February 25, 2026

William A. Quade,
Acting Associate Administrator for
Hazardous Materials Safety, Pipeline and
Hazardous Materials Safety Administration.
1200 New Jersey Avenue SE
Washington, DC 20590-0001

Concerning: Docket PHMSA–2024–0064 (HM–266)

Submitted to Regulations.Gov

Dear Administrator Quade,

The Institute of Hazardous Materials Management [IHMM] is pleased to submit comments concerning the docket cited above regarding the Pipeline and Hazardous Materials Safety Administration's (PHMSA) Notice of Proposed Rulemaking under Docket No. **PHMSA–2024–0064 (HM–266)**

Founded in 1984, the Institute of Hazardous Materials Management® (IHMM®] is a not-for-profit organization headquartered in Rockville, Maryland, operating in all 50 states and 85 countries. IHMM has been protecting the environment and the public's health, safety, and security through the creation of credentials recognizing professionals who have demonstrated a high level of knowledge, expertise, and excellence in the management of hazardous materials, dangerous goods transportation, environmental protection, health, and workplace safety.

It is primarily through three of IHMM's professional credentials that we provide comments in this submission: the Certified Hazardous Materials Manager® [CHMM®], the Certified Hazardous Materials Practitioner® [CHMP®], and the Certified Dangerous Goods Professional® [CDGP®].

All three of these credentials are accredited by the ANSI National Accreditation Board [ANAB], under the international ISO/IEC 17024-2012 standard, containing principles and requirements for a body certifying persons against specific requirements, and includes the development and maintenance of a certification scheme for persons.

ANSI/ANAB accreditation of IHMM's credentials is the strongest and highest level of accreditation of professional credentials and serves as the indicator of the vigorous ANSI annual surveillance process.

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ANSI accreditation is recognized both nationally and internationally and has become the hallmark of a quality certification program.

The IHMM CHMM, CHMP, and CDGP certification programs are also accredited by The Council of Engineering & Scientific Specialty Boards (CESB). CESB is an independent, voluntary membership body for organizations that recognize, through specialty certification, the expertise of individuals practicing in engineering and related fields. Accreditation is earned by demonstrating adherence with CESB Accreditation Guidelines, including a robust review program of compliance with those standards.

Executive Summary
Institute of Hazardous Materials Management (IHMM)
Re: Hazardous Materials: Modernizing Regulations To Facilitate Transportation of Hazardous Materials Using Highly Automated Transportation Systems

The Institute of Hazardous Materials Management ("IHMM") respectfully submits these comments in response to PHMSA's Advance Notice of Proposed Rulemaking, *Hazardous Materials: Modernizing Regulations To Facilitate Transportation of Hazardous Materials Using Highly Automated Transportation Systems*

The Hazardous Materials Transportation Act ("HMTA"), 49 U.S.C. §§ 5101–5128, directs the Secretary of Transportation to protect against risks to life, property, and the environment inherent in hazardous materials transportation. Automation may alter operational mechanics, but it does not alter the statutory safety mandate, the requirement for identifiable accountability, or the obligation to maintain enforceable national standards.

IHMM's comments focus on four areas central to lawful modernization of the Hazardous Materials Regulations ("HMR"), 49 CFR Parts 171–180: (1) training equivalency under 49 U.S.C. § 5103(b)(1)(E); (2) performance-based compliance frameworks; (3) economic impacts on small entities under the Regulatory Flexibility Act; and (4) practical enforceability in unmanned or remotely supervised environments. IHMM urges PHMSA to ensure that modernization enhances safety outcomes without eroding inspection feasibility, hazard communication integrity, or statutory accountability.

Comments of the Institute of Hazardous Materials Management

I. Statutory Authority and Governing Legal Framework
PHMSA's rulemaking authority derives from the HMTA, which authorizes the Secretary to "prescribe regulations for the safe transportation, including security, of hazardous material in intrastate, interstate, and foreign commerce."[1] Congress specifically directed regulation of classification, packaging, marking and labeling, shipping documentation, incident reporting, training, and security.[2]

Congress further declared that the purpose of the statute is "to protect against the risks to life, property, and the environment" inherent in hazardous materials transportation.[3]

The HMTA has consistently been interpreted as conferring broad safety authority on the Department of Transportation.[4] However, that authority is bounded by the Administrative Procedure Act ("APA"), which requires reasoned decision-making and prohibits arbitrary or capricious regulation.[5] In addition, the HMTA contains an express preemption provision designed to ensure national uniformity in hazardous materials regulation.[6] Courts have upheld this preemptive structure as central to the statutory scheme.[7]

Any modernization of the HMR to accommodate highly automated transportation systems must therefore (1) maintain equivalent or greater levels of safety; (2) preserve enforceability under 49 U.S.C. §§ 5123–5124; (3) satisfy APA reasoned decision-making standards; and (4) avoid fragmentation of uniform national requirements.

II. Training Equivalency Under 49 U.S.C. § 5103(b)(1)(E)

Section 5103(b)(1)(E) expressly authorizes PHMSA to regulate "the training of hazmat employees." Congress's inclusion of training within the statutory core reflects its recognition that hazardous materials safety depends upon human competency as much as technical standards.
PHMSA asks whether highly automated systems necessitate revisions to Part 172, Subpart H.
PHMSA Automated Transport 2025-...

IHMM submits that automation does not eliminate hazmat employees; rather, it alters their functional roles. Individuals who program routing logic, validate electronic shipping documentation, monitor telemetry feeds, respond to system malfunctions, or oversee automated loading functions are performing functions that directly affect hazardous materials transportation safety. They therefore fall within the regulatory definition of "hazmat employee" in 49 CFR § 171.8.

IHMM agrees with the incorporated stakeholder comments that wholesale creation of new hazardous materials training categories is unnecessary. However, PHMSA should clarify that function-specific training must address responsibilities unique to automated environments, including remote monitoring, automated incident detection systems, and failure-recognition protocols.

To the extent automation replaces direct inspection or manual documentation verification, PHMSA may allow equivalency through documented Safety Management Systems ("SMS"), structured oversight protocols, and continuous monitoring mechanisms. Such equivalency must demonstrably achieve the same safety objectives as initial and recurrent training. Courts have recognized that agencies may employ performance-based regulatory mechanisms so long as enforceable standards remain in place and are supported by reasoned analysis.[8]

Automation cannot function as a substitute for competency; it may serve only as a tool to operationalize it.

III. Performance-Based Compliance Models

PHMSA seeks comment on performance-based regulation in automated contexts.

IHMM supports performance-based approaches provided they are objectively measurable, inspectable, and enforceable.

A. Shipping Papers and Emergency Response Information

Shipping papers and emergency response information implement 49 U.S.C. § 5103(b)(1)(B)–(C). They are the principal means by which first responders identify hazards and determine appropriate mitigation strategies. Courts have repeatedly upheld federal documentation requirements as valid exercises of transportation safety authority.[9]

The incorporated stakeholder comments correctly identify two core challenges in automated environments: detection of incidents occurring at remote or residential locations, and identification of a responsible contact for first responders.

IHMM recommends that PHMSA adopt a functional accessibility standard. Compliance should be achieved through reliable mechanisms such as physical attachment of shipping papers to packages where feasible, scannable digital access technologies, and automatic electronic transmission of documentation upon detection of system malfunction or package drop. The enforceable requirement should be immediate and reliable accessibility of hazard identification and emergency response information.

Existing reporting requirements in 49 CFR §§ 171.15 and 171.16 remain substantively adequate, but automated systems should incorporate telemetry-based triggers capable of identifying loss-of-containment events. Where technology makes such detection feasible, its absence could undermine compliance with the statutory reporting mandate.[10]

B. Packaging in Automated Air Contexts

Under § 5103(b)(1)(A), PHMSA must regulate packaging to ensure containment under conditions normally incident to transportation. Automated air systems that externally expose packages to environmental conditions may alter those “conditions.” The stakeholder comments properly note that fiberboard packaging may be inappropriate where exposure to rainwater is foreseeable.

PHMSA should evaluate whether packaging standards must be adjusted to reflect drop risk, environmental exposure, or battery-proximity hazards unique to automated aircraft.

Performance-based standards may be appropriate here, provided they are tied to quantifiable performance criteria and subject to inspection.

IV. Small-Entity Impacts and the Regulatory Flexibility Act

PHMSA expressly requests comment on small-entity impacts.

Under the Regulatory Flexibility Act ("RFA"), agencies must assess whether proposed rules will have a significant economic impact on a substantial number of small entities and consider less burdensome alternatives.[11] Courts have vacated agency actions where RFA analysis was inadequate.[12]

Automation-enabled compliance may impose capital and operational costs, including acquisition of telemetry systems, cybersecurity protections, electronic documentation platforms, SMS implementation, and software licensing. For small carriers or rural operators, these costs may be proportionally greater than for large integrated operators.

IHMM respectfully submits that PHMSA must evaluate not only direct compliance costs but also market effects, including the potential for regulatory-induced consolidation if compliance systems become economically viable only at scale. While safety remains paramount, economic impact analysis under Executive Order 12866 requires assessment of cost-effectiveness and alternatives.
PHMSA should consider phased implementation timelines, shared infrastructure options, and third-party certified documentation systems to reduce disproportionate burdens. Safety objectives should be met without erecting structural barriers to participation in automated hazardous materials transportation markets.

V. Practical Enforceability and Accountability

Enforcement is central to the HMTA framework. Civil and criminal penalties attach to a "person" who violates the HMR. 49 U.S.C. §§ 5123–5124. Courts have emphasized that regulatory standards must be sufficiently definite to permit enforcement.[13]

Automation must not obscure accountability. Automated systems should be required to maintain accessible operator identification, retrievable contact information for responders, and tamper-resistant digital audit trails. Inspectors must be able to access documentation without reliance on proprietary systems unavailable to regulators.

Uniformity under § 5125 further requires that automated frameworks not produce fragmented compliance regimes that undermine national standards. Courts have recognized that uniformity is central to the statutory structure.[14]

Without clear allocation of responsibility among offeror, carrier, and system operator, enforcement becomes impracticable and deterrence weakened. Automation should enhance traceability, not diminish it.

VI. Conclusion

IHMM commends PHMSA for proactively examining the implications of highly automated transportation systems under the HMTA.

The statutory mandate remains unchanged: protect life, property, and the environment through enforceable, uniform national standards.

Training equivalency must remain outcome-based and tied to defined operator responsibilities. Performance-based compliance must preserve immediate accessibility of hazard communication and emergency information. Small-entity impacts must be thoroughly evaluated under the RFA and Executive Order 12866. Most importantly, accountability and inspectability must remain intact in unmanned environments.

Automation should strengthen—not dilute—the legal architecture of hazardous materials transportation safety.

Footnotes in Comments

1. 49 U.S.C. § 5103(b)(1).
2. Id. § 5103(b)(1)(A)–(F).
3. Id. § 5101.
4. *National Tank Truck Carriers, Inc. v. FMCSA*, 170 F.3d 203 (D.C. Cir. 1999).
5. 5 U.S.C. § 706(2)(A); *Motor Vehicle Mfrs. Ass'n v. State Farm*, 463 U.S. 29 (1983).
6. 49 U.S.C. § 5125.
7. *Colorado Pub. Util. Comm'n v. Harmon*, 951 F.2d 1571 (10th Cir. 1991).
8. *American Trucking Ass'ns v. FMCSA*, 724 F.3d 243 (D.C. Cir. 2013).
9. *CSX Transp., Inc. v. Easterwood*, 507 U.S. 658 (1993).
10. 49 U.S.C. § 5103(b)(1)(C).
11. 5 U.S.C. §§ 603–604.
12. *North Carolina Fisheries Ass'n v. Daley*, 27 F. Supp. 2d 650 (E.D. Va. 1998).
13. *FCC v. Fox Television Stations, Inc.*, 567 U.S. 239 (2012).
14. *Harmon*, 951 F.2d at 1577–79.

IHMM Professional Credentials

The **Certified Hazardous Materials Manager® (CHMM®)** is a professional who has demonstrated, through education, experience, and examination, the ability to identify and assess the risks of hazardous materials, mitigate or eliminate those risks, and manage their impact on human health and the environment. A CHMM provides proper controls for material handling, transportation, and security throughout the life cycle of hazardous materials, from design and production through storage, recycling, and ultimate disposal. They apply scientific knowledge, engineering technologies, and best management practices in compliance with U.S. regulatory requirements. We illustrate the hazardous materials compliance under 49 CFR and risk management knowledge, skills, and abilities of the CHMM by including the CHMM blueprint in **Attachment One**.

The CHMM is accredited by the Council on Engineering and Scientific Specialty Boards [CESB] and by the American National Standards Institute [ANSI]. The measure of the quality and strength of a certification program is to evaluate its accreditation status. Accreditation is a form of certification for the certifying organization, requiring conformance with strict standards of validity, reliability, and impartiality. A key feature of IHMM credentialing programs, accreditation is essential because of the nature of work performed by IHMM certificants. The handling and management of hazardous materials and the transport of dangerous goods are governed by model regulations published by the US Environmental Protection Agency, US Department of Transportation, the U.S. Department of Labor, the Occupational Safety and Health Administration, as well as by the safety industry best practices regulations. Accredited credentials allow professionals to not only gain knowledge to use and implement these regulations but to be recognized for their competency to properly manage and perform the functions of the profession.

The **Certified Hazardous Materials Practitioner® (CHMP®)** is a professional who has demonstrated, through education, experience, and examination, the ability to identify and assess the risks of hazardous materials, mitigate, or eliminate those risks, and manage their impact on human health and the environment. A CHMP provides proper controls for material handling, transportation, and security throughout the life cycle of hazardous materials, from design and production through storage, recycling, and ultimate disposal. They apply scientific knowledge, engineering technologies, and best management practices in compliance with U.S. regulatory requirements. We illustrate the hazardous materials compliance under 49 CFR and risk management knowledge, skills, and abilities of the CHMP by including the CHMP blueprint in **Attachment Two**.

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materials and the transport of dangerous goods are governed by model regulations published by the US Environmental Protection Agency, US Department of Transportation, the U.S. Department of Labor, the Occupational Safety and Health Administration, as well as by the safety industry best practices regulations. Accredited credentials allow professionals to not only gain knowledge to use and implement these regulations but to be recognized for their competency to properly manage and perform the functions of the profession.

The **Certified Dangerous Goods Professional® [CDGP®]** is a professional with a credential that has an unbiased verification that a company employs a global multi-modal hazmat transportation expert, as the CDGP recognizes expertise in dealing with the safe, secure, and compliant multi-modal transportation of dangerous goods internationally under the model regulations published by the United Nations, International Maritime Organization, International Civil Aviation Organization, and International Air Transport Association.

The CDGP is accredited by the Council on Engineering and Scientific Specialty Boards [CESB] and by the American National Standards Institute [ANSI]. The measure of the quality and strength of a certification program is to evaluate its accreditation status. Accreditation is a form of certification for the certifying organization, requiring conformance with strict standards of validity, reliability, and impartiality. A key feature of IHMM credentialing programs, accreditation is essential because of the nature of work performed by IHMM certificants. The handling and management of hazardous materials and the transport of dangerous goods are governed by model regulations published by the US Environmental Protection Agency, US Department of Transportation, the U.S. Department of Labor, the Occupational Safety and Health Administration, the model regulations published by the United Nations, International Maritime Organization, International Civil Aviation Organization, and International Air Transport Association, as well as by the safety industry best practices regulations. Accredited credentials allow professionals to not only gain knowledge to use and implement these regulations but to be recognized for their competency to properly manage and perform the functions of the profession. **See Attachment Three.**

Recertification of Credentials. After recognizing the strength of the content of the credential, and then its accreditation comes the requirements imposed by the certification body [IHMM] for the periodic recertification of the credential. IHMM requires that the CHMM, CHMP, and CDGP holders recertify their competency to continue to hold the credential every 5 years based on the contents of the certification blueprint. This ensures DOT/PHMSA and every public and private sector entity that relies on the professionals who hold these credentials, who are constantly upgrading their skills, knowledge, and abilities in their communities of practice.

Training. IHMM's commitment to the excellence of its professional credentials, and throughout DOT/PHMSA's work with employers, is the emphasis on the necessity of receiving training, and IHMM applauds the dedication to training and education as we stand behind and support our credential holders. IHMM has a Foundation, the Hazardous Materials Society [HMS] https://hazmatsociety.org/ whose reason to exist is principally a focus on the education and training of IHMM's certificants.

Here https://hazmatsociety.org/education-training/, our certificants can easily find and take an extraordinary range of courses to upgrade and expand their knowledge, skills, and abilities.

If there are specific areas where DOT/PHMSA-required training can be made available to IHMM certificants, then we are pleased to make these resources available to all.

We appreciate the opportunity to offer IHMM's comments in this proceeding and again commit to working with DOT/PHMSA in every way possible in the evolution of hazardous materials and dangerous goods transportation credentials that help create safer workers, safer communities, and a safer hazardous materials and dangerous goods transportation environment throughout the nation.

Sincerely,

Eugene A. Guilford, Jr., CAE
Executive Director

About the Institute of Hazardous Materials Management - https://ihmm.org/

Founded in 1984, the Institute of Hazardous Materials Management (IHMM), is a not-for-profit organization. IHMM has been protecting the environment and the public's health, safety, and security through the creation of credentials recognizing professionals who have demonstrated a high level of knowledge, expertise, and excellence in the management of hazardous materials, dangerous goods transportation, environmental protection, health, and workplace safety.

Over 18,000 homeland security, environmental protection, engineering, health sciences, transportation, and public safety professionals have earned IHMM's accredited ***Certified Hazardous Materials Manager®*** *(CHMM®) credential. IHMM also administers the* ***Certified Hazardous Materials Practitioner®*** *(CHMP®), the* ***Certified Dangerous Goods Professional®*** *(CDGP®), the* ***Associate Hazardous Materials Manager®*** *[AHMM®], and the* ***Certified Dangerous Goods Trainer®*** *(CDGT®) credentials. IHMM also works with colleges and universities throughout the United States and, to that end, offers the* ***Student Certified Hazardous Materials Manager®*** *(ST/CHMM®) and* ***Student Associate Safety and Health Manager®*** *[ST/ASHM®] credentials. In 2019, IHMM acquired ISHM and now manages the* ***Certified Safety and Health Manager®*** *[CSHM®],* ***Certified Safety Management Practitioner®*** *[CSMP®],* ***Associate Safety and Health Manager®*** *[ASHM®],* ***Certified School Safety Specialist®*** *[CSSS®], and* ***Certified School Safety Manager®*** *[CSSM®] credentials.*

Attachment One

Certified Hazardous Materials Manager® [CHMM®]

Certification Blueprint

INSTITUTE OF HAZARDOUS MATERIALS MANAGEMENT

CERTIFIED HAZARDOUS MATERIALS MANAGER (CHMM®) EXAM SPECIFICATIONS (BLUEPRINT)

Effective 2021

A Certified Hazardous Materials Manager (CHMM) is a professional who has demonstrated, through education, experience and examination, the ability to identify and assess the risks of hazardous materials, mitigate, or eliminate those risks, and manage their impact on human health and the environment.

A CHMM provides proper controls for material handling, transportation, and security throughout the life cycle of hazardous materials, from design and production through storage, recycling, and ultimate disposal. They apply scientific knowledge, engineering technologies, and best management practices in compliance with U.S. regulatory requirements.

The CHMM examination is a testing instrument designed to evaluate candidate's minimal competency in the field of hazardous materials management. This Specification Blueprint is intended to offer guidance to candidates by outlining the domains and tasks that will be covered on the examination. The blueprint reflects the consensus of the profession validated via a survey of what hazardous materials managers do in practice. The Blueprint below describes the subject matter covered by the examination. All test items will be drawn from among the domain areas of the Specification Blueprint.

This Specification Blueprint lists below each domain and competencies with tasks given under each domain. A percentage label accompanies each domain in this Specification Blueprint. This percentage represents the proportion of the actual CHMM examination devoted to that domain. Tasks provide reference for activities conducted under each domain.

DOMAINS AND COMPETENCIES/TASKS	% of Exams
1 Planning for Materials with Hazards	**9.35**
1.1 Identify hazardous materials by name.	
1.2 Given four SDS, identify the hazardous material.	
1.3 Given a laboratory report (boiling point, classification, PH), identify the constituent that makes this mixture hazardous.	
1.4 Given a scenario about pollution prevention, identify the preferred strategy that should be used.	
1.5 Identify examples of effective recycling.	
1.6 Given a scenario involving pollution, identify the pollution impacts and the related regulations.	
1.7 Given a scenario about a Pollution Prevention Opportunity Assessment (PPOA), identify the elements and sequence of events.	
1.8 Given a scenario about hazardous materials and process, identify the impact to air.	
1.9 Given a scenario hazardous materials and process, identify the impact to water resources.	
1.10 Given a scenario hazardous materials and process, identify the impact to soil.	
1.11 Identify the characteristics of minor and major permits.	
1.12 Identify the characteristics of the permit application and permit review.	
1.13 Identify the characteristics of inspection, training, and waste requirements of permitting.	

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1.14 Determine the threshold quantity of a regulated substance in a process required to comply with EPA's risk management program regulation.	
1.15 Identify the components of Standard Operating Procedures (SOP).	
2 Shipping and Transporting Hazardous Waste and Hazardous Materials	**10.34**
2.1 Given a scenario about hazmat transportation, identify requirements.	
2.2 Given a scenario about packaging, identify the appropriate container.	
2.3 Given a scenario about transporting hazardous waste or hazardous materials and the method of transportation, identify the required labeling.	
2.4 Given a scenario about shipping domestically or internationally, determine how hazardous materials should marked.	
2.5 Given a scenario, identify what information needs to be included in the shipping documents, and the proper shipping description format, and order of information.	
2.6 Given a shipment scenario, identify the required placarding.	
2.7 Identify conditions under which shipments, or portions of shipments, can be accepted or rejected.	
3 Store Materials with Hazard	**9.22**
3.1 Identify storage location site requirements for property containing hazardous materials/waste.	
3.2 Given a scenario about controlling inventory, identify the regulations that apply to that inventory.	
3.3 Given a scenario about storage of hazardous waste/material, identify the facility signage requirements.	
3.4 Given a scenario about storing a hazardous waste/material, identify proper container labeling requirements.	
3.5 Given a scenario about controlling access to hazardous materials/waste, identify how to control access.	
3.6 Given a scenario, identify how storage meets requirements.	
4 Facility Operations Involving Materials with Hazards	**9.12**
4.1 Given a type of hazardous material/waste, identify the engineering control that should be used to treat the material/waste.	
4.2 Given a type of hazardous material/waste, identify the engineering control that should be used to store of the material/waste.	
4.3 Given a type of hazardous material/waste, identify the engineering control that should be used to dispose of the waste.	
4.4 Given a scenario about a process, identify regulatory training record requirements.	
4.5 Given an SDS, identify the hazardous communication requirements that are needed for that material.	
4.6 Given a hazardous material, identify the PPE that should be used when sampling, handling, i.e., sweeping, shoveling, etc., the material.	
4.7 Given a scenario, identify the testing procedures needed to determine the hazard associated with the material.	
4.8 Given a hazardous material, determine health, safety, and security requirements.	
5 Disposition of Materials with Hazards	**8.46**
5.1 Identify typical components of a waste profile.	
5.2 Given a scenario about a waste material, identify the disposition options.	
5.3 Identify what a generator uses to quality/disqualify a disposal facility.	
5.4 Given a scenario about a material (soil, chemical product, construction waste, etc.), identify the disposition requirements for the material.	

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5.5 Given a scenario about the final disposition of a hazardous waste under RCRA, identify how final disposition is confirmed and documented.	
5.6 Given a scenario where there is a release from a container, identify how the release should be managed.	
5.7 Given a waste disposition scenario, identify how emissions (air) should be managed.	
5.8 Given a waste disposition scenario, identify how discharges (water) should be managed.	
6 Record Keeping and Reporting	**7.49**
6.1 Given a scenario about a spill of a hazardous material, identify the reporting requirements (timeframe, threshold reporting quantities, who receives the reports.)	
6.2 Given a scenario, identify the record keeping requirements for the relevant regulatory program (RCRA, EPCRA, TSCA, UST, CWA, CAA, CERCLA, HMTA, and SARA).	
7 Training Personnel	**8.07**
7.1 Given a scenario, identify the training requirements for the relevant regulatory program (RCRA, EPCRA, TSCA, UST, CWA, CAA, CERCLA, HMTA, SARA, and OSHA.)	
7.2 Given an activity involving materials with hazard, identify the competencies that would be needed for that activity (could include identifying hazards, determine if respiratory protection is needed, determine PPE needed, decontamination sequences, site worker needs a physical).	
7.3 Given a scenario about a job, identify the types of training that are required.	
7.4 Given a scenario about training, identify the assessment that should be used.	
7.5 Given a scenario about a Hazmat event when conducting drills and exercises, identify which types of agencies should be involved.	
7.6 Given a regulatory requirement, determine the adequacy of the training content and duration.	
8 Response and Recovery	**7.95**
8.1 Given a scenario about a spill or release, identify the chemical and physical hazards of the material, the quantity of material, and the location of the spill /release.	
8.2 Given a scenario about a spill or release, identify the amount of material that has been spilled or released.	
8.3 Identify the conditions that require the incident to be reported to the National Response Center.	
8.4 Given a scenario about a spill or release, identify how to mitigate the impact to receptors.	
8.5 Identify the steps to develop a recovery or incident action plan.	
8.6 Given an accident situation, identify data needed to investigate the cause of the incident.	
9 Remediation	**6.5**
9.1 Given a scenario about a spill or release, determine how to identify the constituents of concern, the vertical and horizontal extent of the constituents of concern, and the characteristics of the receiving media.	
9.2 Given a release scenario, determine the appropriate remedial objectives.	
9.3 Given a scenario about physical characteristics of a contaminant and a situation involving the contaminant, identify the treatment option that should be used to remediate the contaminant.	
9.4 Given a scenario about a remedial technology that was selected, identify the tools that should be used to ensure remedial action objectives are achieved.	
9.5 Identify capital and recurring costs (O&M costs) associated with a selected remedial action.	
9.6 Given a scenario and remediation technology, identify redevelopment considerations and pitfalls.	
9.7 Given soil analytical results, determine if the clean-up standard has been achieved.	

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10 Management Systems	**6.58**
10.1 Given a scenario, identify which regulations would apply to a multi-media program.	
10.2 Given a scenario, identify the requirements for the maintenance and retention of records.	
10.3 Given a scenario, identify how the investigator can determine if a regulation is current.	
10.4 Given a scenario, identify knowledge needed to participate in regulation development.	
10.5 Given a scenario, identify the required interested parties and the process for the interested parties to communicate.	
10.6 Given a scenario, what are the required public outreach mechanisms?	
10.7 Identify elements of a management system audit and difference(s) from a compliance audit.	
10.8 Identify variables in a financial analysis.	
10.9 Given a scenario, describe operations that require a program.	
11 Environmental Studies	**6.35**
11.1 Given a scenario about a property transfer (sales or purchase of property), describe the required environmental due diligence.	
11.2 Given a scenario where lead-based paint, asbestos, and other regulated materials are thought to be present, describe how a building survey should be conducted.	
11.3 Given a regulatory framework, describe the required process and output.	
11.4 Given a scenario of analytical data, identify contaminants of concern.	
11.5 Given a scenario of a source of contamination, describe likely exposure routes.	
12 Health and Safety	**10.57**
12.1 Given a concentration of a contaminant of concern, identify exposure routes and susceptible populations that may be affected.	
12.2 Given screening thresholds, identify potential hazardous material exposure routes.	
12.3 Given a scenario, identify tasks to complete a job, the hazards of those tasks, and the control of those hazards.	
12.4 Determine process safety management.	
12.5 Identify recommended basic elements of an OSHA-compliant site safety plan.	
12.6 Identify recommended elements of an emergency response plan.	
12.7 Given the presence of hazardous materials, identify the appropriate containment.	
12.8 Identify labeling requirements for products.	

For more information about the Certified Hazardous Materials Manager certification program, including eligibility requirements and application procedures, see the IHMM Candidate Handbook available at www.ihmm.org. If you have questions about the CHMM Blueprint, please contact M. Patricia Buley at pbuley@ihmm.org.

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Attachment Two

Certified Hazardous Materials Practitioner® [CHMP®]

Certification Blueprint

INSTITUTE OF HAZARDOUS MATERIALS MANAGEMENT

CERTIFIED HAZARDOUS MATERIALS PRACTITIONER (CHMP®) EXAM SPECIFICATIONS (BLUEPRINT)

Effective Q4/2022

A Certified Hazardous Materials Practitioner (CHMP) is a professional experienced in handling hazardous materials in a wide variety of specialties, such as safety, environmental protection and compliance, and transportation. The CHMP professional focuses on technical knowledge and expertise in handling hazardous materials.

A CHMP provides proper controls for material handling, transportation, and security throughout the life cycle of hazardous materials, from design and production through storage, recycling, and ultimate disposal. They apply scientific knowledge, engineering technologies, and best management practices in compliance with U.S. regulatory requirements.

The CHMP examination is a testing instrument designed to evaluate a candidate's minimal competency in the field of hazardous materials management. This Specification Blueprint offers guidance to candidates by outlining the Domains and Tasks covered in the examination. The Blueprint reflects the consensus of the profession validated via a survey of what hazardous materials managers do in practice. The Blueprint below describes the subject matter covered by the examination. All test items come from the Domain areas of the Specification Blueprint.

This Specification Blueprint lists each Domain and Competencies with Tasks given under each Domain. A percentage of the exam accompanies each Domain in this Specification Blueprint. This percentage represents the proportion of the actual CHMP examination devoted to that Domain. The Tasks provide a reference for activities conducted under each Domain.

DOMAINS AND COMPETENCIES/TASKS		% of Exams
1	**Identification, Handling, and Transport of Hazardous Materials**	**35.58%**
1.1	Declarative -- Identify management, transport, treatment, and disposal regulations for hazardous materials	
1.2	Declarative -- Identify mandated training (Example: HAZWOPER training.)	
1.3	Declarative -- Identify the difference(s) between DOT hazardous material, EPA/RCRA hazardous waste, and OSHA hazardous substance	
1.4	Declarative -- Identify generator, transporter, and TSDF standards	
1.5	Declarative -- State criteria for identifying the characteristics of hazardous waste and for listing hazardous waste	
1.6	Declarative -- Identify standards for VSQG, SQG, LQG, and generators of Universal Waste	
1.7	Declarative -- Identify shipping papers, labels, markings, placarding, packaging, and record keeping requirements	

1.8	Declarative -- Identify standards for managing specific hazardous waste, standards for owners and operators of TSDF, land disposal restrictions (LDR), and standards for universal waste management
1.9	Declarative -- Identify waste minimization activities
1.1	Declarative -- Identify waste record and reporting requirements
2	**Management of Emergencies & Incidents (E&I) 18.46%**
2.1	Procedural - Given a scenario, determine resources needed to provide an HSP and emergency planning and training; include an employee right to know (RTK) and access to safety data sheets (SDS)
2.2	Procedural -- Given a scenario about an incident, determine the size and role and responsibilities of the incident command system (ICS)
2.3	Procedural -- Given a scenario, determine if record keeping and reporting are necessary according to state and federal regulations and requirements
3	**Sampling and Analysis of Hazardous Materials/Waste 15%**
3.1	Declarative - Identify requirements of a Waste Analysis and Sampling Plan (WASP)
3.2	Declarative - Identify how and when to use different types of direct-reading instruments, such as Draeger Tubes, OVA = Organic Volatile Analyzer, CGM = Combustible Gas Meter, FLID = Flame Ionization Detector, PID = Photoionization Detector
3.3	Application - Given a scenario for a specific waste matrix, describe the sampling methods, sampling equipment, and sample preservation methods.
3.4	Declarative - Identify how specific analytical results correlate to waste characterization and specific treatment standards
3.5	Declarative - Identify standardized test methods used in waste characterization and/or determining DOT hazard class
3.6	Declarative - Identify proper sampling procedures and pertinent sampling media for the establishment of appropriate administrative and engineering controls
4	**Site Investigation and Remediation 14.04%**
4.1	Declarative - Identify potential physical or chemical hazards that may arise when a task is being performed and determine the engineering controls, administrative controls, and PPE requirements
4.2	Declarative - Identify procedures to conduct a site investigation/assessment
4.3	Declarative - Identify appropriate abatement methods based on investigation and risk assessment data
4.4	Declarative - Identify site hazard characteristics and select appropriate administrative and engineering controls including PPE
4.5	Declarative - Identify steps for long-term monitoring of hazardous waste
5	**Program and Project Management 16.92%**
5.1	Declarative - Identify hazardous waste programs scope including managing cradle-to-grave responsibility

5.2	Declarative - Identify requirements of the Hazard Communication Standard (HCS)
5.3	Declarative - Identify training requirements for hazardous materials for OSHA, RCRA, and DOT
5.4	Declarative - Identify OSHA training requirements for general requirements and respiratory protection

For more information about the Certified Hazardous Materials Practitioner certification program, including eligibility requirements and application procedures, see the IHMM Candidate Handbook at www.ihmm.org. If you have questions about the CHMP Blueprint, please contact M. Patricia Buley at pbuley@ihmm.org.

Attachment Three

Certified Dangerous Goods Professional® [CDGP®]

Certification Blueprint

INSTITUTE OF HAZARDOUS MATERIALS MANAGEMENT

CERTIFIED DANGEROUS GOODS PROFESSIONAL (CDGP) EXAM SPECIFICATIONS

Effective 2026

Certified Dangerous Goods Professionals (CDGP) are professionals who have the knowledge, skills, and abilities appropriate for dealing with the transport of dangerous goods that have special packaging, hazard communication, and transport requirements. The CDGP is an expert in understanding and managing potential hazards and the complexity of the regulations that apply to them, and can accurately analyze the requirements for dangerous goods transport through his or her use of regulatory reference sources.

The CDGP exam is based on the UN Recommendations on the Transport of Dangerous Goods – Model Regulations, International Civil Aviation Organization's Technical Instructions (ICAO TI), International Maritime Dangerous Goods Code (IMDG Code), and International Air Transport Association's Dangerous Goods Regulations (IATA DGR), which may be used in conjunction with or in lieu of the ICAO TI.

A CDGP has the knowledge, skills, and abilities appropriate for dealing with the transportation and security of dangerous goods following specific global modal regulations. The references are under specific global modal regulations. These references are the only references allowed during the open-book examination.

1. UN Recommendations on the Transport of Dangerous Goods – Model Regulation, 24th Revision, Effective January 1, 2025 (Updated Every Two Years)
2. European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) TBD 2025 Edition – Authorized January 1, 2025 (Updated Every Two Years)
3. International Civil Aviation Organization's Technical Instructions (ICAO TI), 2025/2026 Edition, Effective January 1, 2025
4. International Maritime Organization's Dangerous Goods Code (IMDG Code), Amendment 42-24 Authorized January 1, 2025 (Updated Every Two Years)
5. International Air Transport Association's Dangerous Goods Regulations (IATA DGR), 66th Edition Authorized January 1, 2025 (Updated Every Year)

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Certified Dangerous Goods Professional (CDGP) Exam Blueprint

The CDGP exam is designed to test the knowledge and critical thinking skills an individual needs to know and apply in this discipline. Test takers will need to demonstrate the knowledge and analyze real-life scenarios identified in the blueprint in real time. The test takers will need to demonstrate competence; this is a multi-faceted exam construct that includes cognitive level knowledge, declarative (recall and remember knowledge), and application (requiring a candidate to apply knowledge). The CDGP candidate must have five [5] years of experience to meet the eligibility requirement to take the exam.

The CDGP Exam Blueprint consists of six domains. A domain is a major area of responsibility that defines the role of a Certified Dangerous Goods Professional (CDGP). A competency/task is an activity performed within a performance domain.

DOMAINS AND COMPETENCIES/TASKS		Percent of Items
1	**Identify and describe international regulatory standards relevant to the transport of dangerous goods**	**25%**
1.1	**Knowledge of International Regulatory References**	**9%**
1.1.1	Application: Given a scenario, apply Recommendations on the Transport of Dangerous Goods – Model Regulations, United Nations Committee of Experts (UN COE), as appropriate in international transportation.	
1.1.2	Application: Given a scenario, apply the International Civil Aviation Organization (ICAO)Technical Instructions for the Safe Transport of Dangerous Goods and the International Air Transport Association (IATA) Dangerous Goods Regulations to the extent that those relate to international standards for moving goods.	
1.1.3	Application: Given a scenario, apply the International Maritime Dangerous Goods Code as appropriate for maritime transportation.	
1.1.4	Application: Given a scenario, apply the Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR).	
1.2	**Knowledge of the Training and Certifications Required by International Regulations**	**10%**
1.2.1	Declarative: Describe the training requirements required by international regulations.	
1.2.2	Declarative: Describe function-specific training as appropriate.	
1.2.3	Declarative: Describe emergency response job functions.	
1.2.4	Declarative: Describe safety and security-related job functions.	
1.2.5	Declarative: Describe retention requirements and required elements of training records.	
1.3	**Working Knowledge of Dangerous Goods Terminology and Definitions**	**6%**
1.3.1	Declarative: Understands key terms and definitions used in the regulations.	
1.3.2	Declarative: Use terminology relevant to dangerous goods transportation.	
1.3.3	Application: Given a scenario, differentiate between terms and definitions (e.g., Hazard Class, Divisions, Packing Groups) in accordance with requirements.	
2	**Management of Transportation**	**24%**

Effective 2026, all CDGP exam administrations will be based on this CDGP Exam Blueprint

2.1	Application: Given a number of inputs, classify dangerous goods for transportation and select the appropriate basic description (e.g., ID number, shipping name, hazard class, division, packing group, etc.)	
2.2	Application: Given a scenario, identify appropriate packaging, testing, and marking for packaging users, including closure instructions.	
2.3	Application: Given a scenario, select approved packaging for classified dangerous goods.	
2.4	Application: Given a scenario, identify the required hazard warning labels for a dangerous goods package.	
2.5	Application: Given a scenario, identify the required marks and markings on packages of dangerous goods.	
2.6	Application: Given a scenario, identify the required placards and/or panels for packages of dangerous goods or cargo transport units carrying dangerous goods.	
2.7	Application: Given a scenario, identify the required information on a properly prepared dangerous goods declaration.	
3	**Handling of Cargo**	**15%**
3.1	Application: Given a scenario, identify the required cargo-handling labels and other required marks for a dangerous goods package or cargo transport unit.	
3.2	Application: Given a scenario, identify the requirements for loading and unloading of dangerous goods into or out of cargo transport units.	
3.3	Application: Given a scenario, apply the appropriate segregation requirements for different packages of dangerous goods.	
3.4	Application: Given a scenario, identify specific handling requirements for a particular mode of transportation for a dangerous goods shipment.	
3.5	Application: Given a scenario, identify the inspection and acceptance criteria for a dangerous goods shipment.	
4	**Management of Documentation**	**15%**
4.1	Declarative: Identify the testing requirements for bulk and non-bulk packagings.	
4.2	Application: Given a scenario, identify the required elements for a dangerous goods declaration.	
4.3	Application: Given a scenario, identify the approvals process for permits, authorizations, or agreements, and other certificates.	
4.4	Application: Given a scenario, identify other required documents that may be required to expedite a dangerous goods shipment.	
5	**Emergency Management**	**11%**
5.1	Application: Given a scenario, plan for and implement key emergency planning concepts.	
5.2	Declarative: Identify important sources of emergency response information.	
5.3	Application: Given a scenario, identify the reporting and notification requirements for an incident or accident involving dangerous goods. (What is required? When is it required? To whom must it be reported?)	
5.4	Application: Given a scenario, identify the required repackaging and/or salvage packaging, and the limitations and use of each.	
6	**Security**	**10%**

6.1	Application: Given a scenario, identify the elements of a site security plan, when they are needed, and the applicable training requirements.	
6.2	Application: Given a scenario, identify key considerations within each required element of the security plan.	
6.3	Application: Given a scenario, implement and employ the elements of security awareness, including the nature, recognition, and methods for addressing security risks.	
6.4	Declarative: Identify key issues when developing security procedures for personnel.	
6.5	Declarative: Identify key issues and requirements for reporting and dealing with security threats, breaches of security, or security-related incidents.	

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