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**Safety Basis Academy Project  
Overview for EFCOG Safety Analyst Working Group  
May 2007**

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The objective of the work being reported was to develop a Safety Basis Academy (SBA) at the Los Alamos National Laboratory (LANL) with the resulting program to have broad applicability with benefits for many sites within the DOE Complex. This was to be accomplished by developing carefully analyzed safety basis training specifications and courses compliant with the U.S. Department of Energy Systematic Approach to Training (SAT). This objective was to be accomplished in accordance with the requirements in DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities. Safety Basis Academy objectives included:

- Promoting uniformity in skill levels and analytical methodologies
- Supporting compliance with applicable regulations and established standards associated with nuclear safety functions
- Providing a standardized training program to provide skilled safety analysts.

The relationship of the work to the Workshop theme “Supporting Excellence in Operation through Safety Analysis” is that DOE Order 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. A graded approach shall be used to establish the systematic approach to training for operations personnel, maintenance personnel, technicians, and technical staff.” The Safety Basis Academy, by developing safety basis training course specifications by applying the systematic approach to training will help ensure that technical staff safety analysts are more uniformly qualified to identify the controls that will help ensure safer operations at DOE non-reactor nuclear facilities.

The work consisted of first performing the systematic approach to training Analysis Phase which included the training Needs Analysis and a Functional Analysis for activities performed by safety analysts. The methodology used for the analysis phase included lines of inquiry consistent with recommendations found in DOE-HDBK-1078-94, Training Program Handbook: A Systematic Approach to Training. Input for the analysis phase was derived from three principal sources: (1) document reviews, (2) personnel interview, and (3) a DOE Complex-wide survey. Managers, supervisors, safety analysts, scientists, technical staff, operations and operations support personnel were interviewed as part of the analysis phase. Survey results from ten additional DOE sites suggest that performance issues identified at LANL are generally applicable across the DOE Complex. A detailed list of functions for safety analysts was researched and developed. Using the results from the analysis phase, the systematic approach to training design phase was initiated. Terminal objectives were written that clearly state the measurable performance expected of the trainee at the conclusion of the training. Enabling learning objectives were developed and sequenced; test items were developed consistent with the learning objectives; and appropriate training settings were proposed. The next steps during 2007 will be for course providers to use the products from the training analysis and design phases to develop/modify their training materials. Course providers will develop lesson plans and training support materials. Pilot courses will be conducted and the pilot courses will be evaluated and revised based on comments received from course attendees.

The results of the work performed to date include the design specifications and Scope of Work for each of the Safety Analyst Training Program courses. Courseware development requirements have been identified. A functional analysis and training elements design has also been completed to support the training needs of safety basis implementation personnel. Safety basis implementation personnel include: operations personnel, maintenance personnel, technicians, and other technical staff. The Safety Analyst curriculum design is complete and the stage is set for development and implementation of a comprehensive Safety Analyst Training Program that should have broad applicability throughout the DOE Complex.

Specific benefits that the work can provide to other DOE Complex sites are that the paper will show the value of the Safety Basis Academy to the DOE Complex and the value of applying the Systematic Approach to Training to safety basis training courses. The work, and the proposed paper, can be expected to increase technical reviewer and trainee participation in the Safety Basis Academy pilot courses during FY2007-FY2009. Increased interest and participation will help ensure an excellent Academy and improved safety basis training across the DOE Complex. Attending the presentation of the proposed paper at the EFCOG SAWG Annual Meeting will improve understanding of the work performed, encourage buy-in on the Systematic Approach to Training process, and result in greater participation in refinement of the Safety Basis Academy courses through greater attendance and participation in the Academy in coming years.