

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

G. Paul Bollwerk, III, Chairman
Dr. Kaye D. Lathrop
Dr. Craig M. White

In the Matter of

AREVA ENRICHMENT SERVICES, LLC

(Eagle Rock Enrichment Facility)

Docket No. 70-7015-ML

ASLBP No. 10-899-02-ML-BD01

October 29, 2010

MEMORANDUM AND ORDER

(Initial Publicly-Available Board Questions Regarding Safety-Related Matters
and Associated Administrative Directives)

In the Licensing Board's October 7, 2010 initial general schedule, we established a schedule for the safety-related portion of this mandatory/uncontested hearing under which, on or before November 12, 2010, the Board is to provide questions for the NRC staff and applicant AREVA Enrichment Services, LLC, (AES) to answer. See Licensing Board Memorandum and Order (Initial General Schedule; Revision to Uncontested/Mandatory Hearing Procedures; Inviting Written Limited Appearance Statements and Participation by Interested Governmental Entities) (Oct. 7, 2010) app. A at 2 (unpublished). The Board, however, has generated an initial round of questions that it is prepared to issue now, some two weeks before that deadline.

Most of the questions relate to items that do not involve sensitive, nonpublic information. Those questions are included as Attachment A to this issuance. Additionally, the Board has several questions that concern matters associated with the nonpublicly available portions of the staff's safety evaluation report (SER) or the AES safety analysis report, in particular questions relating to SER Appendix B. Those questions are attached to a separate order that is being

issued this date for nonpublic service and incorporation into the protective order file portion of the docket for this proceeding.

The staff and AES responses to the Board's public and nonpublic questions being issued this date should be appropriately filed on or before Friday, November 19, 2010.^{*} As was outlined in the Board's May 19, 2010 initial scheduling order, "[t]he answers shall, for each question, identify the responding subject matter expert(s) or individual(s), and be submitted in exhibit form, under oath, so that they are suitable for receipt into evidence without the necessity of the personal appearance of each expert or individual." Licensing Board Initial Scheduling Order (May 19, 2010) at 3-4 (unpublished). After reviewing the answers, the Board will decide whether any additional questions on these subjects are appropriate.

Also relative to the question of access to nonpublic information, by Federal Register notice published on October 14, 2010, the Board apprised interested governmental entities (IGE) about their opportunity to participate in this proceeding. See Atomic Safety and Licensing Board; Notice of Opportunity To Participate in Uncontested/Mandatory Hearing (Procedures for Participation by Interested Governmental Entities Regarding Safety Portion of Enrichment Facility Licensing Proceeding), 75 Fed. Reg. 63,213 (Oct. 14, 2010). The staff and AES are advised that if an IGE requesting the opportunity to participate in this mandatory/uncontested hearing also asks for access to nonpublic information relating to the staff safety evaluation

^{*} Although all of the questions can be answered by both the staff and AES if they so choose, they may wish to consult if either believes one party is in a better position to respond to the particular question. The Board anticipates that at least one party will respond to each question.

Also, if AES or the staff believes that any of the public questions involves an answer that requires filing as nonpublicly available information, AES or the staff should include that answer in its nonpublic filing, along with an explanation/justification as to why a nonpublic submission is necessary and, assuming it does not do so, why it is not practicable to file publicly a redacted version of the answer in conjunction with its other publicly-filed answers.

report or the AES application, the staff and AES should be prepared promptly to contact the IGE to discuss the terms of a suitable protective order, which would be provided to the Board at the earliest opportunity to ensure that appropriate nonpublic information can be made available to the IGE. Further, if such an IGE request for access to nonpublic information is made, the Board may establish a separate schedule governing access to, and further IGE input based on, such nonpublic information.

It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD

/RA/

G. Paul Bollwerk, III, Chairman
ADMINISTRATIVE JUDGE

Rockville, Maryland

October 29, 2010

ATTACHMENT A

Attachment A: Areva Eagle Rock Enrichment License Safety Inquiries (Publicly Available)

#	Document(s)	Document Section	Document Page	Inquiry
1	Safety Analysis Report (SAR)	E.g., 2.0	E.g., 2.0-1	<p>In the various sections of its SAR, applicant AREVA Enrichment Services (AES) states that the provisions of “this license application are similar to those submitted for Nuclear Regulatory Commission (NRC) review in the [Louisiana Energy Services (LES)] license application for the National Enrichment Facility (NEF).”</p> <p>(a) What did the NRC staff find to be the significant safety-associated differences between the AES and LES applications?</p> <p>(b) Please discuss how those variations resulted in differences in the staff’s analysis of those matters, including any license conditions or exemptions/variances?</p> <p>(c) Have lessons learned from construction and operation of the NEF facility been used in the staff’s safety review of the Eagle Rock Enrichment Facility (EREF) application? If so, please describe those lessons and explain how they have been applied to the staff’s EREF licensing review.</p>
2	SAR	E.g., 3.3, 4.1, 5.1	E.g., 3.3-1 to -2, 4.1-1 to -2, 5.1-1	<p>There are numerous situations in the SAR (and the associated Integrated Safety Analysis (ISA)) which AES has made statements/commitments regarding the not-as-yet built EREF that cannot be verified immediately. In this regard, AES commits to a significant number of future actions and makes a significant number of analysis assumptions about future geometric arrangements, operational procedures, and in-place safety systems. Please describe the process (including timing considerations) by which the staff ensures that all of these commitments/assumptions/procedures are tracked and how it is determined that the assumptions are verified/commitments have been met/procedures are in place at the appropriate time prior to facility operation.</p>

3	SAR	3.1.1	3.1-5	<p>(a) The SAR states: “The potential for an external off-site wildland fire was dismissed as a non-credible threat to the facility.” The staff’s Safety Evaluation Report (SER) lists three independent acceptable sets of qualities (SER at A-24), any one of which could define an event as not credible. Which of these qualities was used to define off-site wildland fire as a non-credible event?</p> <p>(b) The SAR further states: “It is not credible for the rangeland or agricultural vegetation proximate to the EREF site to reach a fire severity that will threaten a process structure or cylinder storage area.” Please cite and describe the studies or data on which this assertion is based.</p> <p>(c) Enumerate which structures and systems within the EREF could be adversely impacted by a wildfire associated with high winds, comparable to the July 2010 Idaho National Laboratory (INL) site wildfire, and discuss the consequences to safety of those impacts. For this discussion, please also include the impacts of phenomena commonly associated with severe range fires such as windblown embers and dust storms.</p>
4	SAR	5.1.2	5.1-3	<p>The SAR states: “The product cylinders are only safe under conditions of limited moderation and enrichment. In such cases, both design and operating procedures are used to assure that these limits are not exceeded.”</p> <p>Please describe in detail the process by which the staff validated this statement, including validation of computational methods, a description of the accident sequences considered, [items relied on for safety (IROFS)] and procedures required; and confirmatory analysis performed.</p>
5	SAR	5.1.2	5.1-3	<p>The SAR contains the following statement: “Centrifuge array criticality is precluded by a probability argument with multiple operational procedure barriers. Total moderator or [hydrogen/uranium (H/U)] ratio control as appropriate precludes product cylinder criticality.”</p> <p>Please describe/explain this probability argument and explain how the staff has quantified the probabilities involved and verified the argument.</p>

6	SER	1.2.3.2	1-8	<p>(a) The SER states that "little," if any, new restricted data (RD) is expected to be created as a result of the AES facility. Under what circumstances could new RD be created and what would that information concern?</p> <p>(b) Is ratification/implementation of the Pentapartite Agreement a prerequisite to the issuance of the AES license and would ratification/implementation result in additional safety-related licensing submissions by AES and/or safety-related licensing review analyses by the staff?</p>
7	SER	1.2.3.4	1-10	<p>There is a commitment to obtain liability insurance to cover the hazardous properties of chemicals containing licensed materials. Does this insurance cover all hazardous chemicals produced from licensed materials, e.g., hydrogen fluoride (HF)?</p>
8	SER	1.2.4	1-11	<p>The SER indicates that AES will take steps to ensure that feed material is not contaminated.</p>
				<p>(a) Please describe the procedures associated with, and the frequency of, the supplier audits that will be conducted?</p>
9	SER	1.2.4.2.1; 10.3.3.1.1	1-13 to -14; 10-8 to -12.	<p>(b) Will feed material be evaluated for contamination (technetium (Tc)-99 or otherwise) at receipt or sometime after receipt, but prior to being used? Please describe/explain how the exemption that allows incremental decommissioning funding, and the license condition regarding that funding regime, is different from what was approved by the staff relative to the LES application, see NUREG-1827, at 1-9 to -1, 10-12 to 15?</p>
10	SER	1.2.4.2.2	1-14 to -15	<p>How is the proposed license-condition endorsed general criteria for changes to the SAR that do not require prior NRC approval of "no degradation in the safety commitments in the license application" consistent with, or different from, the licensee "change" determination that otherwise would have to be made under the specific criteria of 10 C.F.R. § 70.72(c)?</p>

11	SER	1.3.3.4.2	1-33	<p>(a) The Probabilistic Volcanic Hazard Analysis (PVHA) accepted by the staff used a volcanic event recurrence rate developed by Hackett (2002) for the entire axial volcanic zone. Explain why the close proximity of the 5.2 ka Hell's Half Acre volcanic field to the EREF site does not demonstrate that the probability of an eruption in this part of the axial volcanic zone is greater than the value determined by the spatially homogeneous model.</p> <p>(b) The PVHA concluded, and the staff accepted, that the annual probability of lava inundation at the EREF site is 5×10^{-6}, which corresponds to a 200,000 year site-inundation recurrence interval. In contrast, Champion (2002) (cited in the reference list in Appendix D of the application), gives inundation recurrence values of 40,000 years for the area of the INL closest to the EREF site. Please explain why the two estimates are so different and why it is appropriate to accept the longer inundation recurrence interval in the PVHA.</p> <p>(c) Discuss what preparations and procedures would be undertaken to minimize the potential release of hazardous materials if precursor events, such as seismic activity or volcanic gas emissions, indicated an imminent eruption of basaltic lava that could threaten the EREF.</p>
12	SER	1.3.3.4.4; 1.3.3.4.5	1-34	<p>The SER indicates that AES is still studying site liquefaction and settlement and has committed to evaluating the results of these studies based on various approved regulatory guidance documents in the context of final facility design. Does the staff consider the completion of these studies and staff review of their results as prerequisites for staff authorization to AES to operate the EREF?</p>
13	SER	1.3.4	1-35	<p>NUREG-1520 (revision 1), the standard review plan (SRP) for fuel cycle facilities, indicates in section 1.3.3 (at 1-10) that the applicant should provide a hydrological description of water table depth/ground water flow/uppermost aquifer characteristics. The SER indicates the staff reviewed site hydrology. Please provide a citation to the staff's SER hydrology analysis.</p>

14	SER	2.3.1	2-2	<p>The SER indicates that the AES President is responsible for the “design, quality assurance, construction, operation, and decommissioning of the EREF.” Additionally, the SER states (at 1-8) that “[a]ny safety decision related to the operation of the facility will be made by the President of AES.” What influence, both long-term and day-to-day, will AES’s parent corporation, AREVA NC Inc., and AREVA NC SA and AREVA SA, the parent corporations of AREVA NC Inc., have over these aspects of AES decisionmaking?</p>
15	SER	2.3.2	2-7	<p>Please explain why the qualifications of a bachelor of science degree with four years of nuclear experience and one year of direct experience are sufficient for the Nuclear Criticality Safety Manager.</p>
16	SER	2.3.3; 11.3.6	2-13; 11-31	<p>(a) The SER indicates that the Quality Assurance (QA), Environmental Health Safety and Licensing, Safety, Security and Emergency Preparedness, and Safeguards Managers are “independent” from the Operations Managers. What specific processes and procedures will be established to ensure that these managers are independent so as to encourage candid discussion of safety issues?</p> <p>(b) The SER also indicates that incident investigation teams will be “assured of no retaliation for participating in investigations.” What processes and procedures will be in place to ensure they will not be retaliated against?</p>
17	SER	4.3.3	4-6	<p>The SER indicates the organizational independence of the Radiation Protection/Chemistry Manager and line managers should be established. Which of these two managers, or what other manager, has precedence of authority in accident situations?</p>

18	SER	4.3.7	4-15	<p>In its SAR at section 4.2, AES has committed to apply “as low as reasonably achievable” (ALARA) principles to EREF personnel. See SAR at 4.2-1 (“Annual doses to individual personnel are maintained ALARA. In addition, the annual collective dose to personnel . . . is maintained ALARA.”). AES then sets a 1 rem/year administrative limit in Table 4.1-1 of the EREF SAR, which represents twenty percent of the annual NRC limit of 5 rem/year given in 10 C.F.R. § 20.1201. AES states that this limit is consistent with ALARA and the staff appears to remain silent on this point. See SAR at 4.1-1 (“This [administrative limit] provides assurance that legal radiation exposure limits are not exceeded and that the ALARA principle is emphasized.”); SER at 4-15. Given AES’s additional explanation that 1 rem/year bounds “operating experience of similar facilities in Europe,” including the Urenco Capenhurst site (maximum annual dose of 341 mrem in 2007), and its statement that “since additional exposures occur at the Capenhurst Site, it is likely that the exposures at the EREF will be lower,” SAR at 4.1-1, why is 1 rem/year an appropriate administrative limit for external exposure consistent with ALARA?</p>
19	SER	9.3.1.6	9-8	<p>The SER indicates the Full Tails Cylinder Storage Pad (FTCSP) has a capacity to hold 33,638 cylinders that would all require visual inspection annually for damage or surface coating defects.</p> <p>(a) How will visual inspection (VI) of tail cylinders be conducted?</p> <p>(b) On an annual basis, how many man-hours are anticipated to be dedicated to tail cylinders VI?</p>
20	SER	10.3.3	10-6	<p>In the SER, the staff indicates that AES “has assumed that DOE will take title and possession of DU for disposal.” Currently, the staff is considering an application for a commercial depleted uranium deconversion facility located near Hobbs, New Mexico. Assuming that deconversion facility is licensed, constructed, and begins operating:</p> <p>(a) Has AES reached any determination that it will not utilize that facility for processing the depleted uranium produced at the Eagle Rock facility?</p> <p>(b) If AES wished to use that deconversion facility in the future, would that require any changes/amendments to any Part 70 license that might be issued in this proceeding?</p>

21	SER	10.3.2; 10.4	10-4; 10-16	The statement of the license condition at p. 10-16 differs from the statement of what seemingly is intended to be the same license condition on p. 10-4 by the addition of a sentence. Which statement of this license condition is correct?
22	SER	11.3.5.3	11-30	Given the audit participation requirements to obtain QA Program certification, how will AES staff its initial audit teams?
23	SER	11.3.6	11-31	How will AES establish guidance for classifying occurrences as “abnormal” for the purpose of conducting incident investigations so as to avoid normalizing off-normal occurrences?
24	SER	11.3.6.2	11-32	(a) What criteria will the QA Manager use to assess whether corrective actions are implemented in a timely fashion? (b) Under what criteria will the QA Manager be able to order a work stoppage?
25	SER			The AES application was prepared and submitted prior to the May 2010 issuance of revision 1 to the fuel cycle facility SRP, NUREG-1520. What were the significant changes adopted in NUREG-1520, revision 1, and was the AES application reviewed in accord with those revisions?
26	SER			Please provide a listing, including the SER page citation, of the terms of all staff-approved license conditions and exemptions set forth in the SER.
27	SER; SAR	SER App. A, SAR App. D		Please provide an explanation/justification as to why these appendices are considered official use only (OUO) information, particularly as they relate to accident sequences associated with natural phenomena (e.g., wildfires, earthquakes, or volcanoes).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
AREVA ENRICHMENT SERVICES, LLC) DOCKET NO. 70-7015-ML
(Eagle Rock Enrichment Facility))
)

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Board **MEMORANDUM AND ORDER (Initial Publicly-Available Board Questions Regarding Safety-Related Matters and Associated Administrative Directives)**, dated October 29, 2010, have been served upon the following persons by Electronic Information Exchange.

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AREVA ENRICHMENT SERVICES, LLC (Eagle Rock Enrichment Facility) – 70-7015-ML
**MEMORANDUM AND ORDER (Initial Publicly-Available Board Questions Regarding
Safety-Related Matters and Associated Administrative Directives)**

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[Original signed by Linda D. Lewis]
Office of the Secretary of the Commission

Dated at Rockville, Maryland
this 29th day of October 2010