Clemson University Program for Shipment of Hazardous Materials; November 1, 2009

The Federal hazardous materials transportation law (49 U.S.C. 510etseq.), is the basic statute regulating the transportation of hazardous materials (hazmat) in the United States. This law requires the training of ALL hazmat employees. A hazmat employee is anyone who directly affects hazardous materials (hazmat) transportation safety. This includes anyone who: loads, unloads, or handles hazmat; tests, reconditions, repairs, modifies, marks, or otherwise represents packaging as qualified for use in the transportation of hazmat; prepares hazmat for transportation; is responsible for safety of transporting hazmat; or operates a vehicle used to transport hazmat. The purpose is to increase a hazmat employee’s safety awareness and be an essential element in reducing hazmat incidents.

Each Hazmat Employer Must train and test, certify, develop and retain records of current training (inclusive of preceding three years) for each hazmat employ( during the period of employment and 90 days thereafter).

Training Must Include
- General awareness/familiarization
- Function-specific training
- Safety
- Security awareness
- In-depth security training, if a security plan is required
- Driver training (for each hazmat employee who will operate a motor vehicle)

Initial Training
A new employee, or an employee who changes job functions, may perform hazmat job functions before completing training, provided: the employee does so under the direct supervision of a properly trained and knowledgeable hazmat employee; and the hazmat training is completed within 90 days of employment or change in job function.

Recurrent Training is required at least once every three years. The three year period begins on the actual date of training completion. Relevant training received from a previous employer or other source
may be used to satisfy the requirements, provided a current record of training is obtained from the previous employer or source (i.e., OSHA, EPA, and other Federal or international agencies.) Training must address components specified in 172.704(a) of the HMR to be considered applicable.

**Training Records Must Include**
- Hazmat employee’s name
- Completion date of most recent training
- Training Materials (Copy, description, or location)
- Name and address of hazmat trainer
- Certification that the hazmat employee has been trained and tested.

**What is a hazardous Material?**
Hazardous material means a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has designated as hazardous under section 5103 of Federal hazardous materials transportation law (49 U.S.C. 5103). The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (see 49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in part 173 of subchapter C.

**Training Certification**
Although transportation is NOT an EHS function, EHS has evaluated available training, and herein prescribes training required to be certified by Clemson University as qualified to handle or ship hazardous materials. Employees wishing to pursue a training track not listed below may nominate an addition to this list by contacting EHS (clark3@clemson.edu).

**Chemical vs Biological vs Radiological HazMat**
Chemicals defined as hazardous materials are listed, by name, in the Hazardous Material Table of 49CFR 172.101. Biological hazards however, are listed in this table only as either: Infectious Substances, Biological Substances, Regulated Medical Waste. The shipper must classify the biological material per Department of Transportation (DOT) definitions; consequently, certification to ship biological materials requires additional training. Similarly, radioactive materials are not listed by name. The shipper must classify radioactive materials per DOT definitions; certification to ship radioactive materials requires additional training.
Ground vs Air Shipments
Ground Shipments are governed by DOT regulations; air shipments are regulated by International Air Transport Association (IATA) rules. Separate training tracks are therefore necessary for ground and air shipments.

CLEMSON TRAINING REQUIREMENTS. ONLY persons (faculty, staff, students) who have completed the appropriate course from the following list, provided a copy of the completion certificate with a score of 80% or above to EHS and received a certification of training back from EHS are authorized to ship hazardous materials. In addition to the appropriate course(s) listed below, everyone must complete the DOT HAZMAT Security Module, and provide a copy of the completed test. This module is available at:

Training for Certification to Ship Chemical HazMat by Ground

A- 2-day UPS Dangerous Goods Seminar for 49CFR Requirements (DOT); see website for schedule and cost ($600).


B- Completion of modules 1-3 and 5 of DOT Training Modules Version 5.1 CDROM (EHS personnel must also complete modules 4 and 6A); see website for purchase and cost ($25, unlimited number of users).

https://hazmatonline.phmsa.dot.gov/services/Pub_Sale.aspx

C- 1-day Environmental Resource Center Seminar DOT Hazardous Materials Training: The Complete Course; see website for schedule and cost ($449).

http://www.ercweb.com

Training for Certification to Ship Biological HAZMAT by Ground

A- One of the courses required for chemical hazmat by ground plus
online course *Shipping Infectious Substances, IATA and DOT*; see website for registration and cost ($125 per student).

http://www.ies.ncsu.edu/events/eventieshopdetail.cfm?pid=654

**Training for Certification to Ship Radioactive HAZMAT by AIR or Ground** (ONLY Radiation Safety Officer or assistant is permitted to ship radioactive hazmat)

A- *DOT & NRC Requirements for Shipping and Receiving Radioactive Materials*; see website for schedule and cost (2 days, $795)

http://www.radiationsafetyacademy.com/dot.html

B- One of the courses required for chemical hazmat by ground **plus** online course *DOT, IATA and NRC Requirements for Shipping Limited Quantity Radioactive Materials*; see website for registration and cost ($237 per student).

http://www.radtrainonline.com/courses/default.asp#

**Training for Certification to Ship Chemical HAZMAT by AIR**

A- 3-day *FEDEX Dangerous Goods Seminar*; see website for schedule and cost ($685).

http://fedex.com/us/services/options/

B- 2-day *UPS Dangerous Goods Seminar for IATA Requirements*; see website for schedule and cost ($600).


**Training for Certification to Ship Biological HazMat by AIR**

A- IATA self-study course with online examination *Shipping Guidelines for Infectious Substances*; see website for purchase and cost ($310).

http://www.iata.org/training/courses/tcgp43.htm

B- One of the courses required for chemical hazmat by air **plus**
SAF-T-PAK CDROM. See website for purchase and cost ($465 to include reference manual; limited to 6 users and expires with calendar year).

http://www.saftpak.com/stpcdrom.asp

C- 1-day SAF-T-PAK Compliance Seminar; see website for schedule and cost ($290).

http://www.saftpak.com/trainingpublic.asp

D- One of the courses required for chemical hazmat by ground plus SAF-T-PAK CDROM. See website for purchase and cost ($465 to include reference manual; limited to 6 users and expires with calendar year).

http://www.saftpak.com/stpcdrom.asp

J.L. Clark
EHS Manager
Satellite Facilities