

Radioactive Materials Packaging and Transportation Courses to be offered by Lawrence Livermore National Laboratory (LLNL) in FY 2013

Training Courses Sponsored by the United States Department of Energy Packaging Certification Program (EM-33)

Annual training course on *Methods for Reviewing Safety Analysis Reports for Packages and Performing Confirmatory Analysis*, which covers the nine Chapters of a Safety Analysis Report for Packaging (SARP): General Information, Structural, Thermal, Containment, Shielding, Criticality, Package Operations, Acceptance Tests and Maintenance Program, and Quality Assurance; LLNL has presented this Course since 1986. This course has a focus on Type "B" Radioactive Material Transportation Packages as defined in Title 10 of the United States Code of Federal Regulations, Part 71 (10 CFR 71). The Course will be delivered over a two-week period in San Ramon, California. The course is scheduled for April 9-18, 2013. [Enrollment web link](#) available January 2013.

Students that successfully complete the EM-33 sponsored course "Methods for Reviewing Safety Analysis Reports for Packages and Performing Confirmatory Analysis" with a passing grade can receive academic credits from the University of California (U.C.), Davis Extension. Receiving the 5.5 credit units from U.C. Davis Extension is optional and has an additional registration cost to be paid separately to the University of California after completion of the course.

Annual training course on *Welding Criteria for Shipping Containers*, provides background and detailed guidance into the review and evaluation process of Safety Analysis Reports for Packaging (SARP) relative to welding and nondestructive examination (NDE). The ASME Boiler and Pressure Vessel code is highlighted as the metric to quantify the welding and NDE safety requirements of 10CFR71. Detailed coverage of the ASME Code Sections II, III, V, VIII, and IX will be included relative to SARP preparation and review. Also covered will be practical presentations and demos regarding welding and examination technology, terms/definitions, examination of metals/weldments for common defects, qualification of weld/NDE procedures and personnel. QA information relative to the requirements of 10 CFR 71, Subpart H, as well as ASME NQA-1 will be presented. The Course will be delivered over a two-day period in San Ramon, California. The course is scheduled for June 12-13, 2013. [Enrollment web link](#) available January 2013.

Students that successfully complete the EM-33 sponsored course "Welding Criteria for Shipping Containers" with a passing grade can receive academic credits from the University of California (U.C.), Davis Extension. Receiving the 1.6 credit units from U.C. Davis Extension is optional and has an additional registration cost to be paid separately to the University of California after completion of the course.

Welding Criteria for Shipping Containers Training Course Agenda

Wednesday, April 11 - Day 1

TIME	TOPIC	INSTRUCTOR
7:30-8:00	Sign In, Continental Breakfast	All
8:00-8:10	1.1 Welcome, Opening Remarks, Course Overview	Ed Russell
8:10-8:30	1.2 Introduction	Ed Russell
8:30-8:50	1.3 Overview of ASME B&PV Code Sections Applicable to Packaging	Ed Russell
8:50-9:50	1.4a,b Selected Welding/NDE Terms	Ed Russell /John Rodriguez
9:50-10:20	Break	
10:20-11:00	1.5 Welding Processes Addressed in the ASME B&PV Code (Video)	Ed Russell
11:00-12:00	1.6 NDE Processes Addressed in the ASME B&PV Code	John Rodriguez
12:00-1:00	Lunch	
1:00-1:30	1.7 ASME B&PV Code, Section IX- Requirements for Welding Qualifications	Ed Russell
1:30-2:25	1.8 ASME B&PV Code, Section V- Requirements for NDE Qualifications	John Rodriguez
2:25-2:50	1.9 NDE Codes, Standards, and Recommended Practices	John Rodriguez
2:50-3:20	Break	
3:20-4:00	1.10 Common Weld-Related Defects (Video)	Ed Russell/John Rodriguez
4:00-4:30	1.11 NDE of Weld Replicas- Demonstration	John Rodriguez
4:30-5:00	Summary, Questions, Discussion	Ed Russell/John Rodriguez

Thursday, April 12 - Day 2

TIME	TOPIC	INSTRUCTOR
7:30-8:00	Sign In, Continental Breakfast	All
8:00-8:10	2.1 Opening Remarks, Questions	Ed Russell
8:10-9:00	2.2 Quality Assurance/Quality Control (QA/QC) Applied to Packaging Fabrication	Mike DeMicco
9:00-9:30	2.3 Fabrication Integrity and the Weldability of Selected Metals	Ed Russell
9:30-10:00	2.4 ASME Code Welding Requirements- Sections II, III, and VIII	Ed Russell
10:00-10:30	Break	
10:30-11:30	2.5 ASME Code NDE Requirements- Sections III and VIII	John Rodriguez
11:30-11:50	2.6 NDE Methods for Material Identification	John Rodriguez
11:50-12:50	Lunch	
12:50-1:35	2.7 Student Exercise: NDE Applications to Packaging	John Rodriguez
1:35-1:55	2.8 Welding/NDE Symbols Relative to SARP Drawings	Ed Russell/John Rodriguez
1:55-2:35	2.9 Current State-of-the-Art in NDE Applicable to Packaging	John Rodriguez
2:35-3:05	Break	
3:05-3:40	2.10 ASME Code Procedure Development Example—Class 1 Examination of Base Metal	Ed Russell
3:40-4:15	2.11 AWS Structural Welding Codes	Ed Russell
4:15-5:00	Course Summary, Questions, Discussion	Ed Russell/John Rodriguez Mike DeMicco

The course enrolment information for all LLNL-conducted courses will be posted to www.rampac.energy.gov three-months prior to the course. If you have any questions concerning these EM-45 sponsored training courses, or would like to express interest in any of the courses prior to official enrolment via the RAMPAC web site, please contact Terry Freitas at email freitas3@llnl.gov or by telephone at 925-422-5111.