

Slide 1

Safety Basis Academy FY'07

Safety Basis Academy

- The Safety Basis Academy is a training specification and implementation, adhering to the Systematic Approach to Training, designed to facilitate Uniformity in training of Safety Basis Professionals Across the Nuclear Weapons Complex

Systematic Approach to Training

- DOE O 5480.20A, Chapter 1, Paragraph 7, Training Requirements, states that "Training to support qualification and certification programs shall be based on a systematic approach to training (SAT). A graded approach shall be used to establish the SAT for operations personnel, maintenance personnel, technicians, and the technical staff."
- DOE-STD-1070-94, DOE Standard Guidelines for Evaluation of Nuclear Facility Training Programs
- DOE-HDBK-1078-94, Training Program Handbook: A Systematic Approach to Training

Systematic Approach to Training

- Systematic Approach to Training Consists of Five Phases:
 - Analysis Phase
 - Design Phase
 - Development Phase
 - Implementation Phase
 - Evaluation Phase

Course Design Specifications

- Course Description
- Objectives
 - Summarizes Course Terminal Objectives
- Target Audience
 - Safety Analysts working at DOE Facilities
- Prerequisites
 - Identifies courses to attend previous to a given course
- Estimated Duration
 - Number of training hours estimated for the course.

Course Design Specifications (continued)

- Evaluation Methods
 - Exercises during course to assess student abilities resulting from the training
- Learning Objectives
 - Terminal and Enabling Objectives (in detail)
- Recommended Training Methods
 - Lecture, demonstration and practice, oral questioning, work groups

Course Design Specifications (continued)

- Recommended Learning Activities
 - Gain / maintain attention and motivate student
- References

Project Status

- Initiated Safety Basis Academy in 2004 Using the Systematic Approach to Training
- Performed Needs Analysis in Conjunction with Input from the DOE Complex through EFCOG/SAWG.
- Performed Functional Analysis Vetted through the DOE Complex through EFCOG/SAWG
- Design Specifications Prepared for Courses Based on Functional Analysis Results
 - Specs Developed to the Level of Terminal Learning Objectives and Enabling Objectives.

Project Status Cont.

- Completed SBA Curriculum Design FY'06
- Plan to Deliver Nine (9) Courses in FY'07
- Most Course Materials will be Developed by vendors – RFP(s) Being Prepared

Safety Basis Academy Basics and Specialty Courses

- Basics Courses Designed to Supply Attendees with Tool Box Methods which are Applicable in all Specialty Areas
- Specialty Courses are Directed toward Experienced Analysts and provide information on Specific Methods of Analysis and Regulations

Safety Analysis Basics Courses

- Safety Basis Overview FY07
- Hazard Identification Future
- Hazard Evaluation Techniques I FY'07
- Hazard Evaluation Techniques II FY'07
- Accident Analysis Techniques Future
- Analytical Modeling Techniques
Overview Future
- Specific Hazards Analysis Future
- Safety Basis Document Preparation Future

Safety Analysis Specialty Courses

- Analytical Modeling Techniques [DOE Toolbox Codes]
 - CFAST FY'07
 - ALOHA FY'07
 - EPIcode FY'07
 - GENII Future
 - MACCS2 FY'07
 - MELCOR Future

Safety Analysis Specialty Courses (Continued)

- **Nuclear Facility Safety**
 - Nuclear Safety Management Future
 - Hazard Categorization Future
 - Airborne Release Fraction and
Respirable Fractions Future
 - Safety Basis Document Preparation
 - Advanced FY'07
 - Packaging and Transportation Safety
Basis Documentation Future
 - Technical Safety Requirements Dev. FY'07

Safety Analysis Specialty Courses (Continued)

- Environmental Restoration,
D & D Safety Future
- Accelerator Facility Safety Future
- Chemical Facility Safety Future

FY2007 Course List

- Safety Analysis Basics Courses:
 - Safety Basis Overview
 - Outlines the requirements, structure and practices for safety basis implemented throughout the Department of Energy
 - Describes the safety analysis process for a DOE hazardous material facility
 - Hazard Evaluation Techniques 1
 - Checklist Analysis, Preliminary Hazard Analysis, What-If Analysis, What-If Checklist, Hazard and Operability Analysis, Failure Modes and Effects Analysis
 - Hazard Evaluation Techniques 2
 - Fault Tree Analysis, Event Tree Analysis, Hazard and Barrier Analysis, Human Reliability Analysis

FY2007 Course List

- Safety Analysis Specialty Courses:
 - Safety Basis Document Preparation – Advanced
 - Provides working knowledge of how to prepare a Std 3009 DOE Nonreactor Nuclear Facility DSA
 - Technical Safety Requirements Development
 - Describes how to develop approvable TSR doc.
 - MACCS2, ALOHA, EPIcode, CFAST
 - Provides working knowledge of Codes related to how to use the codes, applicability, and limitations

Wanted: A Few Good Analysts

- SBA will be available for any site to use
- We are at the stage of providing pilots that will allow completion of the specifications for future delivery
- We are soliciting continuing involvement from our peers
- Class notices will go out through the SAWG
- Contact us directly if you wish to participate

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