

Attachment 1

Summary of the Second Integrated Safety Analysis Workshop

Dates: July 15-16, 2004

Place: Doubletree Hotel, Rockville, MD

Attendees: See Enclosure 1

Purpose:

The purpose of this meeting was to have a discussion with industry and the public during a U.S. Nuclear Regulatory Commission (NRC) public meeting regarding Integrated Safety Analysis (ISA) issues for nuclear fuel cycle facilities under 10 CFR Part 70, Subpart H. This workshop was a Category 2 Meeting with the public invited to participate during the discussion and at designated points on the agenda. The meeting agenda is attached as Enclosure 2.

Discussion:

Welcome/Introduction/Opening Remarks

NRC opening remarks discussed the ground rules for the Workshop, including that (1) the format was a brief presentation followed by general discussion on the topic; (2) comments from anyone in the audience were acceptable at any time; (3) this was an open public meeting, so no proprietary or classified information should be provided; and (4) the discussion should be "specifically generic" (i.e., specific topic but general because it should not be based on a specific licensing issue). The agenda of the meeting was determined from issues (1) raised at the last workshop, (2) identified by NRC during reviews of ISA Summary submittals, and (3) identified by industry representatives. Issues identified during the Workshop that needed further action were to be placed in a "parking lot" list of followup items. All attendees were introduced, requested to sign the attendance list, and requested to complete a meeting comment form for feedback on meeting conduct and focus.

NRC presented a description of the Division of Fuel Cycle Safety and Safeguards (FCSS) (see Enclosure 3a). The status of the Interim Staff Guidance documents (ISGs) was discussed. NRC requested feedback and discussion of the ISGs. NRC stressed the need for effective communication between applicants/licensees and NRC during the ISA Summary review process. NRC indicated that all communications regarding the licensing process (e.g., problems, issues, questions) need to go through the NRC licensing Project Manager. NRC presented a list of all ISGs being developed (see Enclosure 3b). Regarding questions about the ISGs, NRC indicated that (1) the schedule for completing the ISGs would be between 1 and 2 months, depending on the complexity of the issue and (2) that industry would be able to review the ISGs prior to their finalization.

Industry opening remarks noted that (1) ISA issues were being resolved during licensing on a case-by-case basis; (2) since most issues were specific, the difficulty in developing generic guidance is understood; (3) ISGs should help resolve ISA issues; and (4) there existed an overall satisfaction with the interactions with NRC staff on ISA issues.

Presentation - 10 CFR Part 70 Backfit Guidance

NRC presented information on the 10 CFR Part 70 Backfit Guidance (see Enclosure 3c). Regarding a question about when the backfit guidance was applicable, NRC indicated that it was applicable now to 10 CFR Part 70, except for Subpart H, which would be applicable after NRC approval of the complete ISA Summary.

Presentation - Addressing Natural Phenomena in ISAs

NRC presented information on addressing natural phenomena in ISAs (see Enclosure 3d). Regarding questions about the relationship between the uniform building codes (UBCs) and the performance requirements, NRC indicated that (1) the UBC was a high quality assumption, but that meeting the UBC does not guarantee meeting the performance requirements and that the ISA needs to demonstrate on a site-specific basis that adherence to the UBC will meet performance requirements and (2) this was not above and beyond what was discussed at the previous Workshop. The UBC can be used as the basis to evaluate and support the safety of the specific facility or process. Regarding questions about worker and public consequences, NRC indicated that (1) these were two situations, (2) worker evacuation may be taken into account, and (3) it should be that only public consequences needed to be addressed. Regarding a question about the method used to meet the performance requirements, NRC indicated that other ways were available, but what was important was consequences (i.e., not in the UBC) rather than design attributes.

An industry comment was made that suggested that criticality was a worker safety issue needing NRC guidance. Regarding a question about whether a seismic event that could cause a criticality needed to be considered, NRC indicated that all accidents that exceed the performance requirements needed to be considered. Regarding a question about how a building collapse would get integrated into the ISA, NRC indicated that licensees had to use reasonable assumptions and consider the consequences. Regarding a question about the release likelihood, NRC indicated that the release likelihood was needed provided that the event is not highly unlikely. Regarding a question about how licensees meet the double contingency principle if the building is an item relied on for safety (IROFS), NRC indicated that licensees should look at the initiating event frequency because a criticality accident may not need to be addressed. Regarding a question about details in submittals, NRC indicated that, for new or existing facilities, the data needs to be of high quality. Regarding a question about hazops versus Probabilistic Risk Assessment data, NRC indicated that an analysis could be provided for justification, but that there were other options. Regarding a question about natural events, NRC indicated that they do need to be evaluated in the ISA. If they are considered not credible, the ISA Summary should mention it.

Presentation - Nuclear Criticality Safety Performance Requirements

NRC presented information on nuclear criticality safety performance requirements (see Enclosure 3e). Regarding a question about the double contingency principle (DCP) and highly unlikely, NRC indicated that, as stated at the previous ISA Workshop and Criticality Safety Workshop, meeting the DCP is not the same as meeting highly unlikely. However, if you meet the robust DCP (see examples in the presentation), used only preventive controls that were

identified in the ISA Summary as IROFS, and used an NRC-approved margin of subcriticality for safety, then both the DCP and highly unlikely should have been met. Industry agreed with NRC.

Presentation - Additional Nuclear Criticality Safety Reporting Requirements of 10 CFR 70.74

NRC presented information on additional nuclear criticality safety reporting requirements of 10 CFR 70.74 (see Enclosure 3f). NRC did not present the non-nuclear criticality safety reporting requirements in 10 CFR 70.74. There were no questions.

Presentation - Initiating Event Frequency

NRC presented information on the initiating event frequency (IEF) (see Enclosure 3g). Regarding a question about what kind of documented justification would be needed to support an IEF, NRC indicated that (1) objective data was needed, (2) anecdotal evidence was not sufficient, and (3) all that went into the IEF justification needs to be tracked and maintained to make sure that the IEF does not change over time, similar to expectations associated with IROFS. Regarding a question about how the IEF without management measures could be written into the License Application, NRC indicated that it could be done generically rather than specifically. Regarding a question of whether an analysis could be used to determine the IEF, NRC indicated that it could be done. An industry comment was made that suggested the IEF ISG should include a description of acceptable methods. Regarding a question about using an IEF of <1 , NRC indicated that documented justification is needed.

Presentation - Methods for Qualitative Evaluation of Likelihood

NRC presented information on methods for qualitative evaluation of likelihood (see Enclosure 3h). Regarding a question about the method and amount of detail, NRC indicated that it depended on the complexity of the particular system. Regarding a question about whether the method was based more on management measures in determining an index, NRC indicated that (1) it was, (2) it may be somewhat difficult to justify an index based on evaluation of the applicable management measures and other associated measures, and (3) justification was needed. Regarding a question about using a quantitative method, NRC indicated that one could be used, but it was not going to be addressed in the ISG because all submittals to date have used qualitative methods.

Presentation - Management Measures

NRC presented information on management measures (see Enclosure 3i). NRC noted that management measures programs themselves are not more burdensome when more IROFS are covered. Attendees agreed but noted that costs (e.g., paperwork, surveillance) accrue on implementation of management measures as numbers of IROFS increase. Regarding a question about specific criteria to evaluate management measures, NRC indicated that the management measure chosen needs to demonstrate that the particular IROFS would be available and reliable to perform its intended function. Regarding a question about graded management measures, NRC indicated that the evaluation of graded management measures would be based on safety and whether the performance requirements would be met. An industry comment was made that the downside of implementing a graded approach was that

there may be different levels of management measures for similar components in the facility. NRC noted that the issue could be avoided by choosing an alternate approach to grading management measures.

Discussion - Industry Perspectives on Items Relied on for Safety

Industry gave its perspective on IROFS, including that (1) certain IROFS are challenged more often and may be more or less reliable and (2) the challenge of the IROFS was to its safety function. An example was a safety valve that performed both safety and non-safety functions. The valve could fail to perform a non-safety function, but this may not be a challenge to its safety function. NRC agreed.

Presentation - Augmented Versus Enhanced Administrative Controls

NRC presented information on augmented versus enhanced administrative controls (see Enclosure 3j). An industry comment was made that industry assumed that the two terms were the same when their ISA evaluations were performed. The staff acknowledged that this was its intent when writing the Standard Review Plan, NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility."

Presentation - Baseline Design Criteria

NRC presented information on baseline design criteria (BDC) (see Enclosure 3k). The presentation focused on the level of detail expected for the BDC. Regarding a question on presentation slide #7 about (1) the safety basis for the ISA Summary and not the design and (2) if this represented a redundancy of effort and a burden to the licensee, NRC indicated that these items could be addressed generically. The NRC noted that what was important was that the standards used to describe the process (i.e., how the design process ensures versus how the design ensures) be included. Regarding a question about an equipment qualification program, NRC indicated that an equipment qualification program was not required. An industry comment was made that an administrative control can provide the means of showing how the design provides for its required function. Regarding a question about whether the level of detail expected required an IROFS-level discussion or whether a more process-oriented presentation was needed, NRC noted that an IROFS-level discussion was not expected. NRC noted that comments from this discussion will be considered in development of the associated ISG.

Presentation - Rules of Engagement

NRC presented information on rules of engagement (see Enclosure 3l). Regarding a question about implementing interim compensatory actions, NRC indicated that this referred to licensee actions to be taken for the licensee to be in regulatory compliance.

Presentation - Accident Sequences Resulting in Low Dose Consequences

NRC presented information on accident sequences resulting in low dose consequences (see Enclosure 3m). Regarding a question about the purpose of the presentation, NRC indicated that this issue was based on questions raised during the ISA Summary reviews.

Presentation - 10 CFR 70.72 Facility Changes and Change Process

NRC presented information on 10 CFR 70.72 facility changes and change process and presented resolution of two applications of the rule (see Enclosure 3n). Regarding several questions about the reporting requirements, NRC indicated that (1) the regulatory requirement for the annual report goes into effect upon complete ISA Summary submittal (no later than October 18, 2004), (2) the format for the ISA Summary changes should be similar to the current submittals for internally authorized changes along with a sentence describing each change, and (3) the first annual report should cover the time period from October to December 2004. Regarding a question about reviewing the changes, NRC indicated that (1) all changes need to be tracked by the licensee and (2) NRC will do a smart or targeted licensing review followed by inspection. The extent of changes that need to be reported was added to the parking lot.

Presentation - Alternate Schedules for Correcting Unacceptable Performance Deficiencies and Implementation of Compensatory Measures

NRC presented information on alternate schedules for correcting unacceptable performance deficiencies and implementation of compensatory measures (see Enclosure 3o). Regarding a question about IROFS and compensatory measures, NRC indicated that the two are not the same and that the compensatory measures could be in place because the IROFS identified in the ISA Summary may not have been put into place. However, the time period for allowing the compensatory measures to be in place is important because licensees need to meet the performance requirements with IROFS. In response to a question, NRC also noted that even if compensatory measures would meet performance requirements, NRC pre-approval of the alternate schedule implementing the IROFS and compensatory measures is needed unless the licensee changes its ISA documentation to support the compensatory measures as IROFS. NRC noted that compensatory measures may not always derive from the approved ISA process, contributing to the need for NRC pre-approval and making their substitution as IROFS unworkable. Regarding a question about compensatory methods for seismic considerations and emergency plans, NRC indicated that justification is needed for any compensatory measures.

Presentation - Inspection Planning

NRC presented information on inspection planning (see Enclosure 3p). Regarding a question about how enforcement will be tied in with inspection, NRC indicated that the integration process is being addressed with the Office of Enforcement. Regarding a question about a resolution approach a licensee should take when an ISA-related issue is raised, NRC indicated that the inspection group has responsibility for resolving the issue. An industry comment was made that suggested having an alternative dispute resolution process.

Discussion - Future Issues and Expectations

Regarding a question about the ISA Summary approval process, NRC indicated that a cover letter with a safety evaluation report (SER) will be issued for a new application, amendment or renewal application; otherwise, a cover letter with a technical evaluation report (TER) will be issued. In either case, the cover letter will indicate whether the specific ISA Summary has

been approved or disapproved. Regarding a question about revisions to an SER or TER, NRC indicated that either a supplement or complete revision would be issued, if appropriate.

Industry Comments

After caucusing, the Nuclear Energy Institute summarized industry comments as follows: (1) it wanted to thank NRC for following up on the issues from the last workshop; (2) resolution of issues seemed to be going well on a case-by-case basis; (3) incorporation of examples of resolution of issues should be included in the ISGs; (4) another workshop would be useful to the industry; (5) the current methods used to support ISA Summary preparation seem to be consistent with the ISGs; (6) the industry would like to accept NRC's offer to review and comment on the ISGs; and (7) it seems that management measures have taken on additional importance. In addition, the following items should be added to the parking lot:

- (1) the inspection and enforcement issues need guidance for implementation and it should be recognized that there's a transition period;
- (2) in the seismic area for natural phenomena, issues of public safety versus worker safety needs additional guidance and the emphasis should be public safety;
- (3) the nuclear criticality safety approaches to meet the performance requirements need additional examples; and
- (4) guidance is needed for situations where parts of the ISA Summary are not accepted, including the possible implications.

Next Steps/Closing Comments

NRC requested input on the need for ISGs in non-ISA areas (e.g., criticality alarm exemptions, decrease of NRC-approved k-effective margin). NRC agreed with industry that future workshops would be beneficial and that dates needed to be set based on everyone's needs. NRC provided an update of the ISG progress. NRC reiterated that opportunity to review the ISGs before they were finalized would be provided. NRC requested feedback at all levels so that priorities could be set and resources properly utilized.

Parking Lot Issues

During the workshop, some issues were tracked for future discussion and placed in the parking lot. These issues were:

- (1) the ISG for natural phenomena needs to consider worker safety issues as well as the examples on how to demonstrate that the uniform building codes meet the performance requirements;
- (2) the ISG for initiating event frequency needs examples of analysis methods;
- (3) the ISG for baseline design criteria needs guidance on the level of description, examples on how to meet the baseline design criteria, guidance on the

applicability/consideration of operator actions, and guidance on how to meet defense-in-depth;

- (4) clarification on the 70.72 annual report requirement regarding all changes versus ISA Summary changes; and
- (5) clarification on the Subpart H inspection and enforcement issues.

NRC has committed to evaluate these issues and will incorporate discussion of these issues into the next workshop.

Enclosures:

- 1. Meeting Attendee List
- 2. Meeting Agenda
- 3. NRC Presentation Materials