AREVA

August 27, 2008
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U.S. Nuclear Regulatory Commission
Director, Office of Nuclear Material
Safety and Safeguards
Attn: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

Subject: Request for Additional Information (RAI) Responses Pertaining to Radiation Protection (Chapter 4 of License No. SNM-1227 Renewal Application)

Ref.: 1. Letter, P.J. Habighorst, "Request for Additional Information Regarding the Safety Evaluation Report for AREVA NP Inc. Richland Fuel Fabrication Facility License Renewal; License No. SNM-1227, Docket No. 70-1257 (TAC L31975)"; July 31, 2008.

Ref.: 2. Letter, R.E. Link to USNRC Document Control Desk, "Submittal of License Renewal Application and Environmental Report for AREVA NP Inc. Richland Fuel Fabrication Facility; License No. SNM-1227, Docket No. 70-1257," October 24, 2006.

Ref.: 3. Letter, R.E. Link to USNRC Document Control Desk, "RAI Request dated July 31, 2008 (TAC L31975)"; August 21, 2008.

Via Reference 1, the NRC conveyed RAIs pertaining to a number of chapters in AREVA NP's pending license renewal application for License No. SNM-1227, submitted to the NRC via Reference 2. Via Reference 3 AREVA requested that the due date for submitting all the RAIs be extended to October 3, 2008, however the NRC has now indicated that they would be receptive to AREVA's submittal of RAI responses prior to that date on a chapter-by-chapter basis as they are completed. Accordingly, attached please find AREVA's responses to RAIs pertaining to Chapter 4, Radiation Protection, of the Richland license renewal application.

If you have questions, please contact me on 509-375-8409.

Very truly yours,

R. E. Link, Manager
Environmental, Health, Safety & Licensing

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RAI RESPONSES - AREVA NP RICHLAND (SNM-1227); APRIL 27, 2008

Chapter 4: Radiation Protection

1. In Section 4.2 entitled "ALARA Program," the second paragraph indicates that the site manager shall be responsible for ensuring adherence to the as low as reasonably achievable (ALARA) philosophy. The remainder of the paragraph states that the ALARA philosophy will be implemented throughout the organization because of the qualifications discussed in Chapter 2, Organization and Administration. This section causes concern since there are no ALARA principles specified in Chapter 2 for areas outside the Radiation Protection Function, e.g. "organizations involved with the use or handling of licensed material". Consistent with the requirements in 10 CFR 20.1101(b), revise the reference to Chapter 2 with a description of how ALARA is incorporated into ".....organizations involved with the use or handling of licensed material." Specify that the ALARA philosophy will be incorporated into written procedures for other functions, such as operations and manufacturing that work with licensed material.

   Response:

   The ALARA philosophy is already incorporated into written procedures for radiation workers.

   The second paragraph of section 4.2 will be revised to read as follows:

   "The Richland Site Manager shall be responsible for ensuring adherence to the ALARA philosophy for all activities utilizing radiological materials. That responsibility is met in conjunction with a qualified management team as described in Chapter 2, Organization and Administration. Technical responsibility for the ALARA program is assigned to the radiation protection function within the Environmental, Health, Safety, and Licensing function. Principal organizations involved with the use and handling of licensed material are represented on the ALARA Committee as discussed below. Furthermore, the ALARA philosophy will be incorporated into the written procedures of these organizations as they relate to work with licensed materials."

2. In Section 4.2 entitled ALARA Program, the third and fourth paragraphs provide a well rounded description of the ALARA Committee and ALARA Report regarding tracking. However, information about applying the findings requires further explanation. Consistent with 10 CFR 20.1101(c):

   i) State that areas identified for improvement in the ALARA Report will be addressed by the appropriate operations function. Clarify that the Environmental Health Safety & Licensing manager reviews and supports implementation of the recommendations. Describe how recommendations from the Committee and Report are incorporated into operations. In the description, demonstrate that the ALARA committee has sufficient authority to ensure that recommendations regarding the radiation protection program are implemented.

Response:

The cited regulation, 10 CFR 20.1101(c), does not deal specifically with the ALARA program. It requires an annual review of the overall "radiation protection program content and implementation". AREVA commits to this review in Section 4.8.1 of the application.

To clarify the role of the ALARA Committee, the following words will be added as the fourth paragraph in Section 4.2:

"The ALARA Committee, which includes the EHS&L manager, is an advisory committee and makes recommendations to site management as to which areas/equipment are potential candidates for ALARA action. Based upon expected improvement, updated performance data, economics, and consideration of other site priorities, management decides which target(s), if any, will be pursued."

ii) Revise the last sentence in the fourth paragraph to state that new ALARA approaches, technologies, and operating procedures that could reduce radiation exposures may be incorporated. The current wording gives the impression that the ALARA philosophy may or may not be used. Consistent with the requirements in 10 CFR 20.1101(b), revise this sentence to state that the ALARA philosophy will (rather than may) be used to reduce radiation exposures.

Response:

New approaches and technologies have to be evaluated. For example a different statistical approach could be used to evaluate trends. It may prove more or less useful than the current approach. A new technology may be very useful at reactors, but not practical in fuel fabrication plants. In general, new useful and practical ALARA methods are eventually incorporated. The use of the word "may" refers to the fact that not all evaluated approaches will be implemented; it was not meant to imply that AREVA will not utilize the ALARA philosophy in evaluating options.

The following wording will replace the last paragraph of 4.2:

"AREVA NP shall review and revise, when it deems appropriate, the ALARA program goals and objectives. New approaches, technologies, and operating procedures that could reduce radiation exposures will be incorporated when suitable; such decisions will consider the ALARA philosophy."

3. Section 2.2.5.2 contains a basic description of the members of the radiation protection function. The section does not provide sufficient distinction between Health and Safety Technicians (HST) and the "individual(s) responsible for the radiation protection function". Consistent with 10 CFR 70.22(a)(6), state the title of the radiation protection function staff who are not HST. Specify if these individuals are all managers. Identify the authority and responsibilities of these individuals (managers, supervisors, technicians, etc.) within the Radiation Protection function. Establish a clear organizational relationship between the

individual positions responsible for the radiation protection program. Describe the minimum training requirements and qualification for each position of the radiation protection staff.

Response:

The information provided in Section 2.2.5.2 relative to the radiation protection function is consistent with the level of information provided in Section 2.2.5 for other functions within the Environmental, Health, Safety and Licensing function and complies with the cited regulation ([10 CFR 70.22(a)(6)] in that it provides the "technical qualifications, including training and experience" of the individual(s) responsible for that function. AREVA has purposefully not specified titles or organizational names in that inclusion of this level of detail in the license can necessitate license amendments for future non-safety-significant organizational changes. At this time "responsibility" for the radiation protection function is shared between a manager, responsible for implementation of the program and management of staff (including the HSTs), and a principal scientist responsible for program development, program evaluation, and certain other program sectors, e.g., the ALARA program. Consistent with Figure 2.1 depicting the site management organization, both of these individuals report directly to the manager of the Environmental, Health, Safety and Licensing function. Furthermore, both meet the educational/experience criteria called for in Section 2.2.5.2. However, it should be noted that all of these managerial/professional responsibilities could be placed under the management of a single individual reporting to the EHS&L functional manager without adversely affecting the overall radiation protection function. It is important that AREVA retain this flexibility to carryout such intra-function organizational transitions without the need for a license amendment. This being said, AREVA will revise the first paragraph in Section 2.2.5.2 to read as follows:

"The radiation protection function has responsibility for the development and implementation of a comprehensive program to limit radiological personnel exposures and environmental impacts associated with manufacturing and manufacturing-support activities. This includes the plant ALARA program. The radiation protection function includes a functional manager responsible for program implementation and staff management. Responsibility for program development, program evaluation, and certain other program sectors, e.g., the ALARA program or the bioassay program, may be assigned to other professional staff within the radiation protection function. If these staff report directly to the manager of the EHS&L function, they must meet the same minimum educational and experience requirements as the function manager (see below).

The radiation protection function also includes the Health and Safety Technicians (HSTs) who perform the day-to-day radiological surveillance activities required in the plant, e.g. workplace air sampling, effluent sampling, and contamination surveys. The HSTs report to the manager of the radiation protection function via an intervening supervisor."

The following sentence will be added to the last paragraph in Section 2.2.5.2:

"The HST supervisor shall meet the qualification requirements for an HST and shall have worked as an HST for at least two years or acquired at least two years of other applicable work experience prior to assuming supervisory duties."

4. Section 4.4 covers Radiation Work Permits (RWP) and Radiation Job Permits (RJP). The section lacks sufficient distinction between RWPs and RJPs. This section has insufficient information regarding the issuing of RWPs and RJPs. Consistent with the requirements in 10 CFR 70.23(a)(4), describe the difference between RWPs and RJPs. Specify the basic level of information required for RWPs and RJPs. Specify how the radiation protection procedures will be prepared, authorized, approved, and distributed.

Response:

The last paragraph in Section 4.4 will be replaced with the following:

"RWPs are standing procedures that apply to various routine operations, e.g., ceramic operations, or topics, e.g. respiratory protection. RWPs will be approved in accordance with plant methodology for procedures and reside in AREVA's document control system. Training to RWPs is part of the formal learning plans of affected personnel. RJPs are written by the Radiation Protection function on an as-needed basis for non-routine or special activities not adequately addressed by a standing RWP and when the job-associated doses are deemed sufficient to warrant an RJP. RJPs, after preparation/issuance by staff within the Radiation Protection function, are signed by personnel participating in the job but are not managed in the site's formal document control system. The standing RWPs and ad-hoc RJPs instruct workers on items such as personal protective equipment, dosimetry requirements, and special steps to be taken to help reduce dose."

5. Section 4.5 and 11.3.1 both contain commitments to conduct radiological refresher training. However, the two sections are inconsistent with each other. Section 4.5 commits to three year refresher training and Section 11.3.1 commits to annual refresher training. Consistent with 10 CFR 70.9, modify these sections to be consistent.

Response:

Section 11.3.1 will be revised to commit to "periodic" refresher training, thus making it compatible with the more substantive discussion of radiation protection training in Section 4.5.

6/7. Section 9.2.3 indicates that corrosive fumes may negatively impact HEPA filters. The section does not specify the use of water or charcoal filters to remove these corrosive fumes. Also, the paragraph states that the final HEPA filter will be periodically inspected, but does not specify if there are multiple, redundant HEPA filters that need inspection or how often the inspection will take place. Consistent with 10 CFR 20.1701, state that all HEPA filters exposed to corrosive fumes will be inspected. Specify a minimum inspection time. Describe the criteria used to evaluate if the corrosive fumes have compromised the filter. Explain why

corrosive fumes are not removed by a chemical filter prior to contacting the HEPA filter. Describe the extent of these corrosive fumes and indicate, based on previous experience, how quickly they deteriorate the HEPA filter. Alternatively, discuss how changes in differential pressure across the HEPA filters will be evaluated to determine if the filter is loaded, or if corrosive fumes have compromised the filter.

Response:

Consistent with AREVA's discussions with the NRC, RAI Nos. 6 and 7 are actually one question and are therefore being addressed as such.

AREVA recognizes that corrosive fumes may adversely impact HEPA filters and has engineering and administrative controls in-place to both prevent and monitor these adverse impacts. NO_x emissions from its pellet/powder dissolvers are the primary sources of corrosive fumes; these systems are equipped with liquid scrubbers as required to meet local air pollution control authority chemical emission regulations. Since these scrubbers are not 100% efficient and because certain other systems may have the potential for much lower levels of corrosive fumes, AREVA has in place a number of mechanisms to conservatively monitor the onset of, or adverse emission impacts from, corrosion-induced HEPA filter deterioration. Accordingly, the first paragraph in Section 9.2.3 will be revised as follows to more fully describe these controls:

"Measures will be taken to conservatively monitor the potential onset of, or adverse emissions impacts from, HEPA filter deterioration caused by corrosive chemical fumes. These measures will include the following:

- implementation of a preventive maintenance (PM) procedure for the periodic inspection of HEPA filters (primary and final banks) in systems exhausting air from areas or process equipment containing corrosive fumes. The PM procedure will designate the applicable systems, specify required frequencies, and identify required actions in the event of unacceptable results.

- maintenance of a site procedure for the periodic measurement of differential pressures across HEPA filter banks; and

- maintenance of a stack emissions monitoring procedure that includes action levels triggering notifications to the maintenance/engineering organization and performance of HEPA filter inspections at measured offgas radionuclide concentrations well below applicable 10 CFR 20 Appendix B effluent limits. Inspections trigger repair or replacement as needed."

8. Section 4.6.1 provides a description of procedures required for monitoring HEPA filters, hoods and glove boxes. The section contains several commitments to conduct routine monitoring of differential pressures for HEPA filters and airflow velocities at glove boxes. The use of the term "periodically" does not provide sufficient information about frequency of monitoring. Consistent with 10 CFR 20.1701, specify a minimum timeframe to check both the differential

pressures of HEPA filters and airflow velocities for hoods. (e.g., differential pressures shall be recorded periodically, but at least monthly, or quarterly, or etc.) If a minimum timeframe can not be provided, state that a timeframe will be specified in the written procedures, and the procedure will be reviewed and approved by the appropriate Function, and specify what this Function is. Clarify that exhaust from hoods and glove boxes will be exhausted through HEPA filters.

Response:

To clarify the periodic verification of ventilation system performance, the second paragraph of Section 4.6.1 will be replaced with the following:

"Ventilation system performance shall be demonstrated in accordance with written procedures issued and approved by the Maintenance function, with review/approval by the safety organization (EHS&L). The procedures will specify the frequency and acceptance criteria for performance testing; such testing shall include:

- Techniques to ascertain flow direction (from clean to contaminated areas) such as smoke tests and/or differential pressure readings.
- Measurements of the differential pressure across HEPA filters installed for general recirculation or exhaust air. A differential pressure reading of greater than 5.0 inches of water across a final HEPA filter will precipitate a scheduled shutdown of the ventilation system to allow for a change-out of the HEPA filter.
- Measurement of average air velocity through openings in uranium handling hoods and laboratory hoods containing readily dispersible uranium. The requirements for the minimum average linear velocities shall be established by procedure. Flow rates below these minimum values shall result in the temporary suspension of hood work or require the use of respiratory protection.

Requirements relative to the use and performance testing of HEPA filters are presented in Chapter 9, Environmental Protection."

9. The second paragraph in Section 4.7 describes the licensee's action levels. The first sentence has a reference to frequencies that is unclear. The section also indicates action levels may be established. In addition, Sections 4.7.1, "Radiation Survey", 4.7.2, "Personnel Monitoring Program – External Radiation Exposure", and 4.7.3, "Personnel Monitoring Program – Internal Radiation Exposure" do not contain commitments to implement administrative limits, action levels, or corrective actions. Consistent with 10 CFR 20.1101(a):

i) Clarify the meaning of the first sentence of the second paragraph of Section 4.7, particularly the reference to frequencies;

ii) Commit to establishing action levels by changing the word "may" to "shall" in Section 4.7, second sentence of the second paragraph.

Commit to establishing administrative limits for contamination levels and corresponding actions levels in Sections 4.7.1, 4.7.2, and 4.7.3. State that

administrative limits and action levels are established in written procedures for exposure and contamination. State that circumstances that lead to an administrative limit being exceeded will be reviewed by the corrective action program. Provide a basic overview of actions to be taken when administrative limits are exceeded, for example: investigation by the radiation protection function, bioassay monitoring, lung counting, additional surveys, exposure restrictions, etc.

Response:

The first two paragraphs in Section 4.7 apply to the full suite of radiation survey and monitoring programs, i.e., these paragraphs apply to the programs described in Sections 4.7.1, 4.7.2, 4.7.3, 4.7.4, and 4.7.5. AREVA concurs that the placement of the word "frequencies" in the first sentence in the second paragraph could be somewhat confusing. Lastly, the use of the word "may" in the second sentence was only meant to communicate that there are options as to the source(s) of appropriate action levels. The preceding sentence is clear that action levels shall be specified in written procedures. As commonly understood, action levels are set at levels below regulatory limits, where such regulatory limits exist. To clarify these issues, the second paragraph in Section 4.7 will be rewritten as follows:

"Key components of the comprehensive Richland radiation survey and monitoring program are described in Sections 4.7.1 through 4.7.5, below. Each of these components will be governed by written procedures. The procedures will specify monitoring frequencies, action levels protective of regulatory limits (where such limits exist) and follow-up actions for instances when action levels are exceeded, including investigation as appropriate. Occurrences involving exceeding of regulatory limits will be formally investigated under the site corrective action program."

10. Section 4.7.1 describes the licensee's radiation survey program. The section provides a commitment to conduct surveys in areas of the facility in which radioactive materials are stored or processed. However, it does not describe the areas to be surveyed, types of surveys, or frequencies surveyed. Consistent with the requirements in 10 CFR 20.1501(a), provide a commitment to conduct the survey program in accordance with RG-8.24. Alternatively, state that written procedures will be used for the entire survey program. List the types of surveys to be conducted, the locations that the surveys will be conducted, the frequency that the surveys will be conducted, and the action levels to be taken when contamination levels are exceeded. Describe the recordkeeping for the Radiation Survey and Monitoring Program.

Response:

AREVA currently has procedures which state the type of surveys, the areas to be surveyed, the minimum frequencies, and action levels when applicable. These action levels are typically set to assure that dose rates are compatible with radiation postings. Generally external dose rates are not a problem. In 2007, according to TLD results, no one met the threshold for external monitoring (i.e. no

one had an external dose from plant operations exceeding 500 mrem.) All routine area surveys are kept until license termination.

The second paragraph of section 4.7.1 will be replaced with:

"Routine surveys shall be performed for the controlling type or types of radiation of concern at frequencies that will ensure that annual permissible exposure limits for workers are not exceeded. The frequency and locations of surveys will be specified in written procedures as will action levels set to assure proper area postings, e.g. Radiation Area, High Radiation Area, etc. Follow-up actions to instances in which action levels have been exceeded will be specified. Retention of survey results will be in accordance with 10 CFR 20.2103."

11. Section 4.7.2 describes the criteria for wearing a dosimeter. This section needs clarification because the reference to "significant radiation doses" in the first sentence is subjective. Consistent with 10 CFR 20.1502(a), either define what is meant by "significant radiation doses", or modify the criteria for using dosimeters to an objective quantity or a well defined area of the plant.

Response:

The words "where the potential exists to receive significant radiation doses" will be replaced with "in areas posted as radiation areas".

12. The fourth paragraph of Section 4.7.4 describes frequency of air sampling as based on historical experience. This method is acceptable for determining frequency; however, it does not provide sufficient information on the basics of the air sampling program.

i) Consistent with 10 CFR 20.1501(a)(2), add a minimum time frame for changing air samples for each specified area of the facility, such as each shift, each day, etc. Alternatively, commit to conduct the air sampling program in compliance with RG-8.25.

As an alternative, describe the historical method used to determine frequency of sampling, with sufficient detail to evaluate its effectiveness. Describe the time frame considered in the review, the type of samples reviewed, the frequency with which the historical method will be reviewed, etc.

Response:

The fourth paragraph of Section 4.7.4 will be supplemented and restructured to read as follows:

"The frequency of air sampling in contaminated areas shall be based on historical experience for each sampling area. At minimum, areas posted as Airborne Radioactivity Areas will have air samples changed at least once per day when production is ongoing in those areas. Other contaminated areas where licensed materials are handled but that are not Airborne Radioactivity Areas and where the airborne is expected to average greater than 1% DAC, e.g., analytical laboratories, will have air samples changed at least every two

weeks when work with licensed materials is ongoing. Specialized air sampling and monitoring equipment, such as continuous air monitors, portable high volume and/or lapel air samplers, may be utilized in lieu of a fixed air sampling network.

Air sample rotameters or critical orifice devices will either be calibrated or checked annually with a secondary standard. For airflow devices that operate across a narrow range, the annual calibration may be made at one point."

ii) Consistent with 10 CFR 20.1502(a), state the minimum time period between bioassay measurements. Describe the bioassay measurement and evaluation procedure with sufficient detail to demonstrate compliance with RG-8.9, or commit to conduct bioassay measurements in accordance with this standard or an equivalent standard.

Response:

The following paragraphs dealing with the bioassay program will be inserted as the third and fourth paragraphs in Section 4.7.3:

"The minimum frequency for submitting urine samples by personnel routinely exposed to Type F uranium compounds and who require internal dose monitoring according to NRC regulations is semi-annually. The minimum frequency for lung counts for personnel routinely exposed to Type M or Type S uranium compounds and who require internal dose monitoring according to NRC regulations is annually.

Urine sample concentrations are analyzed by either KPA or ICPMS. AREVA procedures will specify action levels designed to protect against toxicological damage to the kidney. AREVA will have in vivo procedures specifying action levels designed to prevent an individual from exceeding an intake of 1 ALI in a calendar year."

13. Section 4.7.4 describes the use of the International Commission on Radiological Protection (ICRP) 68. The wording in this section can be interpreted to imply a request for blanket permission to use future ICRP models. Consistent with 10 CFR 70.17, remove the parenthetical portion of the second paragraph in Section 4.7.4 that states, ".....or a future ICRP model." Use of a specific ICRP model may be requested but must be approved by exemption to 10 CFR Part 20. AREVA has previously been approved to use ICRP 66/68, but future ICRP models must be requested and approved, by the NRC, individually. A new request may be submitted, with additional information, to request an exemption for a model other than ICRP 66/68.

Response:

AREVA will remove the parenthetical phrase.

14. Section 4.7.5 describes the contamination control program. Consistent with 10 CFR 70.23(a)(4), specify the types and frequencies of routine surveys for various areas of the facility. State that surveys will monitor for removable and fixed surface contamination. Define a contamination controlled area. State action levels such as clean up times for various contamination levels.

Response:

The following sentences will be added as the second and third sentences in the first paragraph in Section 4.7.5.

"AREVA will maintain procedures that specify the types of surveys, their frequencies, and applicable action levels. Areas of the plant where contamination levels exceed action levels shall be cleaned in a timely manner."

A contamination controlled area is an area where unencapsulated radioactive materials are processed and the probability of removable contamination in excess of several hundred dpm/100 cm^2 on floors and accessible surfaces is significant. AREVA is not proposing inclusion of this definition within the license.

15. The fourth paragraph in Section 4.7.5 contains the description of a procedure to allow contaminated material to be moved through a non-contaminated area without being decontaminated. The wording can be interpreted to imply that the survey measures to prevent the spread of contamination would be bypassed. Consistent with 10 CFR 20.1501, commit to establishing written procedures which will ensure that:

i) Items will be entirely sealed/packaged in clean containers in a transition area (similar to a step off area);

ii) Items are not inadvertently released to a clean area; and

iii) AREVA will use the shortest route to transfer items through the clean area in order to minimize transfer time.

Remove the portion of paragraph four that states, "Such transfers may be made without a survey if the material has only fixed contamination..." since a survey (i.e., smears) must be conducted to determine if removable contamination is present. Replace the reference to "....have smearable contamination levels less than those permitted by facility procedures", with the levels listed for clean areas (free release), except for items enclosed as described above.

Response:

AREVA's commitments to perform such surveys as needed to preclude the inadvertent release of contaminated items to clean areas are set forth in paragraph one of Section 4.7.5. To clarify/refine the options for transferring materials between contaminated areas through an intervening clean area, the fourth paragraph in Section 4.7.5 will be replaced as follows:

"Equipment and materials may be transferred from one contaminated area through a non-contaminated area into a second contaminated area if the exterior surfaces of the item or its container have smearable contamination levels meeting allowable levels for clean areas. The level of smearable contamination is the activity transferred to a swab or smear from a surface being rubbed with moderate pressure. Transfers may be made without a survey if the material is entirely sealed/packaged within clean packaging in a transition area. Transfers of radioactive material in externally clean overpacks, from one contaminated area to another, on site, when the overpacks have not entered contaminated areas, shall be permitted without performance of a survey. When contaminated items are transferred through the clean area, the route should be such as to minimize transfer time and the possibility of accidental release."

16. The first sentence in the second paragraph, in Section 4.8.1 describes a commitment to investigate instances where radiation exposure exceeds action levels. This section does not discuss information regarding implementation of administrative limits or action levels for radiological surveys. A similar issue was highlighted in RAI # 8 for this Chapter. Consistent with 10 CFR 20.1101(a), modify the first sentence in the second paragraph in Section 4.8.1 to apply administrative limits or action levels to radiological surveys. State what function will conduct the investigation and clarify the difference between action levels and administrative limits.

Response:

AREVA's response to RAI #9 (referred to as RAI #8 by the NRC reviewer) puts forth a revised second paragraph to Section 4.7 that clarifies that AREVA's radiological survey program is governed by procedures that specify "action levels and follow-up actions for instances when action levels are exceeded, including investigation as appropriate." Therefore a revision to Section 4.8.1 is not needed in this regard.

Relative to the difference between action levels and administrative limits, "action levels" is the term utilized by AREVA. By common understanding, action levels are set at levels protective of regulatory limits, where such limits exist. The term "administrative limits" is not utilized in Chapter 4.

To clarify the investigation of excessive radiation exposures, the second paragraph in Section 4.8.1 will be revised to read as follows:

"Instances in which radiation exposure regulatory limits are exceeded will be investigated in accordance with AREVA's formal corrective action program. This includes 10 CFR 20 worker dose exposure limits, modified Appendix B concentration limits (over the period permitted), and events causing notifications in accordance with 10 CFR 70.50. The assigned issue owner (investigator) may be the pertinent operating organization but, at minimum, the safety organization will provide review and approval of the investigation. In accordance with the corrective action program, the evaluation will identify incident cause(s) as well as actions to preclude recurrence; corrective actions will be formally tracked to completion. Incidents involving the exceeding of sub-tier action levels will be addressed and investigated, as applicable, in accordance with the governing

monitoring procedures. Investigation under the formal corrective action program will be undertaken if dictated by the radiological safety significance represented by the incident."

As clarification relative to the investigation of incidents involving exceeding of action levels, doses exceeding AREVA corporate action levels (which are well below NRC limits) would be investigated under the formal corrective action program. On the other hand, discovery of surface contamination in excess of a contamination action level would typically call for timely cleanup in accordance with the governing procedure but not formal investigation. (This clarification is not intended for inclusion in the license application.)