

Safe Transport of Radioactive Material by Sea Training

This course is for those that ship class 7 radioactive material internationally by vessel. The International Maritime Dangerous Goods Code (IMDG) and the additional requirements in 49 CFR are reinforced in this class with practical application, industry events, shipping scenarios and lively discussion. Basic shipper functions are also reviewed and interwoven throughout this workshop. This 2-Day IMDG class has been added to our schedule for October 16th – 17th, 2013 at our Commerce Park office building located in Oak Ridge, Tennessee. Our Bear Creek and Gallaher facilities are nearby should you want to take tour and meet the folks who help you. Oak Ridge, TN is also near many great attractions in Knoxville, Pigeon Forge, Gatlinburg and the Great Smoky Mountains. We look forward to seeing you in Oak Ridge!



New Class Location for 2014



Will you need an initial or refresher shipping class in June of 2014? We would like to extend an invitation to join us in beautiful downtown San Diego, California at the Residence Inn Gaslamp Quarter for our comprehensive NRC/DOT Radioactive Material Transportation Training. During the day, we will cover the complexity of the NRC & DOT regulations to ensure the safe and secure shipment of class 7 radioactive materials with lively discussions and lessons learned across our diverse nuclear industry. In the evening, you will be able to explore world-renowned attractions like Balboa Park (the cultural and tourist center of San Diego with numerous museums, theaters, beautiful gardens, an open-air

pipe organ and the San Diego Zoo), historic sites of the Gaslamp Quarter (more than 16 city blocks with gas street lamps and Victorian-style buildings, specialty shops, trendy restaurants and avant-garde playhouses), Old Town (a slice of historic life with a preserved and re-created Mexican theme park complete with haciendas, costumed characters and serenading mariachis), Coronado (a beautiful island resort community with exclusive homes, boutiques and restaurants), or take one of the many tours of San Diego available by foot, car, bus or boat. We hope to see you here or at any other one of our great training locations available to you.

Cask Logistics

As many of you know, EnergySolutions owns and operates a large fleet of Class 7 Radioactive Material Type A and Type B shipping casks. We would like to ensure you know whom to contact within EnergySolutions should you have any questions on scheduling, using or maintaining one of these casks.



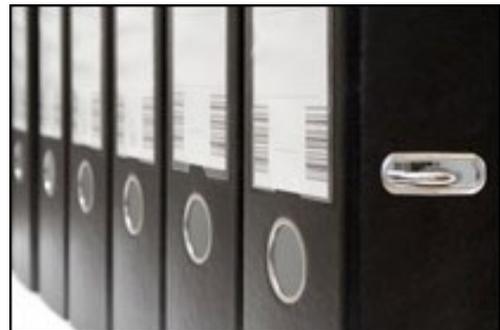
For any cask scheduling or maintenance questions, please contact Roger Betow our Cask Operations Manager. Roger can be reached by email at rcbetow@energysolutions.com or by telephone at (803) 776-5022.

For any cask operation questions, please contact Phillip Thomas our Director of Cask Operations. Phillip can be reached by email at pthomas@energysolutions.com or by telephone at (803) 541-5044.

Submitted by: James D. Harris, VP Barnwell Operations, Logistics, Processing and Disposal (803) 541-5065 jdharris@energysolutions.com

Net or Gross?

Last month, DOT published a letter of interpretation (Reference # 13-0052) concerning the total quantity of hazardous material to be entered on a shipping paper. If you have ever wondered whether the entry required in 172.202(a)(5) is supposed to be net weight or gross weight, this is the letter you have been waiting for. Although the paragraph citation is off in the letter of interpretation, it's clear that DOT wants the quantity covered by an individual description to be the "net sum of hazardous materials only". Is it wrong to show the gross weight somewhere on the shipping paper? Not at all. Many shippers include the gross weight to aid in placarding determination.



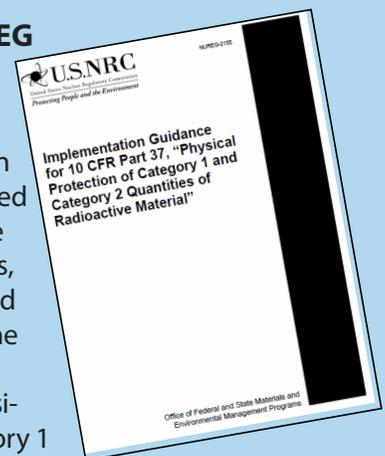
DOT Chart Updated

The Pipeline and Hazardous Materials Safety Administration (PHMSA) recently published Chart 15 (PHH50-0132-1112), an update to DOT Chart 14 (PHH50-0119-1110), to provide guidance on hazardous materials markings, labeling and placarding. Some noteworthy changes include the new LQ marking, the Division 5.2 Organic Peroxide label; the Class 1 Explosive subsidiary risk label example; the Cargo Aircraft Only label; and the newly adopted placard size of at least 250 mm (9.84 inches) on all sides.



NRC Publishes NUREG for RAMQC

The U.S. Nuclear Regulatory Commission (NRC) recently published NUREG-2155 to provide guidance to all licensees, applicants, NRC staff and Agreement States for the implementation of Part 37 in 10 CFR titled "Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material (formerly known as RAMQC)." The approaches and methods described in NUREG-2155 are in the form of questions and answers (Q&A's) for each section and each subsection, as applicable in the new 10 CFR Part 37. The NRC intends the Q&A's to provide guidance on the implementation of the rule language and any definitions that are specific to 10 CFR Part 37.



Frequently Asked Questions

Our FAQ topic below is about the applicability of the new increased security measures listed in 10 CFR Part 37. The answers to these questions are paraphrased from NUREG-2155. Please obtain a full copy for further and complete answer details at www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2155/

- Will 10 CFR Part 37 be applicable to all NRC and Agreement State licensees?

Reference 10 CFR 37.1 "Purpose"

Yes, this includes a wide range of licensees who ship or prepare for shipment a Category 1 or 2 quantity of radioactive material. For example, this includes any licensees involved with pool-type irradiators, medical facilities with gamma-ray stereotactic radiosurgery devices, self-shielded irradiators including blood irradiators, teletherapy units, radiography, well loggers, broad-scope users, radioisotope thermoelectric generator, manufacturing and distributing, fuel cycle, research and test reactors, commercial power reactors, and fixed gauge licensees.

- What type of licensed radioactive material would need to be considered?

Reference 10 CFR 37.4 "Definitions: Aggregated"

Radioactive material in any form, to include sealed or unsealed sources and bulk material accessible by the breach of a single physical barrier.

- Can individual drums, transport packages or source devices within a single security area or on a transport vehicle be considered a single physical barrier?

Reference 10 CFR 37.4 "Definitions: Aggregated"

No. Each security area and each conveyance is a separate physical barrier, not individual pieces. All radioactive material within each security area must be included in the Category 1 or 2 determinations by using the sum-of-fractions method or unity rule.

- Are there any exemptions to complying with 10 CFR Part 37?

Reference 10 CFR 37.11 "Specific Exemptions"

Yes. Some examples include the use of sources within an area already protected under an approved 10 CFR Part 73 security plan and activation products contained in, or part of, a reactor structure. Also, any low-level radioactive waste material for disposal (defined in 10 CFR 20.1003) does not have to comply with 10 CFR 37 Subparts B, C or D if the radionuclides are diffused and the waste does not contain discrete sources (defined in 10 CFR 30.4), ion-exchange resins, or activated material weighing less than 2,000 kg (4,409 lbs).

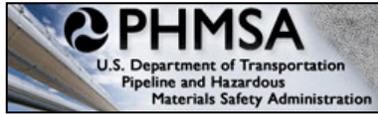
Recent Industry Issues



Seems like something is missing on this Class 7 Radioactive Placard? Can you find what is wrong easily? Is a yellow triangle in the upper portion of a class 7 placard required to be there? Should you always inspect your shipping communications before use? Will the manufacturer or the shipper be held responsible for using a placard that does not fully meet the required specifications in 49 CFR 172 Subpart F? I appreciate the folks who shared this placard with me during training. Thank you!

Latest Happenings in the Federal Register

Miscellaneous Changes for the DOT HazMat Regs



On March 07, 2013 (78 FR 14702 / HM-219), the Pipeline and Hazardous Materials Safety Administration (PHMSA) published a final rule and a correction on March 25, 2013 (78 FR 17874) amending the Hazardous Material Regulations (HMR) concerning record keeping and package marking requirements for third-party labs and manufacturers to assure the traceability of packaging by clearly indicating that a manufacturer or third-party laboratory registered symbol may not be used when continued certification of a packaging is conducted by someone other than the original manufacturer or third-party testing laboratory, unless specifically authorized by the original manufacturer or third-party testing laboratory; removing the listing for "NA1203, Gasohol, gasoline mixed with ethyl alcohol, with not more than 10% alcohol"; harmonizing internationally and providing a limited quantity exception for Division 4.1, Self-reactive solids and Self-reactive liquids Types B through F; allowing smokeless powder classified as a Division 1.4C material to be reclassified as a Division 4.1 material; and providing greater flexibility by allowing the Dangerous Cargo Manifest to be in locations designated by the master of the vessel besides "on or near the vessel's bridge" while the vessel is in a United States port. The effective date of this final rule is May 6, 2013. Voluntary compliance with all amendments is authorized March 7, 2013.

More Miscellaneous DOT HazMat Reg. Changes

On March 11, 2013 (78 FR 15303 / HM-218G), the Pipeline and Hazardous Materials Safety Administration (PHMSA) published a final rule making miscellaneous



amendments to the Hazardous Materials Regulations (HMR) that were proposed in the Federal Register on April 26, 2012 (77 FR 24885). PHMSA is updating various entries in the Hazardous Materials Table and corresponding special provisions, clarifying the lab pack requirements for temperature-controlled materials, and revising the training record keeping requirements. The effective date of this final rule is May 10, 2013. Voluntary compliance with all amendments is authorized March 11, 2013.

Compressed Gas Cylinder Safety Advisory Notice

On March 13, 2013 (78 FR 16045), the Pipeline and Hazardous Materials Safety Administration (PHMSA) published a safety notice advising the public that PHMSA has confirmed the unauthorized marking, service and/or sale of certain high pressure Department of Transportation (DOT) specification cylinders marked with a requalification identification number (RIN) without performing a valid hydrostatic requalification test. Approximately 496 DOT 3AA and 3AL cylinders used in carbon dioxide service were improperly marked from approximately June 2010 to December 2012. Cylinders subject to this notice were serviced or purchased from Flint Welding Supply Co, Flint, MI and were marked with an "A978" or a partial "A978" or just the Month/Year, without a RIN mark in the middle. Kraus Fire Equipment Co. requalified cylinders provided by Flint Welding Supply Co. without performing the series of safety tests and inspections required by the Hazardous Materials Regulations. Cylinders described in this safety advisory that are filled with an atmospheric gas should be vented or otherwise safely discharged by authorized personnel. Individuals who identify a cylinder subject to this notice are advised to remove it from service and return it to Flint Welding Supply Co, Flint MI.



Latest Happenings in the Federal Register (cont.)

NRC Adds Additional Security Measures

On March 19, 2013 (78 FR 16922), the U.S. Nuclear Regulatory Commission (NRC) published a final rule amending 10 CFR to establish security requirements for the use and transport of category 1 and category 2 quantities of radioactive material, previously known as "RAMQC." The objective of this final rule is to provide reasonable assurance of preventing the theft or diversion of category 1 and category 2 quantities of radioactive material. The regulations also include security requirements for the transportation of irradiated reactor fuel that weighs 100 grams or less in net weight of irradiated fuel. The final rule affects any licensee that possesses an aggregated category 1 or category 2 quantity of radioactive material, any licensee that transports these materials using ground transportation, and any licensee that transports small quantities of irradiated reactor fuel. The rule also considers a petition for rulemaking (PRM-71-13) submitted by the State of Washington that requested that the NRC adopt the use of global positioning satellite tracking as a national requirement for vehicles transporting highly radioactive mobile or portable radioactive devices. RAMQC orders previously received by licensees will remain in place for these NRC licensees until the final rule is implemented, then the NRC will rescind the orders that were issued to its licensees. For Agreement State licensees that received an NRC order, the order will remain in place until the effective date of compatible requirements issued by the Agreement States. Each Agreement State will follow its own process for issuing these requirements. Once the State has issued its requirements and they become effective, the NRC will rescind the order. This final rule is effective on May 20, 2013. Compliance with this final rule is required on March 19, 2014.

Civil Penalties Change for DOT HazMat Violations

On April 17, 2013 (78 FR 22798 / HM-258), the Pipeline and Hazardous Materials Safety Administration (PHMSA) published a final rule revising the references in 49 CFR Chapter I Hazardous Material Regulations (HMR) concerning its maximum and minimum civil penalties for a knowing violation of the Federal

hazardous material transportation law or a regulation, order, special permit, or approval issued under that law. As amended in the "Moving Ahead for Progress in the 21st Century Act" (MAP-21), effective October 1, 2012, the maximum civil penalty for a knowing violation occurring on or after October 1, 2012 is now \$75,000 (was \$55,000) and the maximum civil penalty for a violation that results in death, serious illness, or severe injury to any person or substantial destruction of property occurring on or after October 1, 2012 is now \$175,000 (was \$110,000). In addition, there is no longer a minimum civil penalty amount (was \$250); except that the minimum civil penalty amount of \$450 applies to a violation relating to training (was \$495). The effective date of this final ruling is April 17, 2013.



DOT Reduces HazMat Registration Fees

On April 19, 2013 (78 FR 23503), the Pipeline and Hazardous Materials Safety Administration (PHMSA) published a final rule lowering the registration fees for registration year 2013-2014 for all persons, as defined in the PHMSA regulations - 49 CFR Parts 107-171, that transport or offer for transportation in commerce certain categories and quantities of hazardous materials. Specifically, for registration year 2013-2014 the fee for a small business or not-for-profit organization is revised to be \$125 (plus a \$25 processing fee), and for all other businesses the fee is \$1300 (plus a \$25 processing fee). After the 2013-2014 registration year, the registration fees will return to 2012-2013 registration year levels. Additionally, PHMSA is making an editorial change to its regulations to clarify the appropriate fee amounts; there are no substantive changes other than the addition of the fees for 2013-2014 and for 2014-2015 and later. This final rule is effective on April 19, 2013.



Latest Happenings in the Federal Register (cont.)

NRC Adds Guidance on Type B Package Certification

On May 3, 2013 (78 FR 26090), the U.S. Nuclear Regulatory Commission (NRC) published a notice issuing Regulatory Issue Summary (RIS) 2013-04, "Content Specifications and Shielding Evaluations for Type B Transportation Packages." This RIS clarifies the NRC's use of staff guidance in NUREG-1609, "Standard Review Plan for Transport Packages for Radioactive Material," for the review of content specifications and shielding evaluations included in the Certificates of Compliance (CoC) and safety analysis reports (SARs) for Type B transportation packages. The NRC issued this RIS as a draft for public comment on November 13, 2012 (77 FR 67678).



NRC Proposes to Harmonize with IAEA

On May 16, 2013 (78 FR 28988), the U.S. Nuclear Regulatory Commission (NRC) published a notice of proposed rulemaking to revise its regulations in 10 CFR Part 71 for the safe transportation of radioactive material. This proposed rule would bring the regulations in 10 CFR Part 71 into general accord with the 2009 edition of the International Atomic Energy Agency's (IAEA's) "Regulations for the Safe Transport of Radioactive Material" (TS-R-1) and maintain consistency with proposed revisions to the U.S. Department of Transportation (DOT) Hazardous Material Regulations (HMRs) published in the Federal Register on August 12, 2011 (76 FR 50332). In addition, the NRC is making other revisions to include NRC-initiated changes that would affect administrative procedures for the quality assurance program requirements described in 10 CFR Part 71 Subpart H; re-establish restrictions on material that qualifies for the fissile material exemption; clarify the requirements for a general license; clarify the responsibilities of certificate holders and licensees when making preliminary determinations; and make other editorial changes throughout 10 CFR Part 71. Please submit comments specific to this proposed rule by June 17, 2013.

Recent Industry Issues (cont.)



Where should you apply your 'package' specification communications? Is the shoring bar considered part of the package and a good location for the Orange Panel? Or is the web tiedown a better place for package communications, like the Class 8 corrosive label and other package markings? I hope you said the package communications should go physically on the package or in this case, the portable tank.



When placards are required, should the placards on bulk packages be placed within 3 inches of other markings? Are personnel considered a hazmat employee if they apply or help you apply placards to a package? Will anyone applying package communications be required to have hazmat employee training and in this case, include function-specific training on the placarding requirements?

NEI TIP Award (May-2013)

Category: Operate Plant

GGNS Improved Liquid Radwaste Processing System

Grand Gulf Nuclear Station (GGNS) has installed the Solids Removal System (SRS-150) designed and constructed by EnergySolutions. This new system utilizes EnergySolutions latest XUF technology which incorporates stainless steel sintered metal cross-flow ultra-filtration filtration membranes. The new system successfully removes suspended solids >1 micron without the need of filter aid/powdered media, resulting in waste reduction and cost savings. The now solids free water is then processed by existing in-plant demins to further remove dissolved solids/ionic species which results in final water quality allowing recycle/reuse.

The SRS-150 performance, reduced maintenance, and remote operation has resulted in: personnel exposure savings (240 millirem per year), increased productivity (560 work hours annually), and is expected to save \$12.3 million over the life of the plant.

This year's Information Exchange Conference was held at The Power House, an Entergy-owned facility in Jackson, MS. This conference has been recognized within the industry as one of the best forums for exchanging ideas regarding liquid waste processing at nuclear power plants. Some of the technical topics were New XUF Updates (BWR & PWR); upcoming Boron Recycle Systems; Ion Exchange; Chemical Addition; Membrane Technologies; Filtration Technologies; and international projects.

2013 TIP Awards
(Top Industry Practice)

Process Award Presented to:

Entergy Corporation
Grand Gulf Nuclear Station

Improved Liquid Rad-
waste Processing

NEI
Nuclear Energy Institute



Congratulations to the winners of the TIP Operate Plant Award, Entergy and EnergySolutions, for its GGNS Improved Liquid Radwaste Processing System.



Left to right: Greg Gilchrist, President – Williams Burns & Roe, LLC; Ken Howard, Dept. Manager – Project Management, Entergy-Grand Gulf; Mark Ping, VP – Business Development, EnergySolutions; Chip Schoonover, RW Supervisor, Entergy-Grand Gulf; Scott Poole, VP Design & Engineering, EnergySolutions

2013 June - August Training Schedule

Course	Date	Location
Advanced Radioactive Material Shipper Certification Training	June 4-6, 2013	Richland, WA
Federal Motor Carrier Safety Regulations for Drivers	June 5, 2013	Richland, WA
Hazardous Material General Awareness Transportation Training	June 6, 2013	Richland, WA
Load Securement for Drivers and Traffic Personnel	June 12, 2013	Richland, WA
Highway Route Control Quantity (HRCQ)	June 12, 2013	Richland, WA
Hazardous Materials Drivers Training	June 13, 2013	Richland, WA
Federal Motor Carrier Safety Regulations for Managers and Supervisors	June 18-19, 2013	Richland, WA
Reasonable Suspicion Training for Supervisors	June 20, 2013	Richland, WA
Advanced Mixed Waste Shipper Certification Training	June 24-27, 2013	Las Vegas, NV
Hazardous Materials Drivers Training	July 2, 2013	Richland, WA
Basic Level Transportation Training – Module 1 – Basic Hazardous Material	July 8-10, 2013	Albuquerque, NM
Basic Level Transportation Training – Module 2 – Basic Hazardous Waste	July 10, 2013	Albuquerque, NM
Basic Level Transportation Training – Module 3 – Basic Radioactive Material	July 11-12, 2013	Albuquerque, NM
*Attend all three modules consecutively for \$1,285.00 (savings of \$510.00)		
Hazardous Material General Awareness Transportation Training	July 11, 2013	Richland, WA
Advanced Mixed Waste Shipper Certification Training	July 15-18, 2013	Richland, WA
IATA: Transportation of Dangerous Goods by Air Shipper Certification Training	July 15-17, 2013	Las Vegas, NV
DOT/NRC Radioactive Waste Packaging, Transportation and Disposal Training	July 22-25, 2013	Orlando, FL
Air Transport of Radioactive Materials (IATA)	July 26, 2013	Orlando, FL
Load Securing of Radioactive Materials	July 26, 2013	Orlando, FL
*Attend all three NRC/DOT courses consecutively for \$2,695.00 (savings of \$190.00)		
Basic Level Transportation Training – Module 1 – Basic Hazardous Material	July 22-24, 2013	Richland, WA
Basic Level Transportation Training – Module 2 – Basic Hazardous Waste	July 24, 2013	Richland, WA
Basic Level Transportation Training – Module 3 – Basic Radioactive Material	July 25-26, 2013	Richland, WA
*Attend all three modules consecutively for \$1,285.00 (savings of \$510.00)		
Load Securement for Drivers and Traffic Personnel	July 24, 2013	Richland, WA
Hazardous Materials Drivers Training	July 25, 2013	Richland, WA
General Packaging Requirements for the Transport of Hazmat	August 1, 2013	Richland, WA
Basic Level Transportation Training – Module 1 – Basic Hazardous Material	August 5-7, 2013	Las Vegas, NV
Basic Level Transportation Training – Module 2 – Basic Hazardous Waste	August 7, 2013	Las Vegas, NV
Basic Level Transportation Training – Module 3 – Basic Radioactive Material	August 8-9, 2013	Las Vegas, NV
*Attend all three modules consecutively for \$1,285.00 (savings of \$510.00)		
Advanced Radioactive Material Shipper Certification Training	August 6-8, 2013	Richland, WA
Advanced Hazardous Material Shipper Certification Training	August 13-14, 2013	Albuquerque, NM
Highway Route Control Quantity Training	August 13, 2013	Richland, WA
Hazardous Materials Drivers Training	August 14, 2013	Richland, WA
Federal Motor Carrier Safety Regulations for Drivers	August 15, 2013	Richland, WA
Federal Motor Carrier Safety Regulations for Drivers	August 20, 2013	Albuquerque, NM
Hazardous Material General Awareness Transportation Training	August 21, 2013	Richland, WA
Federal Motor Carrier Safety Regulations for Managers & Supervisors	August 21-22, 2013	Albuquerque, NM
Reasonable Suspicion Training for Supervisors	August 22, 2013	Albuquerque, NM
Load Securement for Drivers and Traffic Personnel	August 22, 2013	Richland, WA
Advanced Hazardous Waste Shipper Certification Training	August 27-29, 2013	Richland, WA