HAZARDOUS MATERIALS TRANSPORTATION

SECURITY
REQUIREMENTS

U.S. Department of Transportation

Pipeline and Hazardous Materials Safety Administration

Enhanced Security Requirements

The Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) is responsible for the safe and secure transportation of hazardous materials (hazmat). Hazmat is essential to the economy of the United States and the well-being of its people. Hazmat fuels our cars and trucks and heats and cools our homes and offices.

Hazmat is used in farming and medical applications as well as manufacturing, mining, and other industries. Every day millions of tons of hazmat are safely transported by air, train, truck, or vessel in quantities ranging from several ounces to thousands of gallons. In the wrong hands, however, hazmat can pose a significant security threat, particularly those that can be used as weapons of mass destruction. Addressing this security threat is vital to the safety of our citizens and security of our economy.

PHMSA, in consultation with the Transportation Security Administration of the Department of Homeland Security, published final rule HM-232F, titled *Risk-Based Adjustment of Transportation Security Plan Requirements* on March 9, 2010. This final rule modified the security plan requirements applicable to the commercial transportation of hazmat. Based on an evaluation of the security threats associated with specific types and quantities of hazmat considered to be "high consequence" if stolen and used for pernicious reasons, this final rule, effective 1 October 2010, narrows the list of materials subject to security plan requirements, thus reducing associated regulatory costs and paperwork.

This final rule also clarifies certain requirements related to security planning, training, and documentation. This information will assist you in managing the potential security risks associated with the transportation of hazmat in commerce, as well as identifying and understanding the recent changes to security plan requirements.

Security Plans

You *must* develop and implement a security plan if you offer for transportation or transport the following types or quantities of hazmat. "Large bulk quantity" refers to a quantity greater than 3,000 kg., (6,614 lbs.,) for solids or 3,000 liters (792 gal.,) for liquids and gases in a single packaging such as a cargo tank motor vehicle, portable tank, tank car, or other bulk container:

- Any quantity of a Division 1.1, 1.2, or 1.3 material;
- A quantity of a Division 1.4, 1.5, or 1.6 material requiring placarding in accordance with Subpart F of Part 172 of the HMR;
- A large bulk quantity of Division 2.1 material;
- A large bulk quantity of Division 2.2 material with a subsidiary hazard of 5.1;
- Any quantity of a material poisonous by inhalation as defined in §171.8 of this subchapter;
- A large bulk quantity of a Class 3 material meeting the criteria for Packing Group I or II;
- A quantity of a desensitized explosive meeting the definition of a Division 4.1 or Class 3 material requiring placarding in accordance with Subpart F of Part 172 of the HMR;
- A large bulk quantity of a Division 4.2 material meeting the criteria for Packing Group I or II;
- A quantity of a Division 4.3 material requiring placarding in accordance with Subpart F of Part 172 of the HMR;

- A large bulk quantity of a Division 5.1 material in Packing Groups I and II: perchlorates; or ammonium nitrate, ammonium nitrate fertilizers, or ammonium nitrate emulsions, suspensions, or gels;
- Any quantity of organic peroxide, Type B, liquid or solid, temperature controlled;
- A large bulk quantity of Division 6.1 material (for a material poisonous by inhalation see above);
- A select agent or toxin regulated by the Centers for Disease Control and Prevention under 42 CFR Part 73 or the U.S. Department of Agriculture under 9 CFR Part 121;
- A quantity of uranium hexafluoride requiring placarding under §172.505(b);
- International Atomic Energy Agency (IAEA) Code of Conduct Category 1 and 2 materials including Highway Route Controlled quantities as defined in 49 CFR 173.403 or known as radionuclides in forms listed as RAM-QC by the Nuclear Regulatory Commission; and
- A large bulk quantity of Class 8 material meeting the criteria for Packing Group I.

At a minimum, your security plan *must* address *personnel security, unauthorized access*, and *en route security*, as well as include the following elements:

- An assessment of transportation security risks for shipments of hazmat listed in §172.800, including site- or location-specific risks associated with facilities where hazmat is prepared for transportation, stored, or unloaded; and measures to address the assessed risks;
- Name/job title of senior official responsible for developing/implementing the security plan;

- Specific security duties for each position/department responsible for implementing the plan, or a portion thereof, and the process of notifying employees when specific elements must be implemented;
- A plan for training hazmat employees in accordance with §172.704(a)(4) and (5);
- The security plan, including the transportation security risk assessment, must be in writing and retained as long as in effect;
- The security plan must be reviewed at least annually, and revised and/or updated as necessary;
- The security plan must be available to responsible employees—consistent with security clearance/ background investigation/need-to-know;
- When updated/revised, the most current copies of the security plan must be maintained, and responsible employees must be notified; and
- Persons responsible for developing/implementing a security plan must maintain copies, including electronic, that are accessible at/through their place of business, or make available, upon request, to authorized officials of DOT or the Department of Homeland Security.

The following table provides a comparison listing of previous versus newly revised threshold levels of hazmat requiring a Security Plan, and specific ruling changes:

Training

Each hazmat employee of a person/company required to have a security plan, who handles, performs a regulated function related to, or implements the security plan, *must* receive in-depth training that provides an awareness of the security risks associated with hazmat transportation and methods to enhance transportation security. This training should cover the following topics:

Hazard Class	Previous Threshold for Hazmat	
1.1	Any quantity	
1.2	Any quantity	
1.3	Any quantity	
1.4	A quantity requiring placarding	
1.5	A quantity requiring placarding	
1.6	A quantity requiring placarding	
2.1	A quantity requiring placarding	
2.2	A quantity requiring placarding	
2.3	Any quantity	
3	A quantity requiring placarding	
4.1	A quantity requiring placarding	
4.2	A quantity requiring placarding	
4.3	Any quantity	
5.1	A quantity requiring placarding	
5.2	Any quantity of organic peroxide, Type B, liquid or solid, temperature controlled, otherwise a placarded quantity	
6.1	Any quantity of PIH material otherwise a quantity requiring placarding	
6.2	Select agents	
7	Shipments requiring Yellow III label; highway route-controlled quantity	
8	A quantity requiring placarding	
9	Capacity >3,500 gallons for liquid/gas; volumetric capacity > 468 cubic feet for solids	

	New Threshold for Hazmat	Ruling Change
	Any quantity	None
	Any quantity	None
	Any quantity	None
	A quantity requiring placarding in accordance with Subpart F of this Part	None
	A quantity requiring placarding in accordance with Subpart F of this Part	None
	A quantity requiring placarding in accordance with Subpart F of this Part	None
	A large bulk quantity	Security plan not required for less than 3,000 L (792 gallons)
	A large bulk quantity of materials with an oxidizer subsidiary	Security plan not required for less than 3,000 L (792 gallons) of materials with oxidizer subsidiary
	Any quantity	None
	PG I and II in a large bulk quantity; placarded quantity desensitized explosives	Security plan not required for PG III; or less than 3,000 L (792 gallons) PG I or II - except for desensitized explosives
	A quantity of desensitized explosives requiring placarding in accordance with Subpart F of this Part	Security plan not required except for desensitized explosives in a placarded quantity
	PG I and II in a large bulk quantity	Security plan not required for PG III, or less than 3,000 kg (6,614 lbs.) PG I or II
	A quantity requiring placarding in accordance with Subpart F of this Part	None
	Large bulk quantity of Division 5.1 materials in PG I and II, and PG III perchlorates, ammonium nitrate, ammonium nitrate fertilizers, or ammonium nitrate emulsions or suspensions or gels in a large bulk quantity	Security plan not required for most PG III materials and PG I and II materials in less than a large bulk quantity 3,000 L (792 gallons)
	Any quantity organic peroxide, Type B, liquid or solid, temperature controlled	Security plan only required for Type B, liquid or solid, temperature controlled, no longer required at placarded level for others
	Any quantity PIH or a large bulk quantity of a material that is not a PIH	Security plan not required for less than 3,000 L (792 gallons) of a non-PIH material
	Select agents	None
	IAEA Categories 1 & 2; HRCQ; known radionuclides in forms listed as RAM-QC by NRC; or a quantity of uranium hexafluoride requiring placarding under §172.505(b)	Security plan only required for Class 7 materials that pose transportation security risk
	PG I in a large bulk quantity	Security plan not required for PG II or III materials; and less than a large bulk quantity of a PG I
	Not subject	Security plan not required for Class 9 materials

- Company security objectives;
- Organizational security structure;
- Specific security procedures, duties, and responsibilities for each employee;
- Specifics on how to recognize and respond to possible security threats; and
- Specific actions to be taken by each employee in the event of a security breach.

For in-depth security training required under §172.704 (a)(5) and (c)(2), a hazmat employee must be trained at least once every three years or, if the security plan for which training is required is revised during the three-year recurrent training cycle, within 90 days of implementation of the revised plan.

The following guidance—while not required by the HMR—should assist you in developing a security plan appropriate to your industry and operations. You may want to review your current security program and make any necessary adjustments to improve it.

Begin with a Security Assessment

To develop a security plan, you should begin with a security assessment. List the materials you handle, and identify those with the potential for use as a weapon or target of opportunity. Then, review your current activities and operations from a transportation security perspective. Ask yourself, *"What are we doing now? What could go wrong? What can we do differently?"* You can use a security-risk assessment model to identify risks and develop appropriate measures to reduce or eliminate them. The Risk Management Self-Evaluation Framework

Security Template found on PHMSA's hazmat safety homepage http://phmsa.dot.gov/hazmat/risk/rmsef utilizes the following steps:

- Scoping – determine the scope of operations that should be subject to security risk management. Identify the types of hazmat you handle and the modes of shipment used.
- Knowledge of operations – collect detailed information about your transportation operations: (1) quantities of material transported; (2) baseline security programs; (3) current security procedures; and (4) related safety programs and procedures.
- Assessment – analyze potential security threats and identify security risk control points. Risk control points are points in the transportation process where you can make an impact by improving procedures or operations.
- Strategy – rank or group security risks, prioritize opportunities for security risk reduction, and decide on preventative actions. Create a written document summarizing your decisions. This written document is your security plan.
- Action – implement your security plan.
- Verification – monitor implementation of your security plan.
- Evaluation – determine if goals are being met and compare your strategy and results with others in your field.

Suggested Security Measures

At a minimum, a security plan *must* include the following elements: *personnel security, unauthorized access*, and en *route security*. The following are suggestions on how to address these required elements—not detailed in the HMR—that you may want to consider for inclusion in your security plan.

Personnel Security

Be aware of the possibility that someone you hire may pose a potential security risk. You may want to establish a process to confirm applicant information, and check with former and current employers and personal references. Such confirmation must be consistent with applicable Federal and State laws and requirements concerning employment practices and individual privacy. Conversely, your employees can be one of your most critical assets as you endeavor to improve the security of your shipping or transportation operations. Under the new PHMSA security requirements, you must ensure your employees are familiar with your security plan and are properly trained in its implementation. Training should include company security objectives, specific security procedures, employee responsibilities, and organizational security structure. In addition, consider taking one or more of the following actions:

- Encourage your employees to report suspicious incidents or events.
- Implement routine security inspections.
- Convene regular employee/management meetings on security measures and awareness.

- Communicate with your staff using an *internal communication system* to provide information on facts, trends, and other security issues.

Unauthorized Access

Another security concern that must be addressed is access to hazmat in transportation and at your facility. You may consider using one or more of the following security measures to prevent unauthorized access:

- Establish partnerships with local law enforcement officials, emergency responders, and other public safety agencies with jurisdiction over your facility. Through such relationships, you can exchange information about threats, trends, and unsuccessful security programs.
- Request a review of your facility and security program by local law enforcement and fire safety officials, as applicable.
- Restrict the availability of information related to your facility and the materials you handle. Encourage authorities in possession of information regarding your facility to limit its disclosure on a need-to-know basis.
- Add security guards and increase off-hour patrols by private security personnel. Request that law enforcement personnel increase off-hour patrols.
- Check the adequacy of locks and other protective equipment. Consider equipping access gates with timed closure devices. Conduct frequent inspections.

- Install additional lights, alarm systems, or surveillance cameras.
- Restrict access to a single entry or gate.
- Secure hazmat in locked buildings or fenced areas. Institute a sign-out system for keys.
- Secure valves, manways, and other fixtures on transportation equipment when not in use. Lock all vehicle and delivery trailer doors when not in use. Secure all rail, truck, and intermodal containers when stored at your location.
- Use tamper-resistant or tamper-evident seals and locks on cargo compartment openings.
- Periodically inventory the quantity of hazmat you have on site in order to recognize if a theft has occurred.
- Keep records of security incidents. Review records to identify trends and potential vulnerabilities.
- Report any suspicious incidents or individuals to your local Federal Bureau of Investigation (FBI) office, and local law enforcement officials.

En Route Security

Shippers and carriers should work together to assure the security of hazmat shipments en route from origin to destination. Shippers must assess the security of transportation modes or combinations of modes available for transporting specific materials and select the most appropriate method of transportation to ensure their efficient and secure movement.

Transportation security is a shared function. Security functions performed by shippers and carriers often overlap. Shippers and carriers are encouraged to consider implementing one or more of the following measures:

- Use carrier safety ratings, assessments, safety surveys, or audits, and ask the carrier to provide information on security measures it has implemented.
- Verify the carrier has an appropriate employee hiring/review process, including background checks, and an on-going security training program.
- Verify the identity of the carrier and/or driver prior to loading hazmat.
- Ask the driver for photo identification and a commercial driver's license for comparison with information provided by the carrier.
- Ask the driver to tell you the name of the consignee and the destination for the material and confirm with your records before releasing shipments.
- Identify preferred and alternative routing, including acceptable deviations.
- Strive to minimize product exposures to communities or populated areas, including downtown areas; avoid tunnels and bridges where possible; and expedite transportation of the shipment to its final destination.
- Minimize stops en route; if you must stop, select locations with adequate lighting on well-traveled roads, and check your vehicle after each stop to make sure nothing has been tampered with.
- Consider using two drivers or driver relays to minimize stops during the trip. Avoid layovers, particularly for high-hazard materials.
- Shippers and rail carriers should cooperate to assure the security of rail cars stored temporarily on leased tracks.

- If materials must be stored during transportation, make sure they are stored in secure facilities.
- Train drivers on how to avoid hijacking or stolen cargo; keep vehicles locked when parked and avoid casual conversations with strangers about cargo and routes.
- Consider whether a guard or escort for a specific shipment of hazmat is appropriate.
- Consider using advanced technology to track or protect shipments en route to their destinations. For example, you may wish to install tractor and trailer anti-theft devices or use satellite tracking or surveillance systems.
- Install tamper-proof seals on all valves, package, or container openings.
- Establish a communication system with transport vehicles and operators, including a crisis communication system with primary and back-up means of communication among the shipper, carrier, law enforcement, and emergency response officials.
- Implement a system for a customer to alert the shipper if a hazmat shipment is not received when expected.
- When products are delivered, check the carrier's identity with shipping documents provided by the shipper.
- Get to know your customers and their hazmat programs. If you suspect you have shipped or delivered hazmat to someone who may intend to use it for a criminal purpose, notify local law enforcement officials or your local FBI office.

- Report any suspicious incidents or individuals to local law enforcement officials or your local FBI office.

Additional Information

Up-to-date information is a key element of any security plan. You should consider methods to:

- Gather as much data as you can about your own operations and those of other businesses with similar product lines and transportation patterns;
- Develop a communications network to share best practices and lessons learned;
- Share information on security incidents to determine if there is a pattern of activities that, when considered in isolation are not significant, but when taken as a whole generate concern; and
- Revise your security plans as necessary to take into account changing circumstances and new information.

Any other person who has knowledge of the theft or loss of any explosive materials shall, within 24 hours of discovery, report the theft or loss by telephoning 1–800–800–3855 (nationwide toll-free number) and in writing to the nearest ATF office. Theft or loss shall be reported to appropriate local authorities.

Federal Agencies

Pipeline and Hazardous Materials Safety Administration

U.S. Department of Transportation
1200 New Jersey Ave, SE., Washington, DC 20590
Hazardous Materials Info-Line: 800-467-4922

Publications and Reports

Fax: 202-366-7342;
Telephone: 202-366-4900
E-Mail: training@dot.gov
http://hazmat.dot.gov

Federal Aviation Administration

U.S. Department of Transportation
800 Independence Avenue, SW., Washington, DC 20591
Telephone: 1-866-TELL-FAA (1-866-835-5322)
http://www.faa.gov

Federal Motor Carrier Safety Administration

U.S. Department of Transportation
1200 New Jersey Ave, SE., Washington, DC 20590
Telephone: 800-832-5660
http://www.fmcsa.dot.gov

Federal Railroad Administration

U.S. Department of Transportation
1200 New Jersey Ave, SE., Washington, DC 20590
Telephone: 202-493-6024
http://www.fra.dot.gov

Bureau of Alcohol, Tobacco, Firearms and Explosives

Explosives Industry Programs Branch
99 New York Avenue, NE, Room 6N-672
Washington, DC 20226
202-648-7120
E-Mail: EIPB@atf.gov
http://www.atf.gov/

Bureau of Alcohol, Tobacco, Firearms and Explosives

U.S. Bomb Data Center
99 New York Avenue, NE, Room 8S-295
Washington, DC 20226
800-461-8841
E-Mail: USBDC@atf.gov
http://www.atf.gov/

Transportation Security Administration

601 South 12th Street
Arlington, VA 20598
Telephone: 866-289-9673
http://www.tsa.gov

United States Coast Guard

2100 Second Street, SW., STOP 7000
Washington, DC 20593
Telephone: 202-493-1713
http://www.uscg.mil

Industry Associations/Organizations

American Chemistry Council

700 Second Street, NE.
Washington, DC 20002
Telephone: 202-249-7000
http://www.americanchemistry.com

American Petroleum Institute

1220 L Street, NW.
Washington, DC 20005
Telephone: 202-682-8000
http://www.api.org

American Society for Industrial Security

1625 Prince Street
Alexandria, VA, 22314
Telephone: 703-519-6200
http://www.asisonline.org

American Trucking Association

950 North Glebe Road, Suite 210
Arlington, VA 22203
Telephone: 703-838-1700
http://www.truckline.com

Association of American Railroads

425 Third Street, SW.
Washington, DC 20024
Telephone: 202-639-2100
http://www.aar.org

Center for Chemical Process Safety
American Institute of Chemical Engineers

3 Park Avenue
New York, N.Y. 10016-5991
Telephone: 212-591-7319
http://www.aiche.org/ccp

Chlorine Institute

1300 Wilson Blvd, Suite 525
Arlington, VA 22209
Telephone: 703-894-4140
http://www.chlorineinstitute.org

Compressed Gas Association

4221 Walney Road, 5th Floor
Chantilly, VA 20151
Telephone: 703-788-2700
http://www.cganet.com

The Fertilizer Institute

425 Third Street SW, Suite 950
Washington, DC 20024
Telephone: 202-962-0490
http://www.tfi.org

Institute of Makers of Explosives

1120 19th Street, Suite 310, NW.
Washington, DC 20036
Telephone: 202-429-9280
http://www.ime.org

National Association of Chemical Distributors

1555 Wilson Blvd, Suite 700
Arlington, VA 22209
Telephone: 703-527-6223
http://www.nacd.com

National Propane Gas Association

1899 L Street NW, Suite 350,
Washington, DC 20036
Teléfono: 202-466-7200
http://www.npga.org

National Tank Truck Carriers

950 North Glebe Road, Suite #520
Arlington, Virginia 22203-4183
Telephone: 703-838-1960
http://www.tanktransport.com

Security Industry Association

635 Slaters Lane
Alexandria, Virginia 22314
Telephone: 866-817-8888
http://www.siaonline.org

Synthetic Organic Chemical Manufacturers Association

1850 M Street, NW, Suite 700
Washington, DC 20036
Telephone: 202-721-4100
http://www.socma.com

Additional Security Requirement Resources

TSA Security Requirements

http://www.tsa.gov/travelers/airtravel/acceptable_documents.shtm
http://www.tsa.gov/assets/pdf/cargo_final_rule_5-26-06.pdf

NRC Security Requirements:

http://www.nrc.gov/security/byproduct/orders.html

NNSA Security:

http://nnsa.energy.gov/

PHMSA Security:

http://www.phmsa.dot.gov/hazmat/security

USCG Facility Requirements:

http://www.uscg.mil/hq/cg5/cg522/cg5222/

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HTTP://SAFETRAVEL.DOT.GOV

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