Department of Transportation

Office of the Chief Information Officer

Supporting Statement

**Radioactive Materials (RAM) Transportation Requirements**

**OMB Control No. 2137-0510**

(Expiration Date: September 30, 2022)

Introduction

This is to request the Office of Management and Budget’s (OMB) renewed three-year approved clearance for the information collection titled, “Radioactive Materials Transportation Requirements” (OMB Control No. 2137-0510), which is currently due to expire on September 30, 2022. This information collection was initiated due to an April 15, 1982, final rule titled “Performance Oriented Packaging,” [47 FR 16268; HM-181] which comprehensively established a set of performance-oriented packaging standards and packaging requirements for use during the transportation of hazardous materials, including revisions to packaging for radioactive materials. In addition, in order to align the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) with the International Atomic Energy Agency (IAEA) regulations, the requirements for the transportation of radioactive materials were revised and reprinted in its entirety in a September 28, 1995, final rule titled “Hazardous Materials Transportation Regulations: Compatibility with Regulations of the International Atomic Energy Agency.”

**Part A. Justification**

1. Circumstances that make collection of information necessary.

This is a request for extension without change of an existing approval under OMB No. 2137-0510 for information and recordkeeping requirements prescribed in the HMR, specifically § 173.22(c) and Part 173, Subpart I, applicable to the transportation of radioactive materials (RAM) in commerce. These requirements are necessary to protect the life and health of the general public and property. This information collection supports the Departmental Strategic goal for Safety. These regulations are promulgated in accordance with the Federal hazardous materials transportation law, 49 U.S.C. 5101-5127. The various information collection and recordkeeping requirements applicable to RAM are discussed in the following paragraphs.

**Document Test and Engineering Evaluation or Comparative Data for Packaging**

Section 173.411(c) of the HMR requires that each offeror of an industrial package, except for Type IP-1 packages, must maintain on file for at least two years after the offeror's latest shipment, and must provide to the Associate Administrator on request, complete documentation of tests and an engineering evaluation or comparative data showing that the construction methods, package design, and materials of construction comply with that specification.

**Offeror Obtaining U.S. Competent Authority for Package Design**

A U.S. Competent Authority is required for shipments of U.S. Nuclear Regulatory Commission (NRC) approved packages (see §§ 173.471(d) and (e)), Department of Transportation (DOT) Specification Type B and fissile packages (§ 173.472(a) and (f)), and packagings containing greater than 0.1 kg of non-fissile or fissile-excepted uranium hexafluoride.

The HMR require that an offeror shall obtain a U.S. Competent Authority Certificate for a package design, or if one has already been issued, the offeror shall register in writing (including a description of the quality assurance program required by 10 CFR part 71) with the U.S. Competent Authority as a user of the certificate. The registration request must be sent via mail, fax, or e-mail. Upon registration, the offeror will be furnished with a copy of the certificate. The offeror shall then submit a copy of the U.S. Competent Authority Certificate applicable to that package design to the national competent authority of each country into or through which the package will be transported, unless the offeror has documentary evidence that a copy has already been furnished.

Furthermore, each request for a U.S. Competent Authority Certificate as required by the IAEA regulations must be submitted in writing to the Associate Administrator of the Pipeline and Hazardous Materials Administration (PHMSA). The request must be in triplicate and include copies of the applicable USNRC packaging approval, USNRC Quality Assurance Program approval number, and a reproducible 22 cm × 30 cm (8.5″ × 11″) drawing showing the make-up of the package. The request and accompanying documentation must be sent via mail, fax, or e-mail.

**DOT Specification 7A Package Documentation**

Section 173.415 details requirements for Authorized Type A packages, including reporting and recordkeeping requirements. Paragraph (a) requires that each offeror of a Specification 7A package must maintain on file for at least two years after the offeror's latest shipment, and shall provide to DOT on request, one of the following:

* A description of the package showing materials of construction, dimensions, weight, closure and closure materials (including gaskets, tape, etc.) of each item of the containment system, shielding and packing materials used in normal transportation, and the following:
	+ If the packaging is subjected to the physical tests of § 173.465, and if applicable, § 173.466, documentation of testing, including date, place of test, signature of testers, a detailed description of each test performed including equipment used, and the damage to each item of the containment system resulting from the tests, or
	+ For any other demonstration of compliance with tests authorized in § 173.461, a detailed analysis which shows that, for the contents being shipped, the package meets the pertinent design and performance requirements for a DOT 7A Type A specification package.
* If the offeror has obtained the packaging from another person who meets the definition of a “packaging manufacturer” in § 178.350(c), a certification from the packaging manufacturer that the package meets all the requirements of § 178.350 for the radioactive contents presented for transport and a copy of documents maintained by the packaging manufacturer that meet the requirements of paragraph (a)(1) of this section.

Furthermore, § 173.415(d) requires that any foreign-made packaging that meets the standards in the “IAEA Regulations for the Safe Transport of Radioactive Material, SSR-6” (IBR, see §171.7 of the HMR) and bears the marking “Type A” may be used for domestic and export shipments of Class 7 (radioactive) materials provided the offeror obtains the applicable documentation of tests and engineering evaluations and maintains the documentation on file in accordance with § 173.415(a). These packagings must conform with requirements of the country of origin (as indicated by the packaging marking) and the IAEA regulations applicable to Type A packagings.

**Revalidation of Foreign Competent Authority Certificate**

Prior to a shipment of a foreign-made Type B(U), Type B(M), Type C, Type CF, Type H(U), Type H(M), or fissile material package for which a Competent Authority Certificate is required by IAEA's “Regulations for the Safe Transport of Radioactive Material, SSR-6,” (IBR, see § 171.7 of the HMR) must comply with the requirements in § 173.473. Specifically, paragraph (a)(1) requires that prior to the shipment of such a package of Class 7 (radioactive) materials into or from the U.S., the offeror shall have the foreign Competent Authority Certificate revalidated by the U.S. Competent Authority, unless this has been done previously. Each request for revalidation must be in triplicate, contain all the information required by Section VIII of the IAEA regulations as specified in “IAEA Regulations for the Safe Transport of Radioactive Material, SSR-6” (IBR, see §171.7 of the HMR), and include a copy in English of the foreign Competent Authority Certificate. The request and accompanying documentation must be sent to the Associate Administrator for Hazardous Materials Safety via mail, fax, or e-mail. Sections 173.416(b) and 173.417(a) and (b) reiterate this requirement.

**Offeror Providing Specific Written Instruction of Exclusive Use Shipment Controls to the Carrier**

Sections 173.427(a)(6)(iv) and 173.441(c) require that offerors of exclusive use[[1]](#footnote-1) shipments must provide specific instructions for maintenance of exclusive use shipment controls to the carrier. Such instructions must be included with the shipping paper information.

Respondents of this information collection include power plants and state waste facilities.

**Register with U.S. Competent Authority as a User of a Package**

Section 173.473(a)(2) requires that users of a package covered by the foreign Competent Authority certificate and its U.S. revalidation must register with the U.S. Competent Authority as a user of the package. Users may register by mail, fax, or email. If the offeror is requesting the revalidation, registration is automatic. Sections 173.471(d), 173.472(a), and 173.477(b) reaffirm this requirement.

**Request for a U.S. Competent Authority as Required by the IAEA Regulations for Special Form**

Section 173.476 details requirements for the approval of special form Class 7 (radioactive) materials. Paragraph (b) requires that prior to the first export shipment of a special form Class 7 (radioactive) material from the United States, each offeror shall obtain a U.S. Competent Authority Certificate for the specific material. For special form material manufactured outside the United States, an IAEA Certificate of Competent Authority from the country of origin may be used to meet this requirement. Paragraph (c) requires that each request for a U.S. Competent Authority Certificate as required by the IAEA regulations must be submitted in triplicate to the Associate Administrator of PHMSA by mail, fax, or e-mail. The request must include:

* A detailed description of the material, or if a capsule, a detailed description of the contents. Particular reference must be made to both physical and chemical states;
* A detailed statement of the capsule design and dimensions, including complete engineering drawings [22cm × 30cm (81⁄2 inches × 11 inches)] and schedules of material, and methods of construction;
* A statement of the tests that have been made and their results; or evidence based on calculative methods to show that the material is able to pass the tests; or other evidence that the special form Class 7 (radioactive) material complies with § 173.469;
* For the original request for a Competent Authority Certificate, evidence of a quality assurance program based on international, national or other standards, for the design, manufacture, testing, documentation, use, maintenance and inspection, as appropriate, of all special form material offered for transport by the requester; and
* A description of any proposed pre-shipment actions, such as leak testing, for use in the consignment of special form radioactive material for transport.

2. How, by whom, and for what purpose is the information used.

Federal, state, local and foreign governments, shippers, and carriers use these requirements to assure that shipments of RAM are made in a safe and expeditious manner. This is accomplished by:

(a) Ascertaining that packages are properly constructed and tested to contain the RAM in incidents normal to transportation and in case of a severe accident.

(b) Moving RAM via a route which is as direct as possible, but will, when possible, avoid heavy concentrations of populations, and is known to state and local emergency response personnel so they are prepared to deal with an emergency if one should arise. The connecting carriers or receivers will know when to expect the RAM and be prepared to properly handle it.

(c) Verifying that shipper and carrier personnel are knowledgeable of both the domestic and international requirements of the proper methods of packaging, loading, etc., of RAM.

(d) Ascertaining that import shipments of RAM are made in a safe and proper method.

Failure of a shipper or a carrier to comply with the regulations pertaining to RAM could lead to exposure of the general public, as well as transportation and industry personnel, to excessive levels of radiation as well as radiation damage to property along the route and to other cargo. Also, improperly prepared export shipments would not be allowed into other countries.

3. Extent of automated information collection.

The burden has been made as simple as possible. The information requested is necessary to ensure safe operation. Information is considered critical in making evaluations and assuring safe transport, loading, and unloading of RAM. The Government Paperwork Elimination Act directs agencies to allow the option of electronic filing and recordkeeping by October 2003, when practicable. Electronic filing and recordkeeping is authorized.

4. Efforts to identify duplication.

DOT recognizes that some of the information sought through these reporting requirements is currently being collected by the NRC. Essentially, those data pertain to shipments made under physical security requirements issued by NRC. DOT's regulations specifically except those shippers already reporting routing information to NRC from filing duplicative reports with DOT. An agreement has been established between DOT and NRC which provides for exchange of these data.

5. Efforts to minimize the burden on small businesses.

The collection of this information is reviewed periodically to ensure that the requirements involving safety in the transportation of RAM are kept to the necessary standards to protect all involved.

6. Impact of less frequent collection of information.

Due to the hazards involved, if collection of information and recordkeeping was required less frequently, the hazards to public safety would increase due to the probability of incidents during transportation. It is not possible to conduct the collection less frequently and still ensure that RAM shipments are transported, loaded, and unloaded in such a manner to minimize the danger to life and property inherent in transporting these materials.

7. Special circumstances.

This collection of information is generally conducted in a manner consistent with the guidelines in 5 CFR 1320.5 (d)(2). However, it is not possible to substantially reduce or eliminate the requirements contained in this collection and still maintain standards necessary to assure safe transportation.

8. Compliance with 5 CFR 1320.8.

A 60-Day Notice and Request for comments was published in the Federal Register on May 3, 2022 [87 FR 26259] under Docket No. PHMSA-2022-0052 (Notice No. 22-09). The comment period closed on July 5, 2022. PHMSA received no comments to this notice.

A 30-Day Notice and Request for comments on the renewal of this information collection was published in the Federal Register on July 18, 2022 [87 FR 42795] also under Docket No. PHMSA-2022-0052 (Notice No. 19-11). The comment period closed on August 17, 2022. PHMSA received no comments to this notice.

9. Payments or gifts to respondents.

There is no payment of gift provided to respondents associated with this collection of information.

10. Assurance of confidentiality.

None of the data collected contain personally identifiable information (PII) or business confidential information. Therefore, no guarantees of confidentiality are provided to applicants.

11. Justification for collection of sensitive information.

Not applicable. Information is not of a sensitive nature.

12. Estimate of burden hours for information requested.

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| **Number of Respondents** | **Total Responses** | **Total Annual Burden Hours** | **Total Salary Cost** | **Total Burden Cost** |
| 320 | 2,915 | 15,347 | $1,222,796 | $0 |

**Document Test and Engineering Evaluation or Comparative Data for Packaging**

Based on historical stakeholder feedback, PHMSA estimates 50 offerors of an industrial package will maintain appropriate documentation for 2 packages per year, for a total of 100 annual responses (50 respondents x 2 responses/respondent). PHMSA further estimates it takes 40 hours to create this information for a total of 4,000 burden hours (100 responses x 40 hours/response). At an estimated salary $79.69[[2]](#footnote-2) per hour, PHMSA estimates a total of $318,760 in salary costs ($79.69 x 4,000 burden hours). PHMSA does not estimate any out-of-pocket expenses.

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| **Information Collection** | **Regulations** | **Respondents** | **Annual Responses per Respondent** | **Annual Responses** | **Hours per Response** | **Total Burden Hours** | **Salary Cost per Hour** | **Total Salary Cost** | **Total Burden Cost** |
| Document Test and Engineering Evaluation or Comparative Data for Packaging - Reporting | 173.411(c) | 50 | 2 | 100 | 40 | 4,000 | $79.69 | $318,760 | $0  |

**Offeror Obtaining U.S. Competent Authority for Package Design**

Based on historical numbers of applications received, approximately 10 shippers will request 4 U.S. Competent Authority Certificates each year, for a total of 40 annual responses (10 respondents x 4 responses/respondent). Based on historical stakeholder feedback, PHMSA estimates it takes approximately 2 hour to complete the application for a total of 80 burden hours (40 responses x 2 hours/response). At a salary of $79.69[[3]](#footnote-3) per hour, PHMSA estimates it costs a total of $6,375 in total salary cost (80 burden hours x $79.69). PHMSA does not estimate any out-of-pocket expenses.

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| **Information Collection** | **Regulations** | **Respondents** | **Annual Responses per Respondent** | **Annual Responses** | **Hours per Response** | **Total Burden Hours** | **Salary Cost per Hour** | **Total Salary Cost** | **Total Burden Cost** |
| Offeror Obtaining U.S. Competent Authority for Package Design - Reporting | 173.471(d), (e), 173.472(a), (f), 173.477(b), (c)  | 10 | 4 | 40 | 2 | 80 | $77.50 | $6,375 | $0  |

**DOT Specification 7A Package Documentation**

For the reporting requirement of this burden, based on historical stakeholder feedback, PHMSA estimates that approximately 50 offerors of Type A package designs will offer 2 such packages requiring appropriate documents, for a total of 100 annual responses (50 respondents x 2 responses/respondent). Based on historical stakeholder feedback, PHMSA estimates it takes approximately 80 hours to create the report, for a total of 8,000 annual burden hours (100 responses x 80 hours /response). At a salary of $79.69[[4]](#footnote-4) per hour, PHMSA estimates it costs a total of $637,520 in total salary cost (8,000 burden hours x $79.69). PHMSA does not estimate any out-of-pocket expenses.

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| **Information Collection** | **Regulations** | **Respondents** | **Annual Responses per Respondent** | **Annual Responses** | **Hours per Response** | **Total Burden Hours** | **Salary Cost per Hour** | **Total Salary Cost** | **Total Burden Cost** |
| DOT Specification 7A Package Documentation - Reporting | 173.415(a), (d) | 50 | 2 | 100 | 80 | 8,000 | $77.50 | $637,520 | $0  |

PHMSA requires the documentation be maintained on file and provided to DOT on request. For this recordkeeping requirement, based on stakeholder feedback and enforcement data, PHMSA estimates that approximately 50 offerors of Type 7A package designs will annually maintain 10 copies of their paperwork for enforcement purposes, for a total of 500 annual responses (50 respondents x 10 responses/respondents). PHMSA estimates it will take approximately 5 minutes to maintain these records, for a total of 41.67 annual burden hours (500 responses x 5 minutes/response). At a salary of $79.69[[5]](#footnote-5) per hour, PHMSA estimates it costs a total of $3,321 in total salary cost (41.67 burden hours x $79.69). PHMSA does not estimate any out-of-pocket expenses.

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| **Information Collection** | **Regulations** | **Respondents** | **Annual Responses per Respondent** | **Annual Responses** | **Minutes per Response** | **Total Burden Hours** | **Salary Cost per Hour** | **Total Salary Cost** | **Total Burden Cost** |
| DOT Specification 7A Package Documentation - Recordkeeping | 173.415(a), (d) | 50 | 10 | 500 | 5 | 41.67 | $79.69 | $3,321 | $0  |

**Revalidation of Foreign Competent Authority Certificate**

Based on PHMSA application data, approximately 25 offers will annually request a revalidation of the foreign Competent Authority certificate, for a total of 25 annual responses. Based on historical stakeholder feedback, PHMSA estimates it will take approximately 80 hours to complete this application for a total of 2,000 annual burden hours (25 responses x 80 hours/response). At a salary of $79.69[[6]](#footnote-6) per hour, PHMSA estimates it costs a total of $159,380 in total salary cost (800 burden hours x $79.69). PHMSA does not estimate any out-of-pocket expenses.

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| **Information Collection** | **Regulations** | **Respondents** | **Annual Responses per Respondent** | **Annual Responses** | **Hours per Response** | **Total Burden Hours** | **Salary Cost per Hour** | **Total Salary Cost** | **Total Burden Cost** |
| Revalidation of Foreign Competent Authority Certificate - Reporting | 173.416(b), 173.417(a), (b), 173.473(a) | 25 | 1 | 25 | 80 | 2,000 | $77.50 | $159,380 | $0  |

**Offeror Providing Specific Written Instruction of Exclusive Use Shipment Controls to the Carrier**

Based on historical stakeholder feedback, PHMSA estimates that there are approximately 100 offerors of exclusive use shipments, that of 20 shipments per year, for a total of 2,000 annual response (100 respondents x 20 responses/respondent). PHMSA estimates that it takes approximately 30 minutes to provide this information, for a total of 1,000 burden hours (2,000 responses x 30 minutes/response). At a salary of $79.69[[7]](#footnote-7) per hour, PHMSA estimates it costs a total of $79,690 in total salary cost (1,000 burden hours x $79.69). PHMSA does not estimate any out-of-pocket expenses.

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| **Information Collection** | **Regulations** | **Respondents** | **Annual Responses per Respondent** | **Annual Responses** | **Minutes per Response** | **Total Burden Hours** | **Salary Cost per Hour** | **Total Salary Cost** | **Total Burden Cost** |
| Offeror Providing Specific Written Instruction of Exclusive Use Shipment Controls to the Carrier - Reporting | 173.427(a)(6)(iv), 173.441(c) | 100 | 20 | 2,000 | 30 | 1,000 | $79.69 | $79,690 | $0  |

**Register with U.S. Competent Authority as a User of a Package**

Based on the number of requests, PHMSA estimates approximately 25 shippers register twice a year as a user of a foreign Competent Authority package for a total of 50 annual response (25 respondents x 2 responses/respondent). Based on historical stakeholder feedback, PHMSA estimates it will take approximately 30 minutes to register, for a total of 25 annual burden hours (50 responses x 30 minutes/response). At a salary of $79.69[[8]](#footnote-8) per hour, PHMSA estimates it costs a total of $1,992 in total salary cost (25 burden hours x $79.69). PHMSA does not estimate any out-of-pocket expenses.

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| **Information Collection** | **Regulations** | **Respondents** | **Annual Responses per Respondent** | **Annual Responses** | **Minutes per Response** | **Total Burden Hours** | **Salary Cost per Hour** | **Total Salary Cost** | **Total Burden Cost** |
| Register with U.S. Competent Authority as a User of a Package - Reporting | 173.471(d), 173.472(a), 173.473(a)(2), 173.477(b) | 25 | 2 | 50 | 30 | 25 | $79.69 | $1,992 | $0  |

**Request for a U.S. Competent Authority as Required by the IAEA Regulations for Special Form**

Based on the number of requests, PHMSA estimates approximately 10 offerors will request for a U.S. Competent Authority approximately 10 times per year, for a total of 100 annual responses (10 respondents x 10 responses/respondent). Based on historical stakeholder feedback, PHMSA estimates it will take approximately 2 hours per response, for a total of 200 annual burden hours (100 responses x 2 hours/response). At a salary of $79.69[[9]](#footnote-9) per hour, PHMSA estimates it costs a total of $15,938 in total salary cost (200 burden hours x $79.69). PHMSA does not estimate any out-of-pocket expenses.

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| **Information Collection** | **Regulations** | **Respondents** | **Annual Responses per Respondent** | **Annual Responses** | **Hours per Response** | **Total Burden Hours** | **Salary Cost per Hour** | **Total Salary Cost** | **Total Burden Cost** |
| Request for a U.S. Competent Authority as Required by the IAEA Regulations for Special Form - Reporting | 173.476(b), (c)  | 10 | 10 | 100 | 2 | 200 | $79.69 | $15,938 | $0  |

13. Estimate of total annual costs to respondents**.**

PHMSA does not estimate any out-of-pocket expenses.

14. Estimate of cost to the Federal government.

For various information collections, PHMSA estimates it takes 255 hours to review the various request for a U.S. Competent authority. At an approximate salary of $70.08 /hour[[10]](#footnote-10), this information collection costs the Federal government $17,870.58.

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| **Hours/FTE** | **Number of FTEs** | **Total Hours** | **Salary + Fringe and Overhead Per Hour** | **Total Salary Cost** |
| 255  | 1 | 255  | $70.08  | $17,870.58  |

15. Explanation of program changes or adjustments.

There are no changes to this information collection.

16. Publication of results of data collection.

There is no publication of this information collection including for statistical use and no statistical techniques are involved.

17. Approval for not displaying the expiration date of OMB approval.

This information collection OMB Control number is prominently displayed in the HMR, specifically under § 171.6, entitled, “Control Numbers under the Paperwork Reduction Act.”

18. Exceptions to certification statement.

There is no exception to PHMSA's certification of this request for information collection approval.

1. *Exclusive use*, as defined in § 173.403, means sole use by a single consignor of a conveyance for which all initial, intermediate, and final loading and unloading and shipment are carried out in accordance with the direction of the consignor or consignee where required by this subchapter. The consignor and the carrier must ensure that any loading or unloading is performed by personnel having radiological training and resources appropriate for safe handling of the consignment. The consignor must provide to the initial carrier specific written instructions for maintenance of exclusive use shipment controls, including the vehicle survey requirement of §173.443(c) as applicable, and include these instructions with the shipping paper information provided to the carrier by the consignor. [↑](#footnote-ref-1)
2. Occupation labor rates based on 2021 Occupational and Employment Statistics Survey (OES) for “Physical Scientists, All Others (19-2099).” https://www.bls.gov/oes/current/oes192099.htm The hourly mean wage for this occupation ($54.43) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation). [↑](#footnote-ref-2)
3. Occupation labor rates based on 2021 Occupational and Employment Statistics Survey (OES) for “Physical Scientists, All Others (19-2099).” https://www.bls.gov/oes/current/oes192099.htm The hourly mean wage for this occupation ($54.35) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation). [↑](#footnote-ref-3)
4. Occupation labor rates based on 2021 Occupational and Employment Statistics Survey (OES) for “Physical Scientists, All Others (19-2099).” https://www.bls.gov/oes/current/oes192099.htm The hourly mean wage for this occupation ($54.35) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation). [↑](#footnote-ref-4)
5. Occupation labor rates based on 2021 Occupational and Employment Statistics Survey (OES) for “Physical Scientists, All Others (19-2099).” https://www.bls.gov/oes/current/oes192099.htm The hourly mean wage for this occupation ($54.43) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation). [↑](#footnote-ref-5)
6. Occupation labor rates based on 2021 Occupational and Employment Statistics Survey (OES) for “Physical Scientists, All Others (19-2099).” https://www.bls.gov/oes/current/oes192099.htm The hourly mean wage for this occupation ($54.43) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation). [↑](#footnote-ref-6)
7. Occupation labor rates based on 2021 Occupational and Employment Statistics Survey (OES) for “Physical Scientists, All Others (19-2099).” https://www.bls.gov/oes/current/oes192099.htm The hourly mean wage for this occupation ($54.43) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation). [↑](#footnote-ref-7)
8. Occupation labor rates based on 2021 Occupational and Employment Statistics Survey (OES) for “Physical Scientists, All Others (19-2099).” https://www.bls.gov/oes/current/oes192099.htm The hourly mean wage for this occupation ($54.43) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation). [↑](#footnote-ref-8)
9. Occupation labor rates based on 2021 Occupational and Employment Statistics Survey (OES) for “Physical Scientists, All Others (19-2099).” https://www.bls.gov/oes/current/oes192099.htm The hourly mean wage for this occupation ($54.43) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation). [↑](#footnote-ref-9)
10. PHMSA used hourly wage data from the Office of Personnel Management (OPM) to estimate wages for its staff at the 2022 General Schedule (GS) level 13, step 1, wage class for the Washington-Baltimore-Northern Virginia metropolitan area. In accordance with the OMB Circular No. A-76 (M-07-02; 2006), PHMSA included a load factor of 36.45 percent for the Federal wage to account for fringe benefits. [↑](#footnote-ref-10)