

What Is the Safety Management Cycle (SMC)?

The SMC is a tool used by the Federal Motor Carrier Safety Administration (FMCSA) to help identify and address motor carrier safety and compliance issues. Motor carriers can also use the SMC within their own businesses to determine which of the Safety Management Processes (SMPs) that they may need to improve by looking at the processes, management, and controls associated with each SMP.

This document identifies tools motor carriers can use to establish and improve appropriate safety management controls, thereby reducing or eliminating violations. Motor carriers and drivers are reminded, however, that they are ultimately responsible for ensuring compliance with all applicable regulations. For information about the regulations related to the HM Compliance Behavior Analysis and Safety Improvement Category (BASIC), see the HM Compliance BASIC factsheet at http://csa.fmcsa.dot.gov/Documents/FMC_CSA_13_001_BASICs_HM_Compliance.pdf.

The SMC is used to systematically assess SMPs in six areas:

1. Policies and Procedures, 2. Roles and Responsibilities, 3. Qualification and Hiring, 4. Training and Communication, 5. Monitoring and Tracking, and 6. Meaningful Action. By periodically reviewing each process, there is an opportunity to identify and correct breakdowns in SMPs before safety and compliance issues are identified or crashes occur. The SMC can also be used after safety and compliance issues or crashes have taken place to assist in determining which SMPs need attention.

The SMCs for each BASIC can be found in the Information Center on the SMS Website at <http://ai.fmcsa.dot.gov/sms>.



The Safety Management Cycle, or SMC, consists of the six Safety Management Processes outlined in the graphic above.

Policies and Procedures

- Develop a security plan according to regulations; include the requirement for appropriate security awareness and in-depth security training.
- Develop policies and procedures addressing regulatory requirements for HAZMAT-transportation registration, recordkeeping, packaging, securement, marking, labeling, placarding, reporting, documentation, security, and emergency response.
- Develop policies and procedures for HAZMAT employees and other designated personnel to conduct effective verification, certification, and sequencing of documentation, packaging, marking, labeling, placarding, and inspection tasks.
- Develop policies and procedures for testing and inspecting cargo tanks according to Federal and State requirements and for preparing the appropriate reports and marking requirements. Appropriate tests include external visual, leakage, internal visual, thickness, lining, and pressure.

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- Develop policies and procedures for accepting HAZMAT loads and driver assignments, and for establishing delivery schedules to meet safety- and security-risk-related objectives.
- Develop a policy for establishing coordination of regulatory controls among commercial entities involved in HAZMAT shipments.

Passenger Carrier Only:

- Establish procedures for handling, loading, and securing HAZMAT packages, including oxygen canisters, in accordance with Federal Motor Carrier Safety Regulations and Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations.

Roles and Responsibilities

- Define and document roles and responsibilities of drivers, dispatchers, registered inspectors, managers, and other designated personnel in relation to regulations and company policies and procedures involving HAZMAT-handling functions for packaging inspections, testing of cargo tanks, and monitoring of test results.
- Define and document roles and responsibilities of drivers, dispatchers, managers, and other designated personnel in relation to regulations and company policies and procedures involving HAZMAT-handling functions for securement, marking, labeling, placarding, and HAZMAT-incident reporting.
- Define and document roles and responsibilities of drivers, dispatchers, managers, and other designated personnel in relation to regulations and company policies and procedures involving HAZMAT-handling functions for transportation registration, documentation, recordkeeping, security, emergency response, and training.
- Define and document roles and responsibilities of managers and dispatchers for companies that haul HAZMAT and regular cargo to ensure that only drivers with an “H” endorsement are assigned placardable HAZMAT; only those with an “N” endorsement, tank loads; only those with an “X” endorsement, combination tank HAZMAT.

Qualification and Hiring

- Query applicants and check with previous employers and references regarding prior HAZMAT-handling violations and incidents, qualifications, experience, and responsibilities; include an assessment of whether applicants can meet physical requirements for the position.
- Be aware of the assignment of drivers who smoke, and ensure that they are aware of the regulations concerning flammable loads in accordance with 397.13.
- Verify that personnel working on HAZMAT packages such as cargo tanks and intermodal portable tanks have the required experience, training, and up-to-date references to maintain the package to specification.

Training and Communication

- Communicate expectations for adhering to all HAZMAT-handling regulations and company policies to drivers, dispatchers, managers, and other designated personnel. Provide new hire and refresher awareness training for meeting those expectations with regard to testing and inspection of cargo tanks; loading and unloading; product handling, securement, marking, labeling, placarding, and reporting; and transportation registration, documentation (e.g. shipping papers), recordkeeping, security, and emergency response.
- Communicate the carrier’s HM Compliance BASIC percentile to all staff and explain to them individually what they can do to help improve compliance.

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- Ensure that dispatchers know how to confirm regulatory requirements with shippers and to verify authorized packages.
- Ensure that company officials and safety managers who transport Division 1.1, 1.2 or 1.3 explosives make drivers and dispatchers aware that the vehicles transporting these materials must be attended at all times and that operating or stopping in certain areas is dangerous and illegal according to FMCSA and PHMSA, per §§177.835, 397.5 and 397.7.
- Develop an apprenticeship program to provide individualized training and certification for cargo-tank testing and inspection to new hires and transfers if there is a shortage of qualified inspectors.
- Ensure that all HAZMAT employees receive training on the development and implementation of a security plan.

Monitoring and Tracking

- Implement an effective process for monitoring, tracking, and evaluating compliance by all designated employees according to HAZMAT-handling regulations and company policies.
- Ensure that the database used to generate HAZMAT documents is updated and current with the latest version of the HAZMAT regulations.
- Establish quality control procedures to ensure that HAZMAT is properly packaged according to HAZMAT regulations and the instructions are provided with the packaging.
- Ensure all HAZMAT communication standards are met in accordance with Hazardous Materials Regulation Part 172.
- Implement an effective process for regularly tracking and evaluating the effectiveness of company policies, procedures, and systems related to HAZMAT transportation.
- Monitor staff who inspect, test, and repair cargo tanks for evidence of smoking while working with flammable loads in accordance with 397.13.
- Monitor performance and documentation of the appropriate HAZMAT inspections and tests, including hose inspections and emergency remote checks.

Meaningful Action

- Implement a disciplinary policy where potential disciplinary measures correspond to risk posed, with violations associated with high-consequence incidents being punished more severely.
- Implement disciplinary measures for dispatchers, managers, drivers, and other appropriate personnel who knowingly accept HAZMAT loads ensuring compliance with Part 172 and load securement requirements.

