

NOTE

FROM: Christopher Ryder

SUBJECT: Summary of Conference Call on August 1, 2013, Regarding Exemption Request (L33254)

Participants

<u>NRC</u>	<u>Westinghouse</u>
Christopher Ryder	Nancy Parr
Marilyn Diaz	Carl Snyder
James Hammelman	
Mary Thomas	
Brannen Adkins	

Background

Westinghouse submitted a request dated December 3, 2013, for an exemption to Title 10 of the *Code of Federal Regulations* (10 CFR) 70.61, 70.62 and 70.65 to account for ocular and dermal exposures in the Integrated Safety Analysis (ISA) (Ref. 1). A supplement to the application dated January 25, 2013, was submitted as Reference 2. Staff members from the U.S. Nuclear Regulatory Commission (NRC) (Staff) visited the site on April 26, 2013 (Ref. 3).

C. Ryder had called N. Parr before the meeting to allow Westinghouse time for last-minute preparations. NRC was informed then that Westinghouse is considering withdrawing the application, requesting a pre-application meeting, and resubmitting the exemption request.

C. Ryder suggested that the scheduled conference call be done to discuss the Staff's reasons for choosing to deny the exemption.

Purpose

The purpose of the discussion was for NRC to inform Westinghouse of the reasons for the Staff intending to deny the exemption request. In this way, both NRC and Westinghouse could make effective use of resources to resolve dermal/ocular concerns.

Discussion

C. Ryder stated that the members of the review team had many discussions about the exemption request. Thoughts were developed, discussed, and reexamined many times. The discussions were based on the submittals and observations made during a site visit on April 16, 2013.

C. Ryder stated several regulations. 70.62(c)(1) requires each licensee to conduct and maintain an ISA that identifies chemical hazards. Thus, if ocular and dermal exposures are chemical hazards, they have to be in the ISA; if such exposures are not hazards, then the exposures do not have to be in the ISA. Part 70.65(b)(7) requires a description of the proposed quantitative

standards used to assess the consequences. Thus, the licensee proposes the standards to use; the standards can be their own or they can be an external standard.

From what was observed during the April 26th site visit (Ref. 3), the Staff has the impression that the safety program is effective. The plant is well-lit, and well-ventilated. The temperature is comfortable. Good housekeeping is practiced. High quality personnel protection equipment (PPE) is used. Employees know about the hazards of the chemicals. Employees have a positive attitude towards safety. But the issue for the exemption request is not the effectiveness of the chemical safety program. The issue is with bringing aspects of the chemical safety program under Subpart H. The Staff has the impression that Westinghouse is essentially asking for an exemption from evaluating dermal and ocular exposures to workers, for NRC regulated chemicals. Also, there is the difficulty of high and intermediate consequences metrics for 70.61 stemming from a paucity of formal industrial standards that have been endorsed by the Staff.

The Staff understands at least some of the concerns from managers and operators that were discussed during the April 26th site visit (Ref. 3). Using PPE that are designated as items relied on for safety (IROFS) distracts them from performing activities because of the regulatory significance that ordinary items acquire when designated as IROFS. Unnecessary confusion would arise when, for example, a glove, is an IROFS inside the plant where NRC regulates, but not an IROFS when outside the plant in the chemical tank farm where the Occupational Safety and Health Administration regulates. When avoiding sole IROFS by doubling PPE, dexterity is reduced, heat loads are increased, and visibility is reduced; for example, employees believe that goggles need to be worn under a face shield to avoid having to designate the face shield as a sole IROFS.

From the Staff's view, misunderstandings are evident. The rationale for the exemption appears to be based on two false premises; PPEs must be IROFS and such PPE must have a high level of quality assurance similar to that done at power reactors for safety-significant components. During the April 26th site visit, the Staff was rhetorically asked if the licensee would have to inspect each of 100 gloves in a box for defects prior to acceptance. During the conference call, the Staff said that the licensee would have to be sure that the gloves are resistant to the chemicals for which they are being used; this is a management measure. Prior to using a particular pair of gloves, the licensee should visually inspect and inflate the gloves to check for a leak prior to use.¹ From their observations during the April 26th site visit, the Staff observed that appropriate gloves are purchased and that PPE is inspected prior to use. PPE does not necessarily have to be an IROFS. Another IROFS could be that chemicals are handled in a deliberate and conscientious manner, without the pressures of a production schedule. While both NRC and Westinghouse prefer passive or active engineered controls to administrative controls as IROFS, administrative controls are allowed and may be necessary.

The ISA accounts for accidents that result in unmitigated intermediate and high consequences. If the consequence from an exposure is low, then no further analysis is necessary. For example, the Staff were told about a monthly maintenance operation where a tube is cleaned of UO₂ deposits. Here, workers have respiratory protection, gloves, and chemical suits. The Staff rhetorically asked if the consequences from an exposure are intermediate or high. The PPE

¹ During the call, C. Ryder stated then that the inspection would be an IROFS. After the call, C. Ryder thought that the inspection about use could be another management measure. Obtaining proper gloves and inspecting a pair prior to use ensure that that particular pair of gloves can reliably perform their intended safety function.

serve as conscientious and rigorous chemical safety for unnecessary exposures, but the question of consequences needs to be asked in the context of the ISA (i.e., accident that result in high consequences and intermediate consequences).

Under Subpart H of Part 70, IROFS that are not sole-IROFS can be changed without NRC approval. A failure of a non-sole IROFS is not reportable if the licensee can demonstrate that other IROFS available in the affected accident sequence. Quantitative consequences for 70.61 are proposed by a licensee; at least some information about the toxicity of chemicals that have been used at Westinghouse for decades, by highly qualified professionals and skilled operators, exists.

The Staff said that if operators are not getting regularly splashed with hazardous materials, then something else is effective that can be designated as an IROFS. Such an IROFS could be as simple as a statement in a procedure specifying that actions should be deliberate and thoughtful so as to minimize spills and splashes; from what the Staff observed on April 26th, this is done. But if workers are frequently splashed with a hazardous material (which is not the case at Westinghouse), then the Staff would argue that the PPE would be a sole IROFS.

In the ISA, sequences can be general; every maintenance activity does not have to be individual sequence stated in the ISA.² In the Westinghouse ISA, high-level sequence diagrams are used to represent groups of accident sequences.

Westinghouse expressed a concern about how ocular and dermal exposure metrics for use in 70.61 would be viewed by future NRC staff. The literature on the toxicity of specific chemicals is often sparse, particular in regards to ocular and dermal exposure. Given that the current NRC staff agrees with the proposed metrics, the NRC staff will change; ten years from now, Staff may change their position. The Staff responded that issues can always be revisited. Westinghouse should provide a technically sound position to the extent that this can be done; health effects numbers are "soft". With a thoroughly documented basis from Westinghouse, and a thoroughly documented review from the Staff, proposed metrics should be able to withstand scrutiny.

Westinghouse explained the reason for Westinghouse giving priority to the issue of ocular and dermal exposure is a commitment made in a 30-day report (Ref. 4) stating that the ISA will be revised with dermal and ocular exposure by the by January 31, 2014, when the next ISA is update is due. The Staff said that Westinghouse should formally ask for an extension, citing the 30-day report and that both NRC and the Nuclear Energy Institute have yet to complete their dialog³. Westinghouse was also concerned that the Staff would view an extension as an area needing improvement during their next Licensee Performance Review (LPR); an extension of

² Closely related, but not discussed as such, is Staff's reasoning is that the detailed maintenance actions are not the issue in the ISA. The issue is the controls protecting the worker. The scope of the ISA are the controls that bring a system to a safe condition and ensure that the safe condition is remains.

³ ○ Letter from F. Killar, NEI, "Chemical Exposures at Fuel Cycle Facilities", September 8, 2008. ADAMS Accession Number ML083360632. ○ Letter from D. Dorman, NRC, "Chemical Exposures At Fuel Cycle Facilities Licensed By The U.S. Nuclear Regulatory Commission", November 10, 2008. ADAMS Accession Number ML082900889. ○ Letter from F. Killar, NEI, "Response to your November 10, 2008, letter on Chemical Exposures at Fuel Cycle Facilities", February 24, 2009. ADAMS Accession Number ML090690732. ○ Letter from D. Dorman, NRC., "Reply To Your February 24, 2009 Letter Regarding Chemical Exposures At Fuel Cycle Facilities Licensed By The U.S. Nuclear Regulatory Commission", June 12, 2009. ADAMS Accession Number ML090920296.

the second nuclear criticality safety improvement program (NCSIP-II) was viewed as such. The Staff stated that this would not be the case given the circumstances of the ocular and dermal exposure issue. Also, the Staff stated that even with the case of NCSIP-II, this is not a violation; the Staff wants the program completed.

Westinghouse acknowledged that some fuel cycle licensees have included ocular and dermal exposures in the ISAs. For Westinghouse, all NRC regulated chemicals that could result in unmitigated high or intermediate consequences would be in the ISA. Westinghouse does not yet know how it will determine the basis for what is an intermediate consequence event to the eye or to the skin. Other clarifying points were made:

- Regarding the forum for the Staff review of the ISA changes to incorporate ocular and dermal exposures, the Staff responded that the forum would be the annual update due by January 31st of each year.
- Regarding whether this is a safety issue or a compliance issue, the Staff responded that the issue here is a compliance issue as stated in the 30-day report (Ref. 4), which the Staff did not disagree.

Concluding Remarks

The Staff stated that the chemical safety program has many aspects that can be designated as IROFS. Little if anything additional needs to be done by workers.

An exemption of ocular and dermal exposure will be difficult.

Westinghouse may want to consider developing their own consequence metrics for 70.61 to address their particular issue with compliance.

Follow-Up Action

1. Westinghouse will submit a request to extend the commitment to incorporate ocular and dermal exposure into the ISA. The letter would be submitted in several weeks after thought is given to the time needed to address the commitment.
2. The Staff will document the conference call as a note and circulate the note for review.

References

1. Letter from G. Couture, Westinghouse, "Westinghouse License Amendment Request," December 3, 2012. ADAMS Accession Number ML123390269.
2. Letter from G. Couture, Westinghouse, "Westinghouse License Amendment Request," January 25, 2013. ADAMS Accession Number ML130290364.
3. Memorandum to R. Johnson, NRC, "April 26, 2013, Site Visit Summary: Exemption Request Dated December 3, 2012 (TAC L33254)", ADAMS Accession Number ML13156A091.

4. Letter from G. Couture, Westinghouse, "Westinghouse Reported Event # 4837530 Day Follow-Up Report," October 29, 2012. Adams Accession Number ML12305A536.