

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD
Before Administrative Judges:

Michael C. Farrar, Chairman
Nicholas G. Trikouros
Dr. William M. Murphy

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In the Matter of)	Docket No. 70-3098
Shaw AREVA MOX Services)	
License Application for Possession and)	ASLBP No. 07-856-02-MLA-BD01
Use of Byproduct, Source and)	
Special Nuclear Materials for the)	June 27, 2007
Mixed Oxide Fuel Fabrication Facility)	
_____)	

REPLY OF THE PETITIONING ORGANIZATIONS TO THE ANSWERS FILED JUNE 11 AND 13 BY NRC STAFF AND THE LICENSE APPLICANT TO OUR PETITION FOR INTERVENTION AND REQUEST FOR HEARING FILED MAY 14, 2007.

This is the reply of the Blue Ridge Environmental Defense League (BREDL), Nuclear Watch South, and Nuclear Information & Resource Service (NIRS) to the NRC Staff and Shaw Areva MOX Services responses to the Petition for Intervention and Request for Hearing filed on May 14, 2007. Petitioners address both parties responses in this reply. Also in this brief we respond to questions of scheduling and status of organizational representatives posed by the Atomic Safety and Licensing Board (ASLB).

Schedule

The ASLB in its June 20, 2007 Order seeks input into scheduling of a pre-hearing conference. The Petitioners support the ASLB's stated consideration of a session located near the facility. As to the matter of postponing the pre-hearing session to August, we are agreeable with the general timing. Petitioners have conferred about their respective schedules and respectfully request consideration that the session be convened on Wednesday, August 22, 2007.

Status Report on Organizational Representation

The inclusion of proper Notices of Appearance by Glenn Carroll for Nuclear Watch South and Mary Olson for NIRS serves to address the request of the ASLB in its Order dated June 20, 2007 for a status report on organizational representation.

Standing

Our May 14th Petition requested that we be made parties to the proceeding because an operating license for a plutonium fuel factory would directly affect the health and well-being of our members; all but one of our affiants live from 20 to 32 miles from the Savannah River Site (SRS). Both NRC Staff and Shaw Areva MOX Services argue against proximity as a measure of Petitioners' standing. However, public health and environment outside SRS would be impacted by the proposed action. First, this is supported by the NRC's definition of members of the public; i.e., "Individuals who live and work outside the SRS within 80 km (50 mi) of the proposed facilities" (NUREG-1767 3.10.2, p.3-48) Second, NRC finds that a tritium release accident at the proposed pit disassembly conversion facility (PDCF) would administer a sizable dose to members of the public out to 50 miles. (NUREG-1767 4.3.5.2, p. 4-48) It is clear that the proposed plutonium fuel MOX facility would affect the Petitioners' members.

Finally, we would not dispute that a determination as to the distance at which a petitioner can be presumed to have standing is determined on a case-by-case basis (CLI-95-12, 42 NRC at 116) nor that the injury-in-fact test requires an actual or threatened injury from a facility with obvious potential for offsite consequences. To further support of our claims of standing, we would draw the ASLB's attention to the plutonium fuel factory's standard review plan (SRP) detailed in NUREG-1718 which requires the applicant for a license to possess and use special nuclear material to include measures which prevent nuclear criticality. The SRP states:

"The purpose of the review is to determine whether the applicant...has...implemented adequate controls and limits on parameters relied on to prevent nuclear criticality; and assessed accident sequences identified in the Criticality Safety Evaluations and documented in the integrated safety analysis leading to a nuclear criticality, as required by 10 CFR Part 70." (numerals and acronyms omitted) [NUREG-1718 Part 1, 6.1]

Whether the license application meets such requirements is a question the petitioners have placed before the ASLB and which is for the judges to decide. However, the Board has not yet determined whether the applicant has "implemented adequate controls and limits on parameters

relied on to prevent nuclear criticality.” Unless and until such judgment is made, residents within the fifty-mile radius would indeed be placed at risk from a facility with obvious potential for offsite consequences; i.e., criticality, whether accidental or caused by sabotage or terrorism.

Notices of Appearance

Early drafts of certain documents were inadvertently attached to the e-filing of “Petition for Intervention and Request for Hearing.” The correct documents were served by mail and docketed by the NRC on May 15, 2007.

Attached are documents from the original petition filed by mail and docketed by the NRC. The hearing request can be found in ADAMS ML071410426. These documents include: Notice of Appearance of Glenn Carroll to represent Nuclear Watch South in addition to Declarations by Susan Bloomfield and William Mareska attesting to their membership in Nuclear Information & Resource Service and their authorization for Mary Olson to represent their interests. We apologize for confusion arising from the error. Indeed, we acknowledge the arguments of NRC Staff and Shaw Areva MOX Services for bringing the discrepancy to our attention and we believe these documents satisfy the concerns they raised.

Lastly, a Notice of Appearance is being filed by Mary Olson which authorizes her to represent NIRS. The inclusion of proper Notices of Appearance by Glenn Carroll for Nuclear Watch South and Mary Olson for NIRS is intended to address the request of the ASLB in its Order dated June 20, 2007 for a status report on organizational representation.

National Environmental Policy Act

Shaw Areva MOX Services argues at length (Response pp. 19-23 and p. 39) that NEPA-related issues are out-of-bounds in this proceeding. It describes a process whereby the EIS is finalized in the middle of a two-part hearing. Shaw Areva MOX Services improperly characterizes the Petitioners’ contentions as “late-filed.”

The Petitioners’ contentions are not late-filed. 10 CFR 51.92 (2) obligates the NRC to look at “substantial changes in the proposed action that are relevant to environmental concerns” and/or “significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.” The final action, i.e. issuance of an operating license, has not been taken as described in 10 CFR 51.92 (a) and it is reasonable to review and update the EIS at this juncture when review of the plutonium fuel factory’s operating license

application begins. Indeed, it is standard NRC procedure to undertake a Supplemental EIS when it receives the operating license application.

An additional note: since the NRC finalized the EIS early, the public has little recourse to prompt further NEPA review except by petitioning for a hearing.

Contentions

CONTENTION ONE: Failure to limit emissions of hazardous air pollutants.

The NRC Staff Response of June 11, 2007 and Shaw AREVA MOX Services Answer of June 13, 2007 counter our petition by saying that Contention One is not within the scope of the current proceeding. We have stated in Contentions 1.1 through 1.5 that MOX Services' license application (LA) failed to meet relevant requirements of NEPA and various sections of the Clean Air Act. Contention 1.1 states that NRC-licensed facilities must meet NESHAP requirements of the Clean Air Act which limit radionuclide emissions to the atmosphere. [40 CFR Part 61] Contentions 1.2 through 1.4 center on HEPA filter inability to limit emissions, requirements for the implementation of maximum achievable control technology (MACT) for hazardous air pollutants, and maximum throughput at the facility as the basis for air emissions.

In its declaration of national environmental policy at NEPA Section 101 (b), Congress stated:

[I]t is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources....

Further, at NEPA Section 102 Congress directs an interdisciplinary approach and consultation with any Federal agency which has jurisdiction for the purpose of administering laws of the United States:

The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this chapter.

The NRC is specifically required at 10 CFR 51.91(c) to fulfill the requirements of NEPA Sections 101 and 102(1). Moreover, subsequent Section 51.95(b) directs the NRC staff to prepare a supplement to the FEIS in connection with the issuance of an operating license. The

supplement is to cover matters “that differ from the final environmental impact statement or that reflect significant new information....”

In the following pages we further explain and support our request under each subpart of this contention.

Contention 1.1: The plutonium fuel factory proposed by MOX Services does not comply with national emission standards for radionuclides to the atmosphere.

Our petition states that the calculations in the plutonium fuel factory LA as compared to the EIS would appear to predict much higher estimates of certain radionuclide emissions. 10 CFR 51.95(b) directs the NRC staff to prepare a supplement to the FEIS in connection with the issuance of an operating license to cover matters that differ from the final environmental impact statement.

Contention 1.2 HEPA Filter Unreliability Allows Excess Radionuclide Risks.

Our petition points out that HEPA filter’s failures include alpha migration, re-entrainment of particles, and alpha recoil. Therefore, NRC cannot assure that the plutonium fuel factory will meet NESHAP radionuclide emissions limits. 10 CFR 51.95(b) directs the NRC staff to prepare a supplement to the FEIS in connection with the issuance of an operating license to cover matters that reflect significant new information.

Contention 1.3: Maximum Achievable Control Technology Is Required.

Major emitters of hazardous air pollutants require the application of controls, known as maximum achievable control technology (MACT). NESHAP emission standards apply to Department of Energy facilities including the proposed plutonium fuel fabrication factory. 40 CFR § 61.92 Subpart H National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities.

Either USEPA or the NRC may regulate hazardous air pollutant emissions at facilities licensed by the Commission. CAA 112(d)(9). However, no MACT has been issued for radionuclide HAP emissions from a plutonium fuel fabrication facility by USEPA or the NRC.

CAA Section 112(d)-Emission Standards

(9) Sources licensed by the nuclear regulatory commission.-

No standard for radionuclide emissions from any category or subcategory of facilities licensed by the Nuclear Regulatory Commission (or an Agreement State) is required to be promulgated under this section if the Administrator determines, by rule, and after consultation with the Nuclear Regulatory Commission, that the regulatory program established by the Nuclear Regulatory Commission pursuant to the Atomic Energy Act for such category or subcategory provides an ample margin of safety to protect the public health.

The USEPA requested a review of NESHAP for plutonium fuel fabrication at a federal facility. In the FEIS for Surplus Plutonium Disposition, the USDOE responded that the Lead Test Assembly manufacturing process would provide this information. However, this has not occurred. The SPD-FEIS contains the following question and answer:

17. Radionuclide Emission Standards

Table 5-1 addresses the National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR Part 61) but does not discuss the criteria under which the facility would need to apply for permission to construct or modify their operation. While it is unlikely that LLNL would have to formally apply, we would request that LLNL (or another proposed facility) provide EPA with its radionuclide NESHAP review prior to commencing operation.

FD325-24 DOE Policy

The lead assembly fabrication site would provide EPA with its radionuclide NESHAP review prior to commencing operations.

[Surplus Plutonium Disposition Final EIS Comment Documents and Responses—Federal, Richard E. Sanderson, Director, Office of Federal Activities, USEPA, September 16, 1998 to Howard R. Canter, Acting Director, Office of Fissile Materials Disposition, USDOE]

The USEPA or the NRC may establish MACT in this matter; neither has done so. Clean Air Act Section 112(g) requires the permitting authority to determine a MACT emission limitation on a case-by-case basis if no applicable federal emission limitation has been promulgated. We would ask the ASLB to end the shell game and clarify the means by which the public would be protected from hazardous air pollutants from the plutonium fuel facility.

Contention 1.4: NRC Failed to Assess Emissions Based on Accurate Surplus Plutonium Throughput; Fails to Meet Requirements of Clean Air Act

The proposed plutonium fuel fabrication facility would be licensed to handle up to 3.9 tons of plutonium dioxide annually for a period of 20 years. Therefore, the plant envisioned by MOX Services and DOE has the potential to handle a total of 78 tons of plutonium. This is not

conjecture but the actual maximum throughput based on the LA. Under the Clean Air Act, the determination of a major source is based on maximum design emission rate and the maximum annual emissions of all pollutants emitted based on 8760 hours of operation. If no pollution controls are required by federal regulations, actual emission levels are based on no controls. 10 CFR 51.95(b) directs the NRC staff to prepare a supplement to the FEIS in connection with the issuance of an operating license to cover matters that differ from the final environmental impact statement.

Contention 1.5: The plutonium fuel factory LA does not properly account for the higher levels of morbidity and mortality in females and infants caused by low levels of radiation.

In 2005 the National Academies of Science published BEIR VII, the latest review of relevant data on human exposure to ionizing radiation with a focus on the effects of low-levels radiation. 10 CFR 51.95(b) directs the NRC staff to prepare a supplement to the FEIS in connection with the issuance of an operating license to cover matters that reflect significant new information.

CONTENTION TWO: Accidental Release of Radionuclides

Contention 2 centers on accidental releases and emergency planning. The license application fails to adequately assess consequences of an accidental release of radionuclides from the plutonium fuel factory. The two subparts are detailed below.

Contention 2.1: Applicant's method for calculating radiological impacts is founded on outdated guidance

In 2.1 we said that the LA is based on a regulatory guide 3.35 which has been withdrawn from publication and the NRC website. But NRC Staff counter that "nonconformance with such guides does not equate to noncompliance with regulations." The triple-negative in their rebuttal notwithstanding, it would appear that we do have a genuine dispute on a material issue; i.e., the method of calculating radiological airborne releases from an accident which allows the Applicant to meet 10 CFR § 70.23(b) and to "provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents."

Contention 2.2: MOX Services improperly failed to submit an Emergency Plan

In 2.2 we said 10 CFR §70.22 requires licensees who use plutonium to develop an emergency plan for responding to accidental releases. MOX Services used a predictive air model which is limited to 10 km, well inside the 22 km boundary of SRS. In a footnote, the NRC Staff Response states, “This argument defies logic. If the dose is below the threshold onsite, it follows that the dose will likely decrease substantially, and, in any event, not increase, farther from the facility.” The Staff’s response, though plausible to the layperson, does not comport with the rigors of Gaussian dispersion modeling which form the basis of scientific estimates of ambient air pollution. There are many factors of plume behavior which are not immediately apparent to the casual observer: cavitation, boundary level effects, etc. This is why we utilize computer models. In short, Vulcan logic is no substitute for earth science.

We raised other issues in 2.2, such as Shaw AREVA’s miscalculation of the iodine dose to the public. NRC staff reply (page 19) states: “Contention 2.2 is an impermissible attack on the regulations...” The regulation may be sound, but we relied on Federal Radiological Monitoring and Assessment Center (FRMAC) dose conversion factors developed by the Dept. of Homeland Security to assess the iodine dose. We believe that the thyroid dose was not given the proper weight in the Applicant’s attempt to show compliance with 10 CFR §70.22.

CONTENTIONS 3 & 4. Extended Onsite Storage of Radioactive Waste Not Addressed in EIS or License Application

Both NRC Staff (Response, p. 20) and Shaw Areva MOX Services (Response, p. 36) argue that Contention 3: “Extended Onsite Storage of Radioactive Waste Not Addressed in EIS” and Contention 4: “License Application Fails to Address Radioactive Waste Storage” fail to cite “new and significant information.” Both contentions rely upon the February 2005 letter by Chairman Graham B. Wallis of the NRC’s Advisory Committee on Reactor Safeguards (“Review of the Final Safety Evaluation Report for the Mixed Oxide Fuel Fabrication Facility Construction Authorization Request”) which outlines safety concerns with the extended storage of plutonium waste which are not dealt with in either the plutonium fuel fabrication facility EIS nor the license application.

Shaw Areva MOX Services remarks that the ACRS letter is “from over two years ago” and characterizes the list of DOE failures in the contention as “unrelated prior or on-going matters which are not subject to NRC licensing.” (p. 36)

The ACRS letter became relevant, and the public was given a forum in which to present its case, when the license application was filed and it became clear that unsafe plutonium fuel waste conditions remain unaddressed and unresolved two years after they were outlined on public record by the highly respected ACRS. In other words, the ACRS letter becomes “new information” when its issues were disregarded with the filing of the current license application. The list of DOE protracted waste management failures and evidences of noncooperation with the NRC provide a context for the seriousness and legitimacy of the ACRS’s concerns.

The NRC Staff asserts (Response p. 21), that “if DOE were to change its plan to construct and operate the WSB, DOE would be required to publish an amended Record of Decision (ROD)” and goes on to say “DOE had not filed any amended ROD” and then “there is no need to supplement the EIS.” 10 CFR 51.92 (2) requires the NRC to perform a supplemental EIS because of significant new information. The ACRS letter contains significant new information and the NRC must supplement the EIS to resolve the serious gaps and discrepancies in the plutonium waste “plan” with information and analysis vetted in the public EIS process.

CONTENTION 5. Failure to Address Impact of Terrorist Attacks on Plutonium Fuel Facility and Transport

Petitioners are painfully aware of the NRC history pertaining to NEPA, nuclear terrorism and plutonium fuel licensing described by NRC Staff (p. 23) and Shaw Areva MOX Services (pp. 39-41). As the issue of the ability to foresee nuclear terrorism plays out in higher courts (the Ninth Circuit precedent, and Private Fuel Storage appeal on the D.C. docket) Petitioners seek to preserve the argument in the hope that the NRC will bite the bullet and face the starkly genuine threat that the environment could be impacted by an act of terrorism at a nuclear facility. The common-sense argument in Contention 5 : “Failure to Address Impact of Terrorist Attacks on Plutonium Fuel Facility and Transport” marks the fact that, in 2007, more than five years after the devastating destruction of September 11, 2001, the NRC refuses to consider insider sabotage or terrorism involving a plutonium facility which proposes to process 34 tons of weapons-grade plutonium in an EIS. We hold firm in our conviction that acts of insider sabotage and/or terrorism are frighteningly foreseeable at nuclear facilities, especially one holding significant inventories of fissionable material, and must be analyzed in an Environmental Impact Statement to satisfy the NRC’s National Environmental Protection Act requirements.

Conclusion

For the foregoing reasons, we request that the petition and all contentions be admitted and a hearing granted.

Respectfully submitted this 27th day June, 2007

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