

SAFETY BASIS ACADEMY

SUMMARY OF PROJECT IMPLEMENTATION

FROM 2007-2009

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Full report on EFCOG SAWG website www.efcog.org/wg/sa/

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Safety Basis Academy Project Defined

- During 2007 through 2009, LANL implemented a Safety Basis Academy (SBA)
- SBA facilitates uniformity in technical qualifications of safety basis professionals
- Required development, delivery, and finalizing a set of 23 courses
- Courses developed support qualification efforts for both federal and contractor personnel throughout the DOE/NNSA Complex

Roles and Responsibilities

- LANL Safety Basis Technical Services (SB-TS) Group's main tasks were project needs analysis, design, development, implementation of instructional delivery, and evaluation of SBA courses
- DOE/NNSA oversight was assigned to the Chief of Defense for Nuclear Safety, and delegated to the Authorization Basis Senior Advisor, Continuous Learning Chair (CDNS-ABSA/CLC)
- DOE National Training Center (NTC) will maintain the set of Safety Basis Academy courses and facilitate course delivery throughout the DOE Complex

Background of the Project

- During 2004 through 2006, LANL supported the needs analysis phase of the Safety Basis Academy Project
- Staff from Edgewater Technical Associates, worked collaboratively with LANL training and safety basis staff
 - Conducted a comprehensive gap analysis of training needs, and
 - Functional analysis of the Safety Analyst position and manager responsibilities
 - Resulting in a series of reports and a set of preliminary design specifications for technical courses for persons with safety analysis responsibilities at non-reactor nuclear and high-hazard facilities within the DOE Complex.

Course Development

- From 2007 through 2009, 23 courses were developed, piloted, and vetted by NNSA, SBA staff, and course participants.
- Each course contained the following components:
 - Study Guide for student use
 - Student activities and structured discussions, when applicable
 - Lesson Plan containing instructor guidance
 - Set of slides for classroom presentation
 - Course exam
 - LANL course cover page authorizing public release as unclassified content

Course Development (cont.)

- Each course pilot had participation with diverse representation from the DOE/NNSA Complex
- Course developers-instructors ensured formal-documented resolution of NNSA, SBA staff, and student comments
- Each course was finalized, then submitted by LANL to the DOE National Training Center
- All courses were deemed acceptable to the DOE NTC, meeting their specifications and compliant per Systematic Approach to Training

Course Availability

- DOE National Training Center has accepted the long-term task of maintaining version control for all SBA courses
- LANL Safety Basis Technical Services (SB-TS) Group is an additional provider for instructors of SBA courses
- All the courses were designed so that any knowledge Subject Matter Expert who meets instructor qualifications (for that site) may serve as an instructor/instructor

Course Delivery

- During the three-year SBA project implementation, LANL supported delivery of 33 classes
 - this included the set of 23 pilot courses
 - plus 10 classes that were re-delivered
- Total of 734 participants attended the classes, with 17,280 total person-hours of contact time

LANS-Supported Courses for FY2009

Course Title	Location	Participants	Course Length (hr)	Total of Person-hours
Chemical Facility	Los Alamos	11	24	264
ER/D&D Safety Basis	Santa Fe	28	24	672
GENII Modeling Code	Santa Fe	14	16	224
Packaging & Transportation	Santa Fe	26	24	624
Safety Basis Overview	Las Vegas	26	16	416
Hazard Identification	Savannah	14	8	112
Accident Analysis Techniques	Oakridge	24	24	576
Safety Basis Doc. Prep. Adv.	Savannah	33	24	792
Safety Basis Doc. Prep. Adv.	Pantex	26	24	624
TSR Developer	Savannah	22	32	704
ARF/RF	Pantex	26	24	624
Hazard Eval. Tech. II	EFCOG SAWG	12	16	192
Analytical Modeling Overview	EFCOG SAWG	19	16	304
		281		6128

Participation (cont.)

- Course developers
 - 7 of the 23 courses were developed by LANL
 - 1 course was developed by PNNL, and 1 by SRNL
 - Remaining 14 developed through vendor contracts. The vendor organizations involved with SBA course development were:
 - Edgewater Technical Associates
 - ABS Consulting
 - Washington Safety Management Solutions
 - Hukari Technical Services Inc.
 - ARES Corporation
 - Sonalysts
 - Link Technologies Inc.
 - Hughes Associates Inc., and
 - Shaw Environmental Inc.

Future Challenges

Continued use of the SBA courses will be a challenge. The following points are notable:

- The overlay of the Safety Basis Academy with existing DOE/NNSA Complex Safety Basis training programs will require attention as there could be conflicting or duplicative efforts
- We assume there will be sufficient interest and support within the Complex so that DOE/NNSA Site Offices and contractor sites use the SBA courses to train staff
- Annually, the DOE NTC will coordinate with DOE/NNSA Site Offices to prioritize which courses will be delivered that year

Future Challenges (cont.)

- EFCOG SAWG will continue to identify new technical training for Safety Analysts and work within the DOE/NNSA community to ensure that training is current and meets identified needs
- Sites throughout the Complex have a clear need for attracting personnel with technical education and knowledge of safety analysis; collaboration with universities as a pipeline for interested undergraduate and graduate students should be pursued