



## Description

The goal of the course is to provide guidance for the application of the ASME Boiler & Pressure Vessel (B&PV) Code to packaging for the transportation of high-level radioactive materials or fissile materials. The course objective is to facilitate the design, fabrication, examination, and testing of a packaging that meets all the applicable ASME Code requirements and all the governing federal requirements and regulations.

The course will provide insight on the DOE/NRC packaging certification process. Examples will be drawn from real-world applications.

The target audience is DOE and contractors, other agency personnel, and commercial packaging engineering employees. Those responsible for designing, fabricating, or evaluating Type B or fissile material packaging, as well as preparing or reviewing the associated safety analysis reports, will also benefit.

## Staff

Zenghu Han	Training Course Director
Yung Liu	SARP Review Group Manager
Sharon Ryan	Training Course Administrator
Bud Fabian	Quality Assurance Engineer
Jie Li	Chemical Engineer
Ron Pope	Mechanical Engineer
Vik Shah	Mechanical Engineer
Brent Shelton	Mechanical Engineer
Shiu-Wing Tam	Materials Engineer
William Toter	Welding Engineer

## Guest Lecturers

Savannah River National Laboratory  
Lawrence Gelder Technical Advisor

Nuclear Regulatory Commission  
Gordon Bjorkman Senior Technical Advisor  
Kim Hardin Senior Project Manager  
Spent Fuel Storage and  
Transportation Division

## Agenda

Tuesday, Wednesday, and Thursday  
8:00 a.m. – 5:00 p.m.

This is a classroom course, last given in March 2011 for the 12th time. It consists of technical presentations, discussions, examples, and problem solving with emphasis on understanding the regulatory basis, current design practice, and engineering rationale for applying the ASME Code to packaging for transportation of radioactive materials. Course highlights include lectures on the following:

- Overview of federal regulations that govern transportation packaging for radioactive materials
- Overview of DOE Orders and NRC guidance documents, including regulatory guides
- General background and structure of the Code, with emphasis on Section III, Division 3, *Containments for Transportation and Storage of Spent Nuclear Fuel and High Level Radioactive Material and Waste*, including discussion of Section III, Division 1 and Section VIII, Division 1
- Current activities in the NUPACK Code, including strain-based criteria
- Code and non-code structural materials, containment loading and design with emphasis on design-by-analysis rules, significance of stress limits, bolt stress analysis, behavior of bolted closure, thermal stress analysis, design for hypothetical accident conditions, and brittle fracture protection
- Design of containment internal support structures, buckling analysis, including Code Case N-284
- Fabrication, weld examination and test requirements, and quality assurance
- Design qualification by physical testing, containment requirements for leakage rates
- Solution of problems to illustrate the Code application

## Course Material

All participants will receive a copy of the course instruction visuals, which are based on the ASME B&PV Code; selected key references; as well as an examination for Certificate of Completion for the ASME Code Training Course.

## Registration

Application of the ASME Code to  
Radioactive Material Packaging  
March 26-28, 2013

Argonne National Laboratory  
9700 South Cass Ave.  
Argonne, IL 60439

The registration fee for this course is \$800 (\$700 if registered before **February 25, 2013**). Checks should be made payable to Argonne National Laboratory (credit cards accepted). The number of participants is limited to 24. Registration must be received by **March 12, 2013**. The participant list is subject to approval by DOE.

To register on-line, please visit  
<http://www.dis.anl.gov/conferences/asme/info.html>

Make check payable to: Argonne National  
Laboratory and send to:

Tracey Stancik  
Argonne National Laboratory  
9700 South Cass Ave.  
Bldg. 201, Rm. 2S-06  
Argonne IL 60439  
**Phone: (630) 252-5587**  
E-mail: [tstancik@anl.gov](mailto:tstancik@anl.gov)

**Cancellation policy:** A processing fee of \$100 will be charged for cancellation until/on March 19, 2013. No refund will be issued after March 20, 2013.