



Idaho Operations Office  
151 N. Ridge Ave.  
Suite 250  
Idaho Falls, ID 83402  
Phone: (208) 523-3774  
Fax: (208) 523-8228

## COURSE DESCRIPTION

- Course Title:** Implementing the Nuclear Facility Safety Basis
- Course Length:** Twenty-four hours
- Course Limit:** 30 students
- Intended Audience:** DOE and contractor personnel who are involved with implementing and maintaining the safety basis requirements of 10CFR830, "Nuclear Safety Management." This may include Facility Management, Operations Personnel, DOE Program Managers, DOE Facility Representatives.
- Course Description:** This course presents an overview of the requirements of 10CFR830, "Nuclear Safety Management," and emphasizes the implementation of these requirements using the principles of Integrated Safety Management. The purpose of implementing documentation such as Document Safety Analyses (DSA), Technical Safety Requirements (TSR), the Unreviewed Safety Question (USQ) process, Configuration Management and Conduct of Operations is reviewed as they support the Nuclear Safety Management Rule. The course also covers methods for the flow down of these requirements into facility policies, procedures and Safety Management Systems. Implementation lessons learned from other DOE facilities is also discussed.
- Supporting Material:** Copies of the course slides and supporting references, including selected DOE Directives
- Evaluation:** A written exam is administered upon completion of the training course.
- Prerequisites:** None
- Cost:** Estimate available upon request
- Attachments:** Course outline
- Point of Contact:** Bill Lapsansky  
Manager, Idaho Operations  
blapsansky@epsilonsystems.com

Epsilon Systems Solutions, Inc.

COURSE OUTLINE

**Course Title:** Implementing the Nuclear Facility Safety Basis

**Outline:**

1. **The Basic Tenets of Assuring the Health and Safety of the DOE Workforce and the Public During DOE Nuclear Facility Operation**
  - a. Facility Hazard Categorization
  - b. Detailed Analysis of “Design Basis” Accidents
  - c. Engineered Controls for Design Basis Accidents
  - d. Administrative Controls for Design Basis Accidents
  - e. Safety Management Programs
2. **Relationship of the Facility Safety Basis to the Facility Authorization Agreement - Overview**
  - a. Authorization Agreement
  - b. Authorization Basis (AB)
  - c. Basis for Interim Operation (BIO)
  - d. Documented Safety Analysis (DSA)
  - e. Integrated Safety Management (ISM)
  - f. Justification for Continued Operation (JCO)
  - g. Nuclear Facility
  - h. Safety Analysis
  - i. Safety Analysis Report (SAR)
  - j. Safety Basis
  - k. Safety Envelope
  - l. Self Evaluation Report (SER)
  - m. Technical Safety Requirements (TSR)
  - n. Unreviewed Safety Questions (USQs)
  - o. Safety SSCs
3. **DOE Directives and CFRs That Implement Requirements for Nuclear Facility Safety**
  - a. Basic DOE Directives for Nuclear Safety SARs, TSRs, USQs
  - b. CFRs – 10CFR820 and 830
  - c. Price-Anderson Amendments Act
4. **Required Safety Basis Documentation for Non-Reactor Nuclear Facilities**
  - a. DSA Requirements
  - b. Preliminary DSAs
  - c. Basic DSA Development
  - d. Hazards Analysis
  - e. Accident Analysis
  - f. Safety Structures, Systems and Components
  - g. Derivation of TSRs
  - h. Maintaining the Safety Basis
5. **Key Concepts and Controls That Must Be Fully Implemented to Maintain the Validity of the Facility Safety Basis**
  - a. Technical Safety Requirements – Their Hierarchy and Rules Interpreted
  - b. Configuration Management – Specifically Change Control
  - c. Approved Procedures – Incorporation of Requirements, Use, Which Have Been Verified and Validated
  - d. Unreviewed Safety Question Process
  - e. Quality Assurance

**6. Using the Defense-in-Depth Concept in Nuclear Facility Operations to Assure the Health and Safety of the Workforce and the Public**

- a. Training and Qualification of Nuclear Facility Personnel
- b. Review of the Conduct of Operations Manual and Its Relationship to the Safety Basis

**7. Incorporation of Nuclear Facility Safety Requirements into the Integrated Safety Management System**

- a. Guiding Principles – Balanced Priorities, Identification of Safety Standards and Requirements, and Operations Authorization
- b. Core Functions – Analyze the Hazard, Develop and Implement Hazard Controls, and Perform Work within Controls
- c. ISM Mechanisms
- d. Linking Authorization Agreement Requirements to Facility-Level Procedures and Documentation

**8. Assessing the Adequacy of the ISM Process for Nuclear Facility Safety and Continuous Improvement**

- a. Nuclear Safety Basis and the ISMS Phase II Verification

**9. Lessons Learned on the ISM Process and its Relationship to Nuclear Facility Safety Requirements**

- a. DOE Lessons Learned Database
- b. DNFSB Correspondence