Any comments, data, and information received will be used to evaluate and shape the proposals in the NPRM.

**DATES:** Comments must be received by [ENTER DATE 90 DAYS FROM PUBLICATION IN

THE FEDERAL REGISTER].

**ADDRESSES:** You may submit comments identified by the docket number PHMSA-2011-0143 (HM-253) by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.
- Fax: 1-202-493-2251.
- Mail: Docket Management System, U.S. Department of Transportation, Dockets Operations, M-30, Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation To Docket Operations, M-30, Ground Floor, Room W12-140 in the West Building, 1200 New Jersey Avenue, SE, 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 (PHMSA-2011-0143) or RIN (RIN 2137-AE81) for this notice at the beginning of the comment. Note that all comments received will be posted without change to the docket management system, including any personal information provided. If sent by mail, comments must be submitted in duplicated. Persons wishing to receive confirmation of receipt of their comments must include a self-addressed stamped postcard.

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 [45 FR 19477] or you may visit <http://www.regulations.gov>.

**FOR FURTHER INFORMATION CONTACT:** Steven Andrews, Office of Hazardous Materials Standards, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, S.E., Washington, DC 20590-0001, telephone (202) 366-8553.

**SUPPLEMENTARY INFORMATION:**

**I. Background**

In general, “reverse logistics” pertains to the safe return of goods from the marketplace to the original vendor, manufacturer, or supplier. Reverse logistics of hazardous materials affects many industries including high-tech, retail, medical, pharmaceutical, automotive, and aerospace. In effect, reverse logistics is the supply chain in reverse. PHMSA is publishing this ANPRM to identify possible ways to reduce the regulatory burden on retail outlets that ship consumer products containing hazardous materials in the “reverse logistics” supply chain. PHMSA is looking to evaluate the shipment of “reverse logistics” by highway, rail, and vessel. In addition, PHMSA received two petitions from industry regarding the shipping requirements for “reverse logistics” shipments. These petitions are outlined as follows:

**P-1528**

PHMSA received a petition from the Council on the Safe Transportation of Hazardous Articles Inc. (COSTHA) outlining issues related to hazardous materials and “reverse logistics.” In its petition for rulemaking (P-1528), COSTHA proposed that the HMR include a definition for

“reverse logistics” in § 171.8 and add a new section, § 173.157 to outline the general requirements and exceptions for hazardous materials shipped in the context of “reverse logistics.” In its petition COSTHA identified an unquantifiable exposure to risk presented through undeclared hazmat from retail outlets. This includes retail operations that unknowingly return articles containing hazardous materials to the product manufacturing that are potentially compromised. The purpose of this ANPRM is to gather data on how these hazardous materials are shipped with respect to “reverse logistics.”

COSTHA noted that hazardous materials commonly shipped from distribution centers to various retail outlets are often shipped under the ORM-D exception. PHMSA notes that the ORM-D exception allows for a hazardous material, which is a limited quantity and which meets the consumer commodity definition, to be reclassified as an ORM-D and assigned a consumer commodity shipping name. However, in a final rule issued under docket HM-215K ([76 FR 3308](#), January 19, 2011), PHMSA began phasing out the ORM-D hazard class. Based on the final rule, the phase-out of the ORM-D system will be completed on December 31, 2014. Those materials previously shipped under the ORM-D hazard class may be able to be shipped as consumer commodities under the appropriate limited quantities exception in part 173.

COSTHA has indicated that a significant volume of these hazardous materials are returned to the retail outlet by the customer. PHMSA believes based on its enforcement experience that significant quantities of these returned hazardous materials may be in damaged packaging or even leaking prior to their shipment back to the return center. If this is the case, the materials must be repackaged and shipped as fully regulated hazardous materials under the HMR. The HMR generally defines a “hazmat employee” as a person employed on a full-time, part time, or temporary basis by a hazmat employer and who in the course of such full time, part

time or temporary employment directly affects hazardous materials transportation safety. However, PHMSA recognizes that most retail employees or other related employees are not readily identifiable as “hazmat employees” as defined by § 171.8 of the HMR. Consequently this results in employees that often lack sufficient training and qualifications to classify, package, mark, label, and ship hazardous materials. This may result in unsafe shipping practices (e.g., hazardous materials shipped in containers that are not designed for the safe transportation of hazardous materials.) These occurrences are often exacerbated by hazardous materials being improperly segregated in packages. COSTHA also noted that equipment powered by internal combustion engines may be returned to retail outlets after being used and may contain residual fuel, posing a hazardous materials risk.

P-1561

PHMSA received a petition (P-1561) from the Battery Council International (Battery Council). In its petition, the Battery Council requests that PHMSA allow the shipment of used batteries from multiple shippers on a single transport vehicle under the exception provided in § 173.159(e). The Battery Council notes in their petition that currently the exception in § 173.159(e) does not clearly allow for shipment of used batteries from multiple shippers for the purposes of recycling. The petition also notes that, when this regulation was written in 1969, it was not common practice for battery to be recycled using multiple shippers. PHMSA believes that the collection of these used batteries for return, disposal, or recycling falls within the realm of “reverse logistics.” Currently § 173.159(e)(4) prevents a battery recycler from picking up shipments of used batteries from multiple locations. In looking at incident history, PHMSA has not identified any significant incidents involving the shipment of wet lead acid batteries. PHMSA believes that modifying this section to allow battery recyclers to pick up wet lead acid

batteries from multiple locations will likely reduce the number of battery shipments on the highway and thus reduce the likelihood of an accident involving hazmat.

## **II. Analysis of the problem**

Under the current HMR, consumer products that are no longer suitable for retail sale are considered fully regulated. This presents a problem to retail outlets in that many may not have the necessary training or resources to handle fully regulated hazardous materials. PHMSA is looking to identify ways to potentially reduce the regulatory burden associated with the return of these hazardous materials in the “reverse logistics” supply chain, while at the same time ensuring their safe transportation.

According to the Reverse Logistics Association (RLA), the process of reverse logistics represents 3-15% of the Gross Domestic Product, which is estimated between \$360 billion and \$1.8 trillion. Retail outlets often accept returns of hazardous materials from customers that are ultimately shipped back to distribution centers. Retail sales of goods are a primary driver of goods returned. According to the 2007 Economic Census, wholesale trade in the US reached \$6.5 trillion (a 40% increase from the 2002 census) among 435 thousand establishments and 6.2 million employees, while retail sales reached \$3.9 trillion (a 28% increase among 1.1 million establishments and 15.5 million employees).

In addition, we anticipate that online transactions will cause the quantity of reverse logistics shipments to increase. Data indicate that online purchases of hazardous materials have increased. The National Retail Federation reported that in 2010, over 48% of all retail goods (by value) were purchased from on-line providers with an average return rate of 8%. Third-party logistics providers estimate that up to 7% of an enterprise's gross sales are return costs. The third-party logistics providers themselves earn 12% to 15% in profits on this business. PHMSA

is concerned that customers may often return opened or damaged packages containing hazardous materials without any regard for the HMR. This ANPRM seeks comment on whether additional language is needed to clarify how returns of hazardous materials purchased online should be handled.

The rapidly expanding market for consumer electronics is another topic of interest with respect to the “reverse logistics” supply chain. As emerging technologies come online, there are an ever increasing number of batteries that come along with consumer devices. As the batteries in these devices become unusable, PHSMA expects to see large quantities of batteries being returned to retail outlets. PHMSA seeks comment on this assumption. This ANPRM is seeking comment on how the retail industry should handle the recycling or disposal of these batteries for use in consumer electronics.

In all of these scenarios, PHMSA enforcement efforts have shown that hazardous materials that are returned to the distribution centers or retail outlets are shipped in ways that are inconsistent with the requirements of the HMR. Often, these materials and packages may be damaged or compromised. Very often, the employees at the retail outlets responsible for packing and shipping these materials have little or no hazardous materials training. This may result in inadequate packaging and hazard communication. Below we identify potential problems that may be attributed with the reverse logistics of hazardous materials:

1. Lack of hazardous materials training by the employees at the retail outlet;
2. Different packaging from the original packaging being used to ship the material;
3. Lack of knowledge about the hazard class by the employee;
4. Potential for hazardous materials to be subject to Environmental Protection Agency (EPA) waste manifest rules;

5. Items that were once classified as consumer commodities may no longer meet that exception;
6. Undeclared hazardous materials may be shipped within the stream of commerce;
7. Properly-marked and labeled original packaging is being improperly re-used to ship returned products that are either not hazardous materials or hazardous materials for which said packaging is not authorized; and
8. These shipments may not be accompanied by appropriate hazardous communication, such as shipping papers, emergency response numbers, placards, labels, markings, and other requirements of the HMR.

PHMSA believes that its enforcement data show that “reverse logistics” issues involving hazardous materials will continue to rise with the increased consumption of goods in a growing economy. PHMSA believes it could be beneficial to identify those areas where PHMSA and the regulated community can work together to facilitate the movement of hazardous materials in the “reverse logistics” supply chain. This could include identifying whether or not there are actually safety concerns involving “reverse logistics” for the transport of hazardous materials as well as identifying potential solutions moving forward.

PHMSA invites comments on the data and information contained in this section. How can we work together to better facilitate the movement of hazardous materials in the “reverse logistics” supply chain? What data is available regarding the current and anticipated future number of reverse logistic shipments for hazardous materials?

### **III. Issues to be Considered**

As previously noted, the purpose of this ANPRM is to invite comments on “reverse logistics.” PHSMA is considering a definition for “reverse logistics” and a possible new section

in the HMR that will clearly identify the regulatory responsibilities of the shipper. To assist PHMSA in getting valuable data and information from commenters, we have compiled questions pertaining to the “reverse logistics” process and welcome input from all interested parties.

Below we outline the key issues identified above:

**A. Define Reverse Logistics**

PHMSA is considering a regulatory definition for “reverse logistics.” The definition would likely be added to 49 CFR § 171.8. It would clearly define the term “reverse logistics.” Generally, “reverse logistics” is thought of as the flow of surplus or unwanted material, goods, or equipment back to the firm, through its logistics chain, for reuse, recycling, or disposal. By defining “reverse logistics” in the HMR, PHMSA will identify how it can assist the regulated community in ensuring the safe and swift movement of these materials in the “reverse logistics” supply chain.

**B. Create a section pertaining to the shippers’ responsibilities with respect to**

**Reverse logistics**

PHMSA is considering adding a section outlining the shippers’ responsibilities with respect to “reverse logistics.” PHMSA believes a section outlining the regulations for materials meeting the definition of “reverse logistics” should address:

1. Classification of materials under the definition of “reverse logistics”;
2. Training requirements for employees who handle materials under “reverse logistics;”  
and
3. Packaging approved for the shipment of hazardous materials under “reverse logistics.”

PHMSA believes that, by outlining the responsibilities of shippers with respect to reverse

logistics, it will contribute to the safe and efficient movement of these materials in commerce. Do commenters agree that outlining the responsibilities of the shippers with respect to reverse logistics will promote safe and efficient movement of these materials? Would regulated entities incur documentation costs to develop and maintain risk assessments and operational procedures? If so, what is a fair estimate of the potential costs?

### C. Questions and Solicitation for Public Comment

PHMSA is considering regulatory relief for “reverse logistics.” We have developed the following questions to solicit comments on the key issues, please provide sources for your data when available:

1. What are the types of hazardous materials and quantities that are frequently returned?
2. What is the volume of returns? Is there a “rule-of-thumb” metric—e.g., 10% of retail sales are returned?
  - What is the current volume returned by private citizens?
  - What is the current volume returned by other businesses?
  - What are the most widely-used methods of return (US Mail, Walk-ins, Commercial Carriers, etc.)?
3. Are returns directed to a disposal facility of the original manufacturer?
4. Should returns be the responsibility of the manufacturer?
5. To what extent should retail employees who package hazardous materials for shipments back to the distribution centers be subject to the training requirements in 49 CFR Part 172, Subpart H? Are retail employees currently being trained for the shipment of hazardous materials under 49 CFR Part 172, Subpart H?
6. Are hazardous materials being properly segregated as required by § 177.843 of the

HMR when being shipped from retail outlets to their distribution centers? How are they being segregated?

7. Should certain hazard classes/divisions be excluded when considering regulations for “reverse logistics?” If so, why?
8. Should PHMSA define specification packages for materials shipped under “reverse logistics”? If so, why?
9. Are shipping and distribution companies assuring the safety of their employees and the public when allowing drop-box hazardous material returns? If so, how?
10. What precautions, if any, are these companies taking to avoid the mixing of hazardous materials and contamination of other packages that might contain hazardous materials and/or non-hazardous materials?
11. What role(s) do 3<sup>rd</sup> party logistics providers<sup>1</sup> play in the reverse logistics process, if any?
12. Have any specific safety risks been observed in returns of hazardous materials products that need to be addressed through rulemaking? If so, how should they be addressed and why?
13. How does the regulated community currently handle hazardous materials that are imported and must then be shipped back in the “reverse logistics” supply chain?
14. What data is available regarding the current and anticipated future number of reverse logistic shipments for hazardous materials?
15. Should PHMSA define “reverse logistics”? If so, to what extent should PHMSA

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<sup>1</sup> The Reverse Logistics Association (RLA) defines 3<sup>rd</sup> party logistics providers as entities who “provide services for OEMs, ODMs and Branded Companies. Some of these services include, but are not limited to: repair, customer service, parts management, end-of-life manufacturing, returns processing order fulfillment, help desk, and many aspects of field service repair.”

define types of shipments that would receive a relaxation under the HRM for “reverse logistics” shipments?

If commenters suggest modification to the existing regulatory requirements, PHMSA requests that commenters be as specific as possible. In addition, PHMSA requests commenters to provide information and supporting data related to:

1. The potential costs of modifying the existing regulatory requirements pursuant to the commenter’s suggestions.
2. The potential quantifiable safety and societal benefits of modifying the existing regulatory requirements.
3. The potential impacts on small businesses of modifying the existing regulatory requirements.
4. The potential environmental impacts of modifying the existing regulatory requirements

#### **IV. Regulatory Issues**

##### **A. Executive Order 12866, Executive Order 13563, and DOT Regulatory Policies and Procedures**

Executive Orders 12866 (“Regulatory Planning and Review”) and 13563 (“Improving Regulation and Regulatory Review”) require agencies to regulate in the “most cost-effective manner,” to make a “reasoned determination that the benefits of the intended regulation justify its costs,” and to develop regulations that “impose the least burden on society.”

Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. This rule has been designated a “significant regulatory action,” although not economically significant, under section

3(f) of Executive Order 12866. Accordingly, the rule has been reviewed by the Office of Management and Budget (OMB). The ANPRM is considered a significant regulatory action under the Regulatory Policies and Procedures order issued by the Department of Transportation [44 FR 11034].

Executive PHMSA invites comments on this section. How should we approach the “reverse logistics” issue to ensure that we regulate in the “most cost-effective manner?” Please provide any cost or benefit figures to support that approach along with any sources that were used to obtain the information.

B. 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 this rulemaking to comment on any effect that revisions to the HMR relative to reverse logistics may cause.

C. Executive Order 13175

E.O. 13175 requires agencies to assure meaningful and timely input from Indian tribal government representatives in the development of rules that “significantly or uniquely affect” Indian communities and that impose “substantial and direct compliance costs” on such communities. We invite Indian tribal governments to provide comments if they believe there will be an impact.

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

Under the Regulatory Flexibility Act of 1980 (5 U.S.C. 601 *et seq.*), we must consider whether a rulemaking would have a significant economic impact on a substantial number of small entities. “Small entities” include small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations under 50,000. If you believe that revisions to the HMR relative to reverse logistics would have a significant economic impact on a substantial number of small entities, please submit a comment to explain how and to what extent your business or organization could be affected and whether there are alternative approaches to this regulations the agency should consider that would minimize any significant impact on small business while still meeting the agency's statutory objectives

Any future proposed rule would be developed in accordance with Executive Order 13272 (“Proper Consideration of Small Entities in Agency Rulemaking”) and DOT’s procedures and policies to promote compliance with the Regulatory Flexibility Act to ensure that potential impacts on small entities of a regulatory action are properly considered.

E. Paperwork Reduction Act

Section 1320.8(d), Title 5, Code of Federal Regulations requires that PHMSA provide interested members of the public and affected agencies an opportunity to comment on information collection and recordkeeping requests. It is possible that new or revised information collection requirements could occur as a result of any future rulemaking action. We invite comment on the need for any collection of information and paperwork burdens, if any.

F. National Environmental Policy Act

The National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4375, requires federal agencies to consider the consequences of major Federal actions and prepare a detailed

statement on actions significantly affecting the quality of the human environment. Under regulations promulgated by the Council on Environmental Quality (CEQ), a federal agency may prepare an environmental assessment to determine whether it should prepare an environmental impact statement for a particular action. 40 C.F.R. § 1508.9(a). The environmental assessment should (1) briefly discuss the need for the proposed action, alternatives to the proposed action, and the probable environmental impacts of the proposed action and alternatives; and (2) include a listing of the agencies and persons consulted. 40 C.F.R. § 1508.9(b). PHMSA welcomes any data or information related to environmental impacts that may result from a reverse logistics rulemaking.

**G. 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.dot.gov/privacy.html>.

**H. Executive Order 13609 and International Trade Analysis**

Under E.O. 13609, agencies must consider whether the impacts associated with significant variations between domestic and international regulatory approaches are unnecessary or may impair the ability of American business to export and compete internationally. In meeting shared challenges involving health, safety, labor, security, environmental, and other issues, international regulatory cooperation can identify approaches that are at least as protective as those that are or would be adopted in the absence of such cooperation. International regulatory cooperation can also reduce, eliminate, or prevent unnecessary differences in

regulatory requirements.

Similarly, the Trade Agreements Act of 1979 (Public Law 96-39), as amended by the Uruguay Round Agreements Act (Public Law 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. For purposes of these requirements, Federal agencies may participate in the establishment of international standards, so long as the standards have a legitimate domestic objective, such as providing for safety, and do not operate to exclude 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 participates in the establishment of international standards in order to protect the safety of the American public, and we have assessed the effects of the proposed rule to ensure that it does not cause unnecessary obstacles to foreign trade. Accordingly, this rulemaking is consistent with E.O. 13609 and PHMSA's obligations under the Trade Agreement Act, as amended.

I. Statutory/Legal Authority for this Rulemaking

49 U.S.C. 5103(b) authorizes the Secretary of Transportation to prescribe regulations for the safe transportation, including security, of hazardous materials in intrastate, interstate, and foreign commerce. Our goal in this ANPRM is to gather the necessary information to determine a course of action in a potential Notice of Proposed Rulemaking (NPRM) associated with the issue of reverse logistics for the transportation of hazardous materials.

J. 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 can be used to cross-reference this action with the Unified Agenda.

Issued in Washington, DC on June 27, 2012 under authority delegated in 49 CFR part 106.

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[FR Doc. 2012-16177 Filed 07/03/2012 at 8:45 am; Publication Date: 07/05/2012]