Talking Points for Financial Assurance Regarding
Draft Request for Additional Information Responses

The draft responses, on a high level and for the most part, look OK; but there are two areas we may wish to discuss with International Isotopes, Inc., (INIS):

(1) For question FA-1-A, INIS was essentially asked to justify/revise their costs, so that they are based off costs of a third party. Third-party labor generally includes the labor rate + overhead + profit. In their responses, INIS added contractor profit but left overhead unchanged. Overhead, in their estimate, is presently 25 percent; which appears low. From the response, it cannot be determined if this is reasonable. INIS may wish to justify their reliance on an overhead rate of 25 percent, or appropriately increase it.

(2) For FA-2, INIS should clarify the costs of disposal and shipping for DUF6, DUF4, DUO2 and UO2.

(3) For questions FA-4 and 5, INIS should provide more information regarding their previous experience with similar clean-up operations. NUREG-1757, Volume 3, Appendix A.3.1.3 states that such "Justifications" based on "past experience" are likely to be adequate only if the past experience is relevant; therefore, the cost estimate should reference decommissioning projects with comparable facilities, materials, processes, management, regulatory requirements, and price levels."

(4) For FA-5, INIS should support their response by providing a source of the quoted rates (e.g., copy of a contract).

(5) For FA-7, regarding proforma (forward looking) financial statements, can INIS suggest additional information (e.g., whether INIS has any outstanding contracts from fuel enrichment facilities for depleted uranium deconversion or contracts for the purchase of fluorine from the extraction process, etc.).

[Note: The NRC is considering if a license condition should be implemented for financial assurance. The condition would require the decommissioning cost estimates and associated funding levels to be updated by IIFP and approved by the NRC on a yearly basis (rather than the minimum 3-year basis required by the regulations).]

RAI-HF-1(A).
The request for additional information (RAI) requests that the applicant identify the Human System Interfaces (HSI) involved in the items relied on for safety (IROFs). The staff found the intent to meet the guidance provided in NUREG-0700, NUREG-0711, and NUREG-1520, Rev. 1, Appendix E, acceptable. However, further information is required to satisfy the guidance provided by these NUREGs. The staff's assessment of the responses to the RAIs contained in this letter identify many, but not all, of the areas for which further information should be addressed in the implementation plan (later referred to as the Human Factors Design Review Plan by the applicant).

Talking Points for Human Factors Regarding
Draft Request for Additional Information Responses

Follow-on RAI 1: The commitment to guidance in NUREG-0711 and NUREG-1520, Rev. 1, Appendix E implies the human factors implementation plan/human factors engineering (HFE) Design Review Plan will be incorporated in the license application. Discuss the need to incorporate the HFE Design Review Plan into the license application.

The staff assumes that guidance in NUREG-0700, 0711, and 1520 will be supplemented by an HSI design or HSI style guide developed from industry practices by the applicant, which is more focused toward a fuel processing facility. Discuss whether the style guide will be available for staff's review.

Follow-on RAI 2: The HSIs associated with the IROFS are not identified. Identify the HSIs used in the IROFS including actions, HSIs involved, and the consequences: such that the reviewer can understand the actions, HSIs involved, and the consequences (NUREG 1520 Rev. 1, Appendix A, Criteria A).

Follow on RAI 3: The staff requests that the response be amended to indicate that further information, in the form of the implementation plans, be included in the license documentation.

RAI HF-1(b).
Provide the process to develop the items that will be included in the HFE Design Review Plan (Implementation Plan) (e.g., process for performing an Operational Experience review, a process for performing functional allocation analysis).

HF-2.
The RAI HF-2 requests a better description of the HFE experience/expectations of the integrated safety analysis team. This should include responsibilities and authority which are needed to ensure compliance with the guidance in NUREG-0700 and NUREG-0711. The description should demonstrate that the HFE will have sufficient weight to require changes to the design necessary to ensure safety, and sufficient experience and knowledge to capture and apply human factors guidance to the design. Filling of this role as soon as possible is necessary to provide reasonable assurance that human factors are being considered in the design.

HF-3(a).
The terms "applicable" and "appropriate" are unclear. Discuss the need to identify the control rooms, controls, and processes that are subject to the HFE Design Review Plan. Discuss how the appropriate monitoring, recording, alarm notification and control instrumentation will be determined to provide the latest, relevant information to the operators that allow for control of the processes.

HF-3(b).
The minimum inventory list described should be broken down in terms of each control process. Describe the process for ensuring that the draft minimum inventory list will be kept up to date and will be included in the HFE Design Review Plan. The process for defining this list and updating this inventory should be included in the HFE Design Review Plan.

HF-3(c).
Include the stated information in the HFE Design Review Plan. Discuss the level of information that will be included in the HFE Design Review Plan; including how similar process plants will be identified, how many will be reviewed, the process for identifying how new technologies will be identified, and the process to determine how information will be presented. Discuss how task analysis will be used.

The response states that "MIL-STD 1472, etc.," will be used to inform the design. The term "etc." is not specific. The HFE Design Review Plan should specify which established HFE principles and guidelines, besides MIL-STD 1472, will be used to drive the layout.

HF-3(d).
Describe the process used to ensure that extraneous controls and displays will be identified and removed, as indicated by NUREG-0711 and NUREG-1520, Rev. 1, Appendix E, in the HFE Design Review Plan. Indicate how the task verification process will identify unnecessary controls and displays.

The intent and purpose of the statement, "Appropriate HSI components may not appear to be associated with personnel tasks," is not clear.

HF-4(b).
The staff found the intent acceptable and will review the Plan when it is submitted. Further development of the Safety Evaluation Report depends on the quality of this implementation plan.

HF-5(a).
A formal process for review of operational experience should be included in the HFE Design Review Plan. The HFE Design Review Plan should include description of the extent to which operator interviews/surveys on existing HSI technology will be conducted and incorporated into the facility design and IROFS. As indicated in the RAI, identify the types of facilities that were evaluated, and define how the information derived from operational experience reviews will be used to inform other aspects of the design.

HF-5(b).
As indicated in HF-5(a), a formal process for review of operational experience is needed and should be included in the HFE Design Review Plan. Further development of the Safety Evaluation Report depends on the quality of this Plan.

The staff will review the Plan when it is submitted to determine if the process proposed is satisfactory with respect to the guidance.

HF-6.
As indicated in NUREG-0711 and NUREG-1520 Rev. 1, Appendix E, the Design Review Plan should indicate how the staffing requirements are based on the functional allocation and task analysis results.

HF-7(a).
The applicant's commitment that the Verification and Validation (V&V) Plan will be subject to the same requirements of the QAP should be included in the HFE Design Review Plan. The staff will review the HFE Design Review Plan to determine whether it meets the intent of the guidance.

HF-7(b).
The RAI response to HFE-7(b) should be incorporated into the license application and the HFE Design Review Plan. Additional detail on the process to be used in the V&V process should be incorporated into the Human Factors Design Review Plan.

HF-7(c).
The goals identified by the applicant should be included in the HFE Design Review Plan. Consider rephrasing, "Human ergonomic function" for clarity (e.g., ergonomics of the human system interface or ergonomics of the facility). The staff request clarification of whether "ergonomic" concerns will also include environmental concerns such as lighting, noise, and personal protective equipment use. The staff requests clarification of whether the validation of staffing assignments will include assessment of personnel or workload demands. The staff also request clarification of whether the controls, displays and alarms will be assessed to assure appropriate situational awareness of the operator. Discuss whether other techniques besides walkthroughs will be used to validate the system, and identify those techniques.

HF-7(d).
Incorporate this information into the Human factors Design Review Plan.

HF-7(f).
The staff requests that a human factors review be included for any section of the facility that involves humans—not just the HSI.