IOLB Public Comment Responses (Received 7/7/00)

IOLB Public Comment #1: The NRC staff agrees that Section 4.3.2, Security, as written, appears to be inconsistent with the changes to Part 73 as described in FRN 26955 dated May 15,1998. The description of risk associated with potential criticality and fuel heat up is for spent nuclear fuel (SNF) recently discharged from the reactor vessel and not SNF stored at an ISFSI. The staff acknowledges that this section needs to be rewritten to properly described the staff's understanding of these two risks.

The staff believes that as written 10 CFR 73.51, provides proper physical protection for the storage of all spent nuclear fuel (wet or dry storage) at an ISFSI. The design basis threat for radiological sabotage of power reactors under 10 CFR 73.1 is not considered appropriate for the types of facilities subject to 73.51 and therefore, a separate protection goal is defined for these facilities. The protection goal states that "The physical protection system must be designed to protect against loss of contol of the facility that could be sufficient to cause radiation exposure exceeding the dose as described in 10 CFR 72.106 and referenced by 73.51(b)(3)".

With regard to protection against malevolent use of land-based vehicle, NRC continues to believe there is no compelling justification for requiring a vehicle barrier as perimeter protection at this time. The staff will however, continue to review the requirements to ensure that proper level of security is provided for new cask designs and other changing technologies.

IOLB Public comment 2: Page 420, Shadis: With new personnel and decommissioning personnel - how to instill/ ensure the same "safety culture" as during operation? [Ref. 1] (David Trimble)

There are several methods of instilling/ensuring "safety culture" in new personnel employees at both operating and decommissioning facilities. Methods include management policies and procedures, training, and qualification. OSHA requires employers to provide employees with safety training and education. 29 CFR 1926.21(b)(2) requires training in the recognition and avoidance of unsafe conditions, 29 CFR 1926.21(b)(3) requires training in the safe handling and use of poisons, caustics, and other harmful substances, 29 CFR 1926.21(b)(5) requires training in the safe handling and use of flammable liquids, gases, or toxic materials, and 29 CFR 1926.21(b)(6) requires confined or enclosed space training. In addition, 10 CFR 50.120 requires training and qualification of nine categories of personnel involved with spent fuel pool maintenance and support. The training programs for the nine categories of personnel should include occupational safety and radiation protection training. While NRC and OSHA require training, it is incumbent upon the licensee to provide the training and instill/ensure upon the workers the proper "safety culture."

IOLB Public comment #3: The report concludes that there is no methodology currently available to access probabilities of terrorist activity or behaviors which might culminate in attempted sabotage of spent fuel. We disagree. For instance, Sandia National Laboratories, a key contractor employed by the NRC on security matters, has applied a probabilistic approach to security in decommissioning on the Maine Yankee docket. We encourage the staff to review this report.

3/292

The staff disagrees with this comment and again states there is no methodology available to access the probability of terrorist activity. The report in question, its identity verified through NEI, is the "A Vulnerability Analysis of a Proposed Security Plan for the Maine Yankee Power Plant," dated January 9, 1998. The purpose of this report was twofold, first it is to present the results of an analysis of the effectiveness of the proposed physical security system in preventing or mitigating an attempt by the design basis threat adversaries attempting radiological sabotage and secondly to present the results of a study to determine the need for a vehicle barrier systems. This report does not predict the probability of terrorist activities or behaviors. The staff has read this report, and conducted an on site inspection (June 8, 1999) of its technical finding and found them to be deficient. It is recommended that NEI read this report.

IOLB Public comment #4: The decommissioning rule should specify that the licensee is excused from 10 CFR 50.47 offsite EP requirements after the short lived nuclides important to dose have undergone substantial decay resulting in offsite dose consequences due to license basis accidents of less than 1 rem (the EPA protective action guideline).

The staff has considered the decay time of short lived nuclides and the offsite dose consequences along with the risks of both design basis accidents and beyond design basis events in efforts to determine an appropriate point at which requirements for offsite EP could be relaxed. The staff also considered the effects of the substantial decay heat and longer lived nuclides available in stored spent fuel which would could result in offsite dose consequences. In consideration of these effects and the associated risks the staff has proposed the one year decay time before considering relaxation of offsite emergency planning requirements.

This NEI comment did not address a specific paragraph of the study only Section 4.3.1 in general.

IOLB Public comment #5: What does " reducing unnecessary regulatory burden" mean in practice when it comes to emergency planning? What kind of reductions are foreseen for the following: manpower onsite/offsite, emergency equipment, communication means, alarm means, notification of personnel/public, EP, plans, KI, EPZ radius?

The specific reductions in the areas mentioned is a subject that is beyond the intent of this study. Generally speaking it is anticipated that onsite manpower could be reduced early in the decommissioning process provided adequate personnel are available to provide emergency response duties. Offsite manpower needs, equipment, communication, alarms, notifications, plans, and planning areas, would be relaxed consistent with the relaxation of requirements for offsite emergency planning. The consideration of the use of KI would not be necessary when iodine releases are no longer a concern.

IOLB Public comment #6: It's conspicuously absent form your review of risk in this overall subject, that we (the staff) haven't looked at the issue of sabotage and terrorism. (comment from Mr. Paul Gunter)

Mr. Gunter is correct that security is identified but not highlighted in the report. The report was

a technical study to quantify the risks as it relates to the draining of a decommissioned spent fuel pool and the issue of a zirconium fire. Its was not intended to address security in any detail. The integrated rulemaking, which is an out growth of the technical study, addresses safeguards as one of the major components of the decommissioning integrated rulemaking. An entire section is devoted to security with none of the requirements less than those currently required in 10CFR 73.51. A rulemaking package is before the Commission which details the schedule for the rulemaking. As with any rulemaking there will be opportunities for the public to comment on the security requirements the staff is recommending.

IOLB Public comment #7: Shadis: fire scenarios - resin container fire; fire in a waste storage building; fire in a container vehicle with waste stored in it that could trigger emergency response mechanisms.

The comment request that the consequences of an offsite radiological release from an onsite fire involving radioactive material be re-evaluated. This evaluation is beyond the scope of this study which is focused on spent fuel pool accident risk.

IOLB Public comment #8: Protection of plant workers, particularly less severe accidents such as pool uncovery without a zirc fire.

Existing regulatory requirements address the need for emergency plans to consider protective actions and a means for controlling exposures in an emergency for emergency workers as well as the public.

IOLB Public comment #9: Asked about calculations for radiation dose experienced by members of the fire brigade responding to resin fires.

Comments #8 and #9 are very similar in nature, the comments ask about the protection of emergency responders onsite. In accordance with existing emergency planning requirements each site has established procedures for the protection of works responding to emergency situations. General these procedures include the consideration of radiological conditions when responding to events.

Other Comments Addressed by IOLB

SPSB Public comment 1: Page 91, Lochbaum: Licensee plant management affecting human performance [Ref. 1]

The staff agrees with the commenter that after the NRC resident inspector departs a facility, the level of oversight provided by the NRC decreases, and the NRC window to plant management closes. While it is not Commission policy to assess plant management, actions taken in the past illustrate the willingness of the NRC to evaluate plant management as necessary. As appropriate, the NRC will evaluate plant management at decommissioning facilities.

SPSB Public comment 2: Page 114, Gunter: human performance - multiple shifts can make

same mistake; simple task of watching SFP can lead to tedium. [Ref. 1]

The Commission, through the "Policy on Factors Causing Fatigue of Operating Personnel at Nuclear Reactors" provided guidelines on working hours that were consistent with the objective of ensuring that the mental alertness and decision-making abilities of plant staff were not significantly degraded by fatigue. The staff shares the commenter's concern that operator boredom and their ability to maintain alertness while standing watch may contribute to fatigue-induced impairment of personnel and thereby increase the likelihood of personnel errors. The staff is preparing a rulemaking plan for the Commission in response to a petition for rulemaking related to working hours and fatigue. The intent of the petition for rulemaking plan is to ensure that the mental alertness and decision-making abilities of plant staff are not significantly degraded by fatigue.

SPSB Public comment 3: Page 124, Shadis: human performance lowers over time for tedious tasks - need to take a conservative view. [Ref. 1]

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SPSB Public comment 15: Page 4, Atherton comment: The NRC should identify the number of operators assigned to each shift an how these operators are protected so that their availability is guaranteed in the event of an accident. [Ref. 7]

The staff has presented to the Commission a rulemaking plan related to decommissioning that includes operator staffing requirements and safeguards arrangements for facilities undergoing decommissioning.

SPSB Public comment 16: Page 4, Atherton comment: The NRC should address what measures are taken to minimize operator boredom and maintain alertness due to standing watch over a SFP "graveyard." [Ref. 7]

The Commission, through the "Policy on Factors Causing Fatigue of Operating Personnel at Nuclear Reactors" provided guidelines on working hours that were consistent with the objective of ensuring that the mental alertness and decision-making abilities of plant staff were not significantly degraded by fatigue. The staff shares the commenter's concern that operator boredom and their ability to maintain alertness while standing watch may contribute to fatigue-induced impairment of personnel and thereby increase the likelihood of personnel

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SPSB Public comment 17: Page 4, Atherton comment: The NRC should address what measures are in play to minimize operator error in a postulated SFP accident. [Ref. 7]

The NRC continues to evaluate the research activities of the Department of Transportation to gain insights concerning the influence of fatigue on human performance and effective strategies for addressing fatigue and its effects on performance.

SPSB Public comment #20: How has the NRC considered the availability of local resources as identified by IDC # 2, 3, and 4 should the local infrastructure be destroyed (assumed by a seismic event).

By design emergency plans and procedures, as discussed in IDC #2, have considerable flexibility to handle disruptions caused by various natural phenomena which occur. As stated IDC #3 specifically includes consideration of seismic events in developing procedures for communications between onsite and offsite organizations. For IDC #4 resource plans will identify the availability of equipment which would be prioritized to address response needs dependent on the event.