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# Environmental Implications of Trucking Accidents: Regulatory Compliance and Risk Mitigation Strategies in 2025



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When a trucking accident occurs, the immediate focus is rightly on the safety of the driver and any other individuals involved. However, accidents involving commercial vehicles often present another, less visible threat—environmental contamination. Leaks and spills from fuel tanks, coolant systems, and transported cargo can lead to significant regulatory liabilities, costly cleanup operations, and long-term environmental damage.

## I. Federal Reporting Obligations Triggered by Environmental Releases

Even relatively minor trucking accidents can trigger environmental reporting obligations under a complex framework of federal statutes and state regulations. Among the most significant federal laws governing environmental liability is the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), codified at 42 U.S.C. §§ 9601–9675. The CERCLA imposes strict liability on parties responsible for the release of hazardous substances and includes specific notification requirements that are directly applicable to commercial trucking operations.

Under 42 U.S.C. § 9603(a):

"[a]ny person in charge of a vessel or an onshore or offshore facility shall, as soon as he has knowledge of any release (other than a federally permitted release) of a hazardous substance from such vessel or facility in quantities equal to or greater than those determined pursuant to section 9602 of this title, immediately notify the National Response Center of such release."<sup>1</sup>

For purposes of the statute, commercial trucks qualify as "onshore facilities." As defined in § 9601(18), the term "onshore facility" includes "any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under, any land or non-navigable waters within the United States."<sup>2</sup>

The required notification threshold—the reportable quantity (RQ)—is further established in § 9602(b). That section provides:

"Unless and until superseded by regulations establishing a reportable quantity under subsection (a) of this section for any hazardous substance as defined in section 9601(14) of this title, (1) a quantity of one pound, or (2) for those hazardous substances for which reportable quantities have been established pursuant to section 1321(b)(4) of title 33, such reportable quantity, shall be deemed that quantity, the release of which requires notification pursuant to section 9603(a) or (b) of this title."<sup>3</sup>

In practical terms, this means that trucking accidents involving substances such as diesel fuel (which has a reportable quantity of 100 gallons under 40 C.F.R. § 302.4)<sup>4</sup>, hydraulic fluid, or transported hazardous cargo may create immediate federal reporting obligations.

Notification must be made immediately upon discovery of the release. According to the U.S. Environmental Protection Agency, "immediate" means without delay, and typically no later than 15 minutes after a person has knowledge of the release, with shorter delays expected whenever practicable.<sup>5</sup> Failure to provide notification in a timely manner may result in civil penalties of up to \$25,000.<sup>6</sup>

Similarly, the Environmental Protection Agency (EPA) requires reporting of oil discharges that create visible environmental impacts, even in small quantities. Under what is commonly known as the "sheen rule," a discharge must be reported if it causes a visible sheen or film on the surface of navigable waters, discoloration of the water or adjoining shorelines, or sludge or emulsion beneath the surface or on shorelines.<sup>7</sup> This rule, codified at 40 C.F.R. § 110.3, is based on the EPA's interpretation of the Clean Water Act's prohibition on discharges of oil in quantities that may be harmful to public health or the environment. As a result, even minor oil leaks from diesel fuel, lubricants, or hydraulic fluid can trigger federal reporting obligations if they

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reach a waterway or stormwater system connected to one.<sup>8</sup>

Under federal regulations, any party responsible for an oil discharge that causes a visible sheen, discolouration, sludge, or emulsion on navigable waters or adjoining shorelines must immediately notify the National Response Center (NRC).<sup>9</sup> Pursuant to 40 C.F.R. § 110.6, this notification must include critical details such as the location and timing of the discharge, the quantity and source (if known), potential environmental or public health threats, and any containment or cleanup measures undertaken or planned.<sup>10</sup> The reporting obligation is designed to facilitate a prompt governmental and emergency response to mitigate environmental harm. Failure to comply with these notification requirements can result in substantial civil penalties under the *Clean Water Act* and may expose the responsible party to criminal liability for knowing violations.<sup>11</sup>

## II. Common Environmental Hazards Arising from Trucking Accidents

The primary environmental risks in trucking accidents generally fall into three categories:

**Fuel Leaks from the Tractor:** Diesel fuel spills are among the most common environmental hazards. Industry estimates suggest that up to one percent of commercial trucks experience fuel leaks annually, with average spill sizes around 100 gallons—volumes sufficient to necessitate immediate containment and cleanup.<sup>12</sup>

**Leaks of Engine Fluids:** Fluids such as brake fluid, coolant, and hydraulic oils, while often not classified as hazardous under federal law, can still trigger state-level reporting requirements and civil penalties, especially if they contaminate storm drains or waterways.

### Cargo-Related Spills:

When commercial trucks transport hazardous materials (HAZMAT), the potential for environmental exposure and regulatory liability increases significantly. These materials are subject not only to the CERCLA, but also to the U.S. Department of Transportation's *Hazardous Materials Regulations* (HMR) and

the *Resource Conservation and Recovery Act* (RCRA). The HMR, found at 49 C.F.R. Parts 171 through 180, establish comprehensive requirements for the classification, packaging, labeling, placarding, and safe transportation of hazardous substances, along with emergency response procedures in the event of a spill or release.<sup>13</sup>

In addition, the RCRA, 42 U.S.C. §§ 6901–6992k, governs the management of hazardous waste resulting from such incidents. If a spill results in the release of a substance that meets the definition of hazardous waste—based on its ignitability, corrosivity, reactivity, toxicity, or listing under 40 C.F.R. Part 261—the responsible party must comply with RCRA's cradle-to-grave waste management requirements.<sup>14</sup> This includes proper identification, labeling, storage, manifesting, transportation, and disposal of the waste at permitted treatment, storage, and disposal facilities (TSDFs).<sup>15</sup> Importantly, the generator of the waste—often the carrier or shipper—retains responsibility for compliance, even when third-party cleanup contractors are engaged.<sup>16</sup>

Under both the HMR and CERCLA frameworks, carriers and drivers have a legal duty to immediately notify appropriate authorities—including the NRC—upon discovery of any release of hazardous materials during transport that meets or exceeds specified reportable quantities.<sup>17</sup> Failing to comply with the HMR or RCRA can lead to significant civil and criminal penalties, in addition to liability under broader environmental statutes.<sup>18</sup> Therefore, trucking companies involved in the transport of hazardous cargo must implement rigorous operational controls, including regular training, incident response planning, and coordination with emergency responders, to effectively manage the risks associated with cargo-related spills.

## III. Federal and State Regulatory Frameworks Governing Liability

Truck drivers and their companies are generally considered the “spill generators” under federal law, regardless of the circumstances leading to a release. Under CERCLA's strict liability framework,

responsibility attaches to the party that had care, custody, and control of the hazardous material at the time of the incident—even if the release resulted from the actions of a third party or external factors.<sup>19</sup>

In addition to the federal requirements imposed by CERCLA and RCRA, state environmental laws often establish more stringent standards that impose independent obligations on trucking operators. In Pennsylvania, for example, the *Clean Streams Law* and the *Hazardous Sites Cleanup Act* require notification to the Pennsylvania Department of Environmental Protection (PA DEP) for any discharge to surface water or groundwater—regardless of the amount released.<sup>20</sup> These laws are designed to ensure the Commonwealth is immediately alerted to potential threats to water quality and public health, and failure to notify can result in administrative penalties, enforcement actions, and even criminal liability.

Moreover, Pennsylvania regulations broadly define what constitutes a “reportable spill.” Under Title 25 of the Pennsylvania Code, any spill exceeding five gallons is generally considered reportable, and virtually all spilled or released materials—whether hazardous or not—are presumptively treated as “waste” subject to regulated cleanup requirements.<sup>21</sup> This classification triggers obligations not only to notify the PA DEP, but also to characterize, contain, and properly dispose of the material in accordance with state-approved protocols. Trucking companies must be prepared to engage licensed environmental contractors, conduct site assessments, and document remediation efforts to the satisfaction of state regulators.

## IV. On-Scene Response Protocols: The Driver's Role in Environmental Mitigation

Accidents are high-stress events, and drivers often serve as the first line of defense against escalating environmental harm. Carriers should ensure drivers are trained to:

- Immediately stop the vehicle and activate hazard lights;



- Move the vehicle away from storm drains and ignition sources if safely possible;
- Inspect the vehicle for leaks without igniting a fire or using open flames;
- Deploy emergency spill response kits to contain minor leaks;
- Notify dispatch, emergency services, and environmental consultants if necessary;
- Identify and protect potential paths to waterways, including stormwater catch basins;
- Avoid handling hazardous cargo without proper training and personal protective equipment (PPE).

Training must emphasize that untrained personnel should not attempt to repair damaged tanks or clean up hazardous materials, as such actions could violate Occupational Safety and Health Administration (OSHA) regulations and endanger the driver's safety.

## **V. Corporate Response Strategy: Internal Communications and Emergency Coordination**

Time is of the essence following an accident. Trucking companies should designate an emergency contact available 24/7 to coordinate the response. This individual must maintain a comprehensive contact list for legal counsel, environmental consultants, insurance representatives, and regulatory authorities. Notably, voicemail and email alone are insufficient methods of emergency communication.

All internal communications related to the accident, including driver statements, should be managed under counsel's supervision to preserve attorney-client privilege. Avoid text messages, intra-office emails, or unofficial recordings, as these may become discoverable during litigation.

## **VI. Spill Prevention and Preparedness: Tools, Training, and Insurance**

Proactive preparation can dramatically reduce liability exposure. Each truck should

carry a spill response kit tailored to the cargo type, including booms, absorbent pads, drain covers, PPE, and temporary containment vessels.

- Fleets should implement and train drivers on spill response checklists and contingency plans, covering:
- A list of emergency contacts and state-specific reporting thresholds;
- Procedures for notifying insurance carriers and regulatory bodies;
- Pre-arranged access to environmental consultants and spill contractors;
- Defined roles for internal staff and legal counsel during post-incident response.

Additionally, carriers must verify insurance coverage for environmental cleanup. While primary liability policies often cover fuel leaks, hazardous cargo usually requires separate policy endorsements. Immediate notification to insurers is essential to maintain coverage eligibility.

## **VII. 2025 Regulatory Developments Impacting Environmental Compliance in Trucking**

In response to mounting environmental concerns, climate policy shifts, and the increasing risks associated with commercial freight transport, regulatory agencies have intensified compliance requirements across the trucking industry in 2025. These developments reflect a coordinated effort among federal agencies to reduce environmental harm, enhance public safety, and ensure that carriers are financially equipped to address the consequences of hazardous material releases and other pollution events.

### **Stricter Emissions Standards**

The Federal Motor Carrier Safety Administration (FMCSA), in coordination with the Environmental Protection Agency (EPA), has implemented more stringent emissions standards for heavy-duty commercial vehicles. These updated rules mandate that fleet operators phase in engines compliant with EPA Tier 4 standards or adopt low-emission technologies,

such as electric or hybrid drivetrains. The new standards specifically target reductions in nitrogen oxides (NOx), particulate matter (PM), and carbon dioxide (CO<sub>2</sub>) emissions.<sup>22</sup> For many carriers, compliance will require substantial capital investments in newer equipment or retrofitting existing trucks with certified emissions control systems. These changes are part of a broader federal initiative to curb transportation-sector emissions and align with national climate goals.

### **Enhanced Electronic Logging Devices (ELDs)**

New federal regulations now require ELDs to interface directly with vehicle telematics systems. This integration allows for continuous monitoring of not only driver hours but also metrics such as braking patterns, idling time, fuel efficiency, and engine diagnostics.<sup>23</sup> These expanded capabilities are intended to prevent fatigue-related accidents, improve mechanical oversight, and enable proactive safety interventions. The rule changes also enhance regulatory enforcement capabilities by allowing inspectors to access more granular real-time data during roadside inspections or post-incident investigations.

### **Higher Minimum Insurance Requirements**

In recognition of the substantial financial exposure associated with environmental spills, accidents involving hazardous cargo, and multimillion-dollar cleanup operations, the FMCSA has significantly increased the minimum insurance coverage thresholds for commercial motor carriers.<sup>24</sup> Carriers transporting hazardous materials must now demonstrate proof of financial responsibility through expanded pollution liability coverage, often through specialized endorsements or stand-alone environmental insurance policies. These increased requirements aim to ensure that funds are available for remediation, emergency response, and compensation to affected communities in the event of a significant release or incident.

### **Environmental Impact Assessments (EIA)**

Regulations under the *National Environmental Policy Act* (NEPA) have also evolved in 2025 to reflect growing

concern over climate resilience, habitat degradation, and cumulative environmental impacts. Transportation infrastructure projects—including new logistics terminals, freight corridors, and truck staging areas—must now undergo more comprehensive Environmental Impact Assessments.<sup>25</sup> These assessments require explicit evaluation of potential effects on ecosystems, endangered species, and flood-prone areas, and must propose mitigation strategies for reducing greenhouse gas emissions. In particular, projects in proximity to wetlands, aquifers, and biodiversity hotspots face heightened scrutiny and are often required to implement advanced stormwater controls, green infrastructure, or conservation easements as conditions of approval.

Collectively, these regulatory updates represent a paradigm shift in environmental


compliance for the trucking industry. Carriers must not only maintain traditional operational standards but also adapt to a rapidly evolving legal landscape that prioritizes sustainability, accountability, and public health.

## VIII. Conclusion: Managing Environmental Risk Through Compliance and Readiness

Trucking accidents pose not only physical and operational risks but also serious environmental and legal consequences. As regulatory scrutiny intensifies in 2025, carriers can no longer afford to treat environmental compliance as an afterthought. A single spill—whether from fuel, engine fluids, or hazardous cargo—can trigger complex reporting obligations, expose carriers

to substantial civil and criminal liability, and damage a company's reputation and financial stability.

However, these risks are manageable with the right systems in place. Carriers must adopt a proactive posture: equipping drivers with training and tools, maintaining robust internal protocols, and staying ahead of evolving federal and state regulations. Legal counsel should be closely involved in developing response strategies that preserve privilege and ensure regulatory compliance.

Ultimately, while not every accident can be prevented, every company can control its readiness to respond. In doing so, they not only protect the environment and public health—but also secure the long-term resilience and integrity of their operations in an increasingly regulated landscape. 

### Endnotes

- <sup>1</sup> Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9603(a) (2025) (requiring notification to the National Response Center upon release of a reportable quantity of a hazardous substance).
- <sup>2</sup> CERCLA, 42 U.S.C. § 9601(18) (2025) (defining "onshore facility" to include motor vehicles and rolling stock).
- <sup>3</sup> CERCLA, 42 U.S.C. § 9602(b) (2025) (providing default reportable quantities pending agency regulation).
- <sup>4</sup> 40 C.F.R. § 302.4 (2025) (listing diesel fuel as a hazardous substance with a reportable quantity of 100 gallons).
- <sup>5</sup> U.S. Environmental Protection Agency, *Definition of Immediate for EPCRA and CERCLA Release Notification* (2024), <https://www.epa.gov/epcra/definition-immediate-epcra-and-cercla-release-notification> (explaining that delays in required notifications should generally not exceed 15 minutes after knowledge of the release).
- <sup>6</sup> CERCLA, 42 U.S.C. § 9609(a) (2025) (authorizing civil penalties for failure to comply with notification requirements under § 9603).
- <sup>7</sup> 40 C.F.R. § 110.3 (2025) (defining oil discharges that may be harmful under the EPA sheen rule).
- <sup>8</sup> *Id.*
- <sup>9</sup> 40 C.F.R. § 110.6 (2025) (requiring immediate notification to the National Response Center upon knowledge of an oil discharge that violates Clean Water Act § 311(b)(3), including discharges causing visible sheen, discoloration, sludge, or emulsion on navigable waters or shorelines).
- <sup>10</sup> *Id.* (specifying that notification must include location and time of discharge, quantity and source (if known), environmental or public health threats, and any containment or cleanup actions).
- <sup>11</sup> Clean Water Act, 33 U.S.C. § 1321(b)(5) (2025) (providing for civil penalties and potential criminal liability for failure to report oil discharges).
- <sup>12</sup> Deborah Lockridge, *Are You Ready for a Fuel Spill?*, *Trucking Info* (Aug. 2014) (citing Spill Center report that approximately 1% of fleet power units experience fuel spills annually, averaging just over 100 gallons).
- <sup>13</sup> U.S. Department of Transportation, Hazardous Materials Regulations, 49 C.F.R. pts. 171–180 (2025).
- <sup>14</sup> Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901–6992k (2025); see
- <sup>15</sup> *Id.*
- <sup>16</sup> *Id.*
- <sup>17</sup> 49 C.F.R. §§ 171.15, 171.16 (2025) (requiring immediate telephonic and written reports to the National Response Center for certain hazardous materials incidents); see also 42 U.S.C. § 9603(a) (2025).
- <sup>18</sup> 49 U.S.C. § 5123 (2025) (providing civil penalties under the Hazardous Materials Regulations); 42 U.S.C. § 6928 (2025) (providing civil and criminal penalties under RCRA).
- <sup>19</sup> CERCLA, 42 U.S.C. § 9607(a) (2025) (imposing strict liability on parties who had "care, custody, and control" of hazardous substances at the time of release).
- <sup>20</sup> Pennsylvania Clean Streams Law, 35 P.S. § 691.1 et seq. (2025); Hazardous Sites Cleanup Act, Act 108 of 1988 (Pa.).
- <sup>21</sup> 25 Pa. Code § 262.463 (2025) (defining waste and setting forth spill reporting requirements in Pennsylvania).
- <sup>22</sup> U.S. Environmental Protection Agency, *Heavy-Duty Highway Compression-Ignition Engines and Vehicle Standards*, 40 C.F.R. pt. 86 (2025).
- <sup>23</sup> Federal Motor Carrier Safety Administration (FMCSA), *Electronic Logging Device Integration Final Rule*, 49 C.F.R. Part 395 (effective Jan. 2025). FMCSA, *Final Rule on Minimum Levels of Financial Responsibility for Motor Carriers*, 49 C.F.R. § 387.9 (2025) (increasing minimum coverage for carriers transporting hazardous materials).
- <sup>24</sup> FMCSA, *Final Rule on Minimum Levels of Financial Responsibility for Motor Carriers*, 49 C.F.R. § 387.9 (2025) (increasing minimum coverage for carriers transporting hazardous materials).
- <sup>25</sup> National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq. (2025); see also Council on Environmental Quality (CEQ), *2025 NEPA Rule Revisions* (requiring expanded analysis of climate-related impacts in transportation projects).



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