

White Paper on Knowledge and Ability Catalog Revision NUREG 1122 and NUREG 1123

Background

The Knowledge and Ability Catalogs (K&A) have been the basis for the questions and topics examined on NRC exams since the 1980s. The value of the catalogs is the consistency and the randomness of the examinations it offers to the industry so that each examination is developed consistently among all regions.

Problem Statement

The current KA Catalogs do not address the new systems in the passive reactor designs. As a result the current K&A Catalogs will not be usable for development of future NRC examinations once the passive reactor designs are in place.

Proposal

The industry recommends the development of two new K&A catalogs for the new passive plant designs.

Also, the industry recommends the current K&A Catalogs be used for the new non passive design plants. Additional systems, Abnormal Plant Evolutions and Emergency Plant Evolutions information will be added to the current catalogs.

We recommend that the new catalogs be in part developed as a joint effort between the design centered working groups. Generic Section 2 topics can be developed jointly as they are common to most reactor types. Sections 3 and 4 will be developed individually by reactor type.

NRC participation will be needed in this process either as a reviewer of the work done by the industry or as an active participant.

The preference of the industry would be for the NRC to act as a reviewer of the product. We, the industry and the NRC would agree on a methodology to accomplish this task. Once the method has been agreed upon the industry can begin the work. Also, we propose to have periodic reviews with the NRC to ensure their concurrence on the work being done, and allow them to provide input.

Methodology for Performing Survey (Ratings) for New Plant Knowledge and Abilities

Once the baseline knowledge and abilities are developed from the Job and Task Analysis data, the associated design centered working group would survey individuals who have significant plant knowledge on the new reactor technology. These individuals could come from the associated

utilities and from the associated Vendor. The individuals that participate in the survey would have an operations background or technical expertise. In addition, participation from NRC with the associated plant knowledge would be requested.

Survey Administration

The survey could be administered electronically via the World Wide Web in order to:

- (1) permit respondents to complete the survey at their own work location,
- (2) reduce administration time and data input costs,
- (3) maintain control over access to the survey and results.

Survey Instrument

The process used will be similar to the one described in WCAP-16678-NP.

Proposed Schedule

The time frame in which we need to be accomplishing this task will be no later than third quarter of 2011. This is based on the first NRC exams to be given in the third quarter of 2012.