



March 2, 2026

Dr. Anne Lausier, Standards and Risk
Management Division, Office of Ground
Water and Drinking Water (4607M),
Environmental Protection Agency,
1200 Pennsylvania Ave. NW
Washington, D.C. 20004

Concerning: Docket EPA-HQ-OW-2024-0592

Submitted to Regulations.Gov

Dear Dr. Lausier,

The Institute of Hazardous Materials Management [IHMM] is pleased to submit comments concerning the docket cited above regarding the U.S. Environmental Protection Agency's Notice of Proposed Rulemaking under Docket No. **EPA-HQ-OW-2024-0592**.

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®] and the Certified Hazardous Materials Practitioner® [CHMP®].

Both 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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the Council of Engineering and Scientific Specialty Boards*



9210 Corporate Blvd
Suite 470
Rockville, MD 20850
P: (301) 984-8969
F: (301) 984-1516
www.ihmm.org



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

The IHMM CHMM and CHMP 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

IHMM appreciates the opportunity to comment on the Environmental Protection Agency's (EPA's) January 6, 2026, Notice of Proposed Rulemaking (NPRM) to establish a National Primary Drinking Water Regulation (NPDWR) and Maximum Contaminant Level Goal (MCLG) for perchlorate. The Agency has made clear that it is proceeding in response to the D.C. Circuit's decision vacating EPA's 2020 withdrawal of the prior regulatory determination and directing the Agency to proceed to regulation.

IHMM's comments focus on (i) improving the implementability and legal defensibility of the final rule; (ii) ensuring that monitoring, analytical, public-notification, and residuals-management requirements are calibrated to real-world occurrence and exposure pathways; and (iii) identifying specific professional practice and ethics implications for IHMM certificants (CHMM, CHMP, AHMM, and related credentials) who will support public water systems (PWSs), primacy agencies, and regulated supply chains.

In summary:

IHMM supports EPA's proposed MCLG of 20 µg/L, subject to EPA providing additional record clarity on the technical and conceptual role of the 1-point IQ benchmark response used in the derivation and on key exposure assumptions that drive the RfD-to-MCLG translation (DWI-BW and relative source contribution).

On the enforceable MCL, IHMM offers a conditional recommendation:

- Preferred approach: finalize an MCL of 20 µg/L *if* EPA strengthens the monitoring flexibility and data-crediting provisions enough to materially reduce national monitoring/administrative costs (the principal driver of the negative benefit-cost finding).
- Alternative approach: if EPA retains the current initial monitoring structure and the 4.0 µg/L automatic reduction trigger largely unchanged, then an MCL of 40 µg/L is more likely to be implementable and defensible as a "cost-justified-by-benefits" compromise under SDWA §1412(b)(6)(A), given EPA's own quantified benefit-cost estimates across options.

IHMM strongly recommends that EPA elevate “source control” and chemical stewardship—especially control of perchlorate formation associated with hypochlorite disinfection chemical storage/handling—into the final rule’s implementation framework (even if not designated as “BAT”), because this pathway may reduce exposure at comparatively low cost while producing collateral process safety gains.

IHMM requests that EPA ensure the rulemaking record is practically accessible and reproducible. EPA’s inability to show net positive monetized benefits at any proposed MCL is highly likely to become a central litigation issue. EPA should publish the CBX model inputs/outputs, occurrence model assumptions, and monitoring-cost allocation details in a way that allows independent replication and meaningful comment.

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HMM recommends clarifications and targeted edits to: (1) the automatic monitoring reduction thresholds; (2) composite sampling rules; (3) confirmation sample timing; (4) Tiering for public notification; and (5) residuals management expectations for ion exchange, reverse osmosis, and biological treatment.

Comments of the Institute of Hazardous Materials Management

EPA proposes an NPDWR and MCLG for perchlorate under SDWA authority, with three co-proposed enforceable MCL options: **20 µg/L, 40 µg/L, or 80 µg/L** (equivalently 0.02 mg/L, 0.04 mg/L, 0.08 mg/L). EPA explains that 40 and 80 were selected as a doubling and quadrupling of 20 to test cost-benefit trends, while acknowledging that increasing the MCL reduces costs (fewer systems need treatment) but also reduces quantified benefits, and that **EPA found benefits do not justify costs at any evaluated level.**

EPA proposes an **MCLG of 20 µg/L** derived from a draft RfD and exposure assumptions intended to protect the **offspring of iodine-deficient, hypothyroxinemic pregnant women in the first trimester**—identified as the most sensitive population for the neurodevelopmental endpoint used in the analysis. EPA clarifies that the 1-point IQ decrement functions as a benchmark response for derivation of the point of departure and RfD, and that exposures at or below the MCLG should be understood as protective against that decrement in the sensitive population.

EPA’s occurrence discussion indicates that **perchlorate occurrence at or above 20 µg/L is infrequent** and, using the Agency’s occurrence model, the **mean number of systems expected to exceed 20 µg/L in a single sampling round is 103 out of 66,320 CWS and NTNCWS systems.** EPA’s implementation materials similarly emphasize that the proposed regulation could require **monitoring by over 66,000 systems** while “approximately one tenth of one percent” are expected to exceed the proposed limits.

EPA proposes a monitoring framework keyed to the Standardized Monitoring Framework for inorganic contaminants, with automatic reduced monitoring based on initial monitoring results, a **4.0 µg/L** threshold for automatic reduction to once per nine-year compliance cycle, and permissive crediting of certain historical data. EPA also proposes: (1) composite sampling (up to five samples) at state discretion; (2) compliance determination based on the average of an initial plus a confirmation sample; and (3) a proposed confirmation-sample timing requirement tied to the short sensitive exposure window.

EPA proposes approved analytical methods (EPA Methods 314.0, 314.1, 314.2, 331.0, 332.0) and identifies BATs including ion exchange, biological treatment, and reverse osmosis; it also identifies point-of-use reverse osmosis as an SSCT for certain small system categories.

EPA proposes Right-to-Know and consumer communication requirements via CCR reporting and public notification, including **Tier 1 public notification for perchlorate MCL violations** and Tier 3 PN for monitoring/testing procedure violations, with mandatory health effects language reflecting EPA's health assessment.

Legal framework and key judicial decisions

Statutory authorities implicated by the proposed rule

EPA cites SDWA as the authority for establishing an NPDWR and MCLG for perchlorate. The controlling SDWA provisions relevant to the proposal and to IHMM's comments include:

- **Definitions and NPDWR architecture (SDWA §1401; 42 U.S.C. §300f).** SDWA defines "primary drinking water regulation" and "maximum contaminant level" and structures NPDWRs around either an MCL or (where not feasible) a treatment technique.
- **Rulemaking triggers, MCLG/MCL requirements, feasibility, and HRRCA (SDWA §1412; 42 U.S.C. §300g-1).** SDWA requires EPA—once it has determined a contaminant meets statutory criteria—to publish an MCLG and promulgate an NPDWR; set an MCL "as close to the MCLG as is feasible"; define "feasible" in technology-and-cost terms; and conduct a health risk reduction and cost analysis and publish a benefits-justify-costs determination at proposal.
- **Right-to-Know, public notification, and CCR requirements (SDWA §1414; 42 U.S.C. §300g-3).** Congress directs CCR regulations and includes core CCR content requirements, including definitions and health-effect statements.

IHMM highlights that SDWA's structure creates recurring legal vulnerability if the final rule is not tightly aligned with: (i) the statutory feasibility definition; (ii) Congress's specified cost-benefit decision points; and (iii) monitoring/notification rationales commensurate with the Agency's own occurrence assumptions.

Controlling and persuasive judicial decisions and holdings

NRDC v. Regan (D.C. Cir. 2023). The D.C. Circuit held that SDWA **does not permit EPA to withdraw a regulatory determination to regulate a contaminant**; the court granted the petition for review, **vacated EPA’s withdrawal**, and remanded for further proceedings. The opinion emphasizes that SDWA “frontloads” EPA discretion at the determination stage, but once EPA makes a determination to regulate, it must proceed into a mandatory regulatory process. This holding is foundational to EPA’s stated rationale for proceeding despite updated analyses.

American Water Works Ass’n v. EPA (D.C. Cir. 1994). In a major SDWA implementation case, the D.C. Circuit addressed challenges to EPA’s interpretation and implementation of SDWA requirements in the drinking water context and upheld EPA’s rule against the petitioners’ claims. For litigation risk analysis, the key relevance is the court’s confirmation that SDWA’s feasibility- and technology-driven structure can constrain the role of cost-benefit balancing depending on the statutory path the Agency is required to follow.

City of Portland v. EPA (D.C. Cir. 2007). The D.C. Circuit denied a challenge to EPA’s microbial drinking water rule and held, among other points, that alleged flaws in EPA’s cost-benefit analysis did not warrant vacatur where SDWA required EPA to choose the most stringent feasible approach. The court’s reasoning (as summarized in publicly available case materials) underscores that “feasibility” is not a free-ranging cost-benefit test in all SDWA contexts and that certain cost-benefit arguments may be legally irrelevant depending on the statutory provision at issue.

Environmental Defense Fund v. Costle (D.C. Cir. 1978). The D.C. Circuit considered EPA’s duties under SDWA and upheld challenged interim regulations, while recognizing the court’s role: ensure a rational basis and compliance with statutory mandates in an area characterized by scientific and technological uncertainty.

Administrative Procedure Act (APA) review standards and agency scientific judgment. Courts require a reasoned explanation and consideration of relevant factors; rescissions and major policy changes require reasoned analysis under *State Farm*. Courts also give substantial deference to agency technical and scientific judgments where the agency explains uncertainties and connects facts to choices.

Post-Chevron interpretive risk. The Supreme Court in **Loper Bright Enterprises v. Raimondo (2024)** overruled Chevron deference and held that courts must exercise independent judgment in interpreting statutes, while still considering agency views as potentially persuasive. This materially increases the salience of SDWA text, structure, and legislative history for any challenge to EPA’s final perchlorate rule—particularly issues around SDWA §1412(b)(6)(A) and the permissibility of EPA’s MCL selection after a “benefits do not justify costs” determination.

Substantive technical comments and recommended edits
MCLG derivation and clarity requests

EPA proposes an MCLG of **0.02 mg/L (20 µg/L)** and describes a derivation approach using: (i) a draft RfD; (ii) DWI–BW; and (iii) relative source contribution, with rounding to one significant figure consistent with Agency practice. EPA states that it derived a point of departure using a two-step BBDR approach and a benchmark response corresponding to a 1-point IQ decrement in the sensitive population, with a point of departure described as 3.1 (µg/kg/day contextually) and a draft RfD described as 1 (µg/kg/day contextually).

IHMM requests that EPA, in the final rule, **present a concise “derivation chain” table** in the preamble that explicitly lists:

- the POD and its units (and any conversions),
- all uncertainty factors and their justification,
- the selected DWI–BW and the population basis (including assumptions about drinking water intake during early pregnancy),
- the relative source contribution and its record basis,
- the exact rounding rule that produces the final MCLG value.

This “derivation chain” presentation is important for notice-and-comment transparency and to mitigate post-Loper Bright litigation risk regarding statutory interpretation and the rationality of Agency assumptions.

Comparison of MCL options and IHMM’s conditional recommendation

EPA’s own quantified, annualized (2023\$) estimates show declining costs and benefits as the MCL increases from 20 to 80 µg/L, with negative monetized net benefits at each option. EPA also reports that perchlorate occurrence above 20 µg/L is infrequent (mean 103 exceedances in a single monitoring round among 66,320 systems). EPA further indicates, for energy-impact estimation purposes, that systems expected to add treatment processes decrease from ~100 (at 20) to ~60 (at 40) to ~20 (at 80).

Table: MCL option comparison (EPA quantified values; supplemental “systems needing treatment” proxy)

Proposed enforceable MCL	EPA “national occurrence” indicator	Annualized benefits (3% mean; \$2023M)	Annualized costs (3% mean; \$2023M)	Net benefits (3% mean; \$2023M)	EPA stated rationale for considering the option
20 µg/L	Mean 1038.3 systems	16.1	-7.8	“Closest feasible” to MCLG; feasible	

Proposed enforceable MCL	EPA “national occurrence” indicator	Annualized benefits (3% mean; \$2023M)	Annualized costs (3% mean; \$2023M)	Net benefits (3% mean; \$2023M)	EPA stated rationale for considering the option
	expected to exceed in a single round (of 66,320)				technologically/analytically; baseline option
40 µg/L	~60 systems may require added treatment (proxy)	6.8	11.2	-4.4	Doubling of 20 to evaluate cost-benefit trend; smaller cost-benefit gap than 20
80 µg/L	~20 systems may require added treatment (proxy)	5.3	8.6	-3.3	Quadrupling of 20 to evaluate cost-benefit trend; smallest quantified net-loss among options

IHMM comment on the statutory framing: EPA states that “no MCL would result in benefits that are justified by the costs” under SDWA §1412(b)(6)(A), yet the Agency is still co-proposing three MCL options (20/40/80). In a post-Loper Bright litigation environment, challengers may argue that EPA’s final selection must be anchored to SDWA text, including the “cost justified by benefits” provision and the definition of “feasible.”

IHMM conditional recommendation:

- **If EPA adopts meaningful burden-reduction revisions** to monitoring and data crediting (detailed below), IHMM recommends selecting the **20 µg/L MCL** because it matches the proposed MCLG and aligns with SDWA’s “as close as feasible” requirement.
- **If EPA does not materially reduce monitoring burdens**, IHMM recommends that EPA give strong preference to **40 µg/L** as a more implementable option with a smaller quantified net-loss, while still capturing health-protective benefits at the subset of systems where perchlorate occurs at elevated levels.

Monitoring, compositing, confirmation sampling, and data crediting

EPA proposes initial monitoring that varies by source water type and system size, including quarterly initial monitoring for surface water systems and groundwater systems serving >10,000, and two samples (5–7 months apart) for groundwater systems serving ≤10,000.

EPA proposes automatic reductions in monitoring frequency based on initial results, including reduction to once per nine-year cycle when all initial samples at a sampling point are $\leq 4.0 \mu\text{g/L}$, with the $4.0 \mu\text{g/L}$ value tied to the UCMR 1 minimum reporting level.

EPA requests comment on using an alternative threshold (including “one half of the MCL”) for automatic reduction.

IHMM recommendations:

- **Revise the automatic nine-year reduction trigger** from a fixed $4.0 \mu\text{g/L}$ to $\frac{1}{2}$ **the final MCL** (or, alternatively, the greater of $4.0 \mu\text{g/L}$ and $\frac{1}{2}$ the MCL). This better scales the monitoring burden to the regulatory level selected and could reduce monitoring-driven net losses in the HRRCA while maintaining reasonable detection protection.
- **Expand and clarify “historical data crediting.”** EPA proposes allowing states to accept previously acquired monitoring data from up to six years prior to the compliance date. IHMM recommends expanding this to **one full nine-year cycle** where a system can demonstrate stability of source water and treatment/disinfection practices, with state discretion to deny credit where conditions have changed. This aligns with the SMF concept of nine-year cycles.
- **Composite sampling:** EPA explains that states may allow compositing (up to five) with follow-up triggered at MCL divided by number of samples. IHMM supports compositing and requests that EPA clarify: (i) that compositing is appropriate where perchlorate is expected to be far below the MCL; and (ii) that states may authorize compositing as the default approach for entry points with prior non-detect history.
- **Confirmation sample timing:** EPA proposes confirmation sampling within five calendar days after the system receives the analytical result of the first sample and requests comment on shorter or longer timeframes. IHMM recommends allowing **five business days** (or seven calendar days), because laboratory reporting lag and logistics can make a rigid calendar-day rule impracticable, while still keeping the response timeframe short relative to the sensitive exposure window.

Analytical methods, QA/QC expectations, and laboratory capacity

EPA proposes five EPA analytical methods (314.0, 314.1, 314.2, 331.0, 332.0) and notes these methods incorporate quality control criteria to allow accurate quantitation.

IHMM recommendations:

- EPA should explicitly address, in the final preamble and implementation guidance, how PWSs and certified laboratories should handle **data qualifiers, holding times, matrix interference management, and method selection** where perchlorate occurs as an artifact of disinfectant addition or co-occurs with other anions that can affect ion chromatography.
- EPA should include a clear statement that **laboratory QA/QC documentation and chain-of-custody practices** are essential components of compliance for perchlorate, given the

proposed confirmation-sample averaging approach and the potential liability implications of Tier 1 public notification.

Treatment technologies, residuals management, and environmental considerations

EPA proposes BATs of **ion exchange, biological treatment, and reverse osmosis**, and recognizes non-treatment options such as blending, source replacement, and purchasing compliant water. EPA also identifies SSCTs including point-of-use reverse osmosis for specified small system categories. IHMM recommends that EPA address, in the final rule preamble and supporting guidance, specific residuals-management issues that can create environmental and compliance externalities:

- **Ion exchange:** spent resin handling and/or regeneration brines can concentrate perchlorate and may require careful management to avoid shifting contamination burdens (e.g., to POTWs or receiving waters).
- **Reverse osmosis:** concentrate management can raise permitting and disposal challenges despite relatively small affected-system counts.
- **Biological treatment:** biomass and operational controls should be discussed in the context of consistent perchlorate destruction performance.

EPA's own record recognizes that co-occurring contaminant risks and compliance-generated risks must be considered in the HRRCA framework. IHMM therefore requests that EPA, in the final rule, include a **residuals and byproduct management discussion** that identifies (at minimum) typical residual streams and common regulatory touchpoints (e.g., state waste programs, NPDES/POTW pretreatment constraints), with references to existing EPA residuals management guidance where available.

Right-to-Know requirements, CCR language, and public notification Tiering

EPA proposes that **perchlorate MCL violations be Tier 1**, requiring public notification within 24 hours, due to the short sensitive exposure window (first trimester). EPA acknowledges implementation challenges for Tier 1 and requests comment on Tier 1 versus Tier 2 selection.

IHMM recommendations:

- IHMM supports EPA's emphasis on timely notice for sensitive populations, but recommends a **calibrated Tiering approach**: retain Tier 1 for higher-magnitude exceedances (e.g., $\geq 2 \times$ MCL) while allowing Tier 2 for marginal exceedances where immediate action is less likely to change exposure in practice. EPA can implement this as a rule text option or as state-authorized PN stratification.
- EPA should publish **model CCR and PN language** that is clear about (i) the specific sensitive population; (ii) practical steps for consumers; and (iii) uncertainty limitations, to reduce the risk of confusing, overbroad, or legally risky messaging—especially since systems may be compelled to issue Tier 1 PN even where exceedances are few and confirmation sampling is ongoing.

Source control and hypochlorite stewardship

EPA recognizes that perchlorate can be found as a byproduct of improper handling of hypochlorite solutions used for drinking water treatment and notes additional non-water exposure sources such as household products (bleach) and occupational dust.

IHMM emphasizes that a national perchlorate program should not be implemented solely as an “end-of-pipe” treatment problem. In many settings, a meaningful portion of perchlorate in finished water can be addressed by **chemical procurement specifications and storage/handling practices** for sodium hypochlorite—an approach consistent with IHMM certificants’ core competency in chemical management and process safety.

IHMM’s provides practitioner observations that: (i) certain states have successfully implemented perchlorate limits; and (ii) “modified sodium hypochlorite practices” and use of lower-strength bleach may reduce perchlorate formation while providing process safety benefits.

IHMM requests that EPA:

- explicitly recognize “disinfectant chemical stewardship” as a recommended compliance/avoidance pathway (not necessarily as BAT, but as an implementation best practice); and
- identify record-based operational practices (storage time/temperature, concentration management, supplier specifications) that influence perchlorate formation in hypochlorite solutions.

IHMM certificant implications and recommended professional practices

IHMM certificants—including CHMMs, CHMPs, AHMMs, and related credentials—routinely advise regulated entities on monitoring programs, laboratory QA/QC, chemical storage/handling, treatment residuals, risk communication, and documentation practices that become legally salient in enforcement and tort contexts.

EPA’s proposed rule would: (i) impose monitoring obligations across tens of thousands of systems; (ii) make confirmation sampling and compliance determinations time-sensitive; and (iii) trigger Tier 1 PN within 24 hours for MCL violations. These features expand the compliance-risk footprint for any professional advising a PWS, state primacy agency, or chemical supplier.

IHMM recommends that EPA acknowledge, in implementation materials, that effective compliance will depend on professional practices in at least five areas:

Monitoring program design and documentation integrity. Professionals should document entry point selection, source water characterization, sampling plans, and the factual basis for any state-accepted historical data crediting or waiver request.

Laboratory QA/QC and defensible data practices. Because compliance may be determined by averaging an initial and confirmation sample and because Tier 1 PN can be triggered rapidly, competent practice requires defensible chain-of-custody, QC review, and clear communication of data qualifiers.

Treatment selection and residuals/waste management. Selection among ion exchange, biological treatment, or reverse osmosis must account not only for removal efficacy but also for practical residuals management, contractor oversight, and interface with state waste and wastewater programs.

Chemical stewardship and process safety. Where perchlorate is influenced by hypochlorite handling, IHMM certificant is positioned to reduce risk by advising on procurement specifications, storage controls, and safer handling practices consistent with process safety objectives.

Risk communication and liability-aware reporting. Tiered PN and CCR obligations require communications that are accurate, not misleading, and appropriately tailored to sensitive populations—while avoiding erosion of public trust through repeated alerts in low-occurrence contexts (a concern EPA itself recognizes).

Requested EPA actions, proposed regulatory edits, and compliance workflow

Targeted regulatory edits (drafting suggestions)

To improve implementability and align monitoring costs with occurrence, IHMM proposes the following targeted edits (illustrative) to the proposed regulatory text and related provisions:

- **Automatic reduction threshold:** revise the auto-nine-year trigger from a fixed 4.0 µg/L to ½ of the final MCL (or greater of 4.0 µg/L and ½ MCL).
- **Historical data crediting:** expand from “up to 6 years” to “up to one compliance cycle (9 years)” where system demonstrates stable conditions, subject to state discretion.
- **Confirmation sample timing:** replace “five calendar days” with “five business days” (or “seven calendar days”), with state discretion to require shorter where warranted.
- **Public notification tiering:** allow Tier 2 for marginal exceedances while reserving Tier 1 for higher-magnitude exceedances or confirmed exceedances above a specified trigger.

Record, data, and modeling requests

IHMM requests that EPA include in the final rule docket (and clearly cross-reference in the final Federal Register notice):

- the CBX model version, inputs, and key output tables used for the HRRCA;
- occurrence model structure, calibration approach, and assumptions used to estimate exceedances;
- monitoring cost assumptions, including allocation between PWS and primacy agencies; and

- the supporting technical documents EPA lists (e.g., health effects TSD; BAT/SSCT analyses; occurrence report; economic analysis) in a way that is readily accessible for independent review.

Mermaid compliance workflow for a public water system

mermaid

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flowchart TD

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A[Determine applicability: CWS or NTNCWS] --> B[Initial monitoring plan per source type/size]
B --> C[Collect initial samples at each entry point]
C --> D{Initial results at sampling point}
D -->|All ≤ 4.0 µg/L| E[Auto-reduce to once per 9-year cycle]
D -->|Any > 4.0 µg/L and ≤ MCL| F[Auto-reduce to annual (SW) or triennial (GW)]
D -->|Any > MCL| G[Quarterly monitoring begins]
G --> H[Collect compliance sample]
H --> I{Sample > MCL?}
I -->|No| J[Compliant at this sample]
I -->|Yes| K[Collect confirmation sample within required timeframe]
K --> L[Average initial + confirmation]
L --> M{Average > MCL?}
M -->|No| N[No MCL violation; continue monitoring frequency per framework]
M -->|Yes| O[MCL violation]
O --> P[Tier 1 Public Notification + required content]
O --> Q[Mitigation: treatment or non-treatment compliance option]
Q --> R[Ongoing monitoring and reporting to primacy agency]
R --> S[CCR includes MCL/MCLG, detected range, health language, actions]

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Closing

IHMM supports EPA’s goal of protecting sensitive populations from perchlorate exposure through drinking water while ensuring that the final rule is technologically feasible, legally durable, and operationally implementable across a national universe of predominantly unaffected systems.

EPA should finalize the rule in a manner that (i) makes the MCL choice defensible under SDWA text after NRDC v. Regan; (ii) scales monitoring burdens to real occurrence and exposure pathways; (iii) integrates source control and chemical stewardship; and (iv) provides clear implementation guidance addressing QA/QC, confirmation sampling, PN/CCR communications, and residuals management.

IHMM Professional Credentials

The **Certified Hazardous Materials Manager® (CHMM®)** is an environmental 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 the 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 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**.

The CHMP 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.

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 and CHMP holders recertify their competency to continue to hold the credential every 5 years based on the contents of the certification blueprint. This ensures EPA 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 EPA-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 EPA in every way possible to advance hazardous materials credentials that help create safer workers, safer communities, and a safer 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



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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9210 Corporate Blvd
Suite 470
Rockville, MD 20850
P: (301) 984-8969
F: (301) 984-1516
www.ihmm.org



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 be 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 qualify/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.	





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.	





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.	

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For more information about the Certified Hazardous Materials Manager certification program, including eligibility requirements and application procedures, see the IHMM [Candidate Handbook](http://www.ihmm.org) 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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9210 Corporate Blvd
Suite 470
Rockville, MD 20850
P: (301) 984-8969
F: (301) 984-1516
www.ihmm.org

Attachment Two
Certified Hazardous Materials Practitioner® [CHMP®]
Certification Blueprint



**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 TSD, 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

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