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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE PRESIDING OFFICER

March 7, 2003

DOCKETED  
USNRC

March 13, 2003 (3:58PM)

In the matter of

Nuclear Fuel Services, Inc.

(Materials License SNM-124)

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OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

Docket No. 70-143

**REPLY BY FRIENDS OF THE NOLICHUCKY RIVER VALLEY,  
STATE OF FRANKLIN GROUP OF THE SIERRA CLUB,  
OAK RIDGE ENVIRONMENTAL PEACE ALLIANCE, AND  
TENNESSEE ENVIRONMENTAL COUNCIL  
TO NFS'S RESPONSE TO THEIR SECOND HEARING REQUEST**

As permitted by the Presiding Officer's Order of February 28, 2003, Petitioners, Friends of the Nolichucky River Valley ("FNRV"), the State of Franklin Group of the Sierra Club, Oak Ridge Environmental Peace Alliance ("OREPA"), and Tennessee Environmental Council ("TEC"), hereby reply to Nuclear Fuel Services' ("NFS's") response to their hearing request regarding Nuclear Fuel Services's ("NFS's") second license amendment application for the "BLEU Project" at NFS's facility in Erwin, Tennessee.<sup>1</sup>

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<sup>1</sup> See Second Request for Hearing by Friends of the Nolichucky River Valley, State of Franklin Group of the Sierra Club, Oak Ridge Environmental Peace Alliance, and Tennessee Environmental Council (February 6, 2003) (hereinafter "Petitioners' Second Hearing Request"); Applicant's Answer to Second Request for Hearing by Friends of the Nolichucky River Valley, State of Franklin Group of the Sierra Club, Oak Ridge Environmental Peace Alliance, and Tennessee Environmental Council (February 21, 2003) (hereinafter "NFS Response").

## Response to NFS Arguments re Petitioners' Standing

In their second hearing request, Petitioners incorporated arguments that they had made in their first hearing request regarding standing.<sup>2</sup> Petitioners' Second Hearing Request at 2. These arguments included Petitioners' claim that NFS's history of illegally contaminating the environment raises the potential NFS will continue to contaminate the environment in the future. Petitioners' First Hearing Request at 5-6. In their second hearing request, Petitioners also noted that past contamination by NFS, taken together with legal discharges from the BLEU Project, may have cumulative adverse health effects. Petitioners' Second Hearing Request at 3.

NFS contends that its past contamination of the Erwin site is "irrelevant" to Petitioners' argument because it occurred "over 25 years ago." NFS Answer at 9, citing EA at 3-14, 3-16.<sup>3</sup> In making this argument, NFS mischaracterizes the EA. The EA states that radiological and chemical contamination have been found at "a number of locations on the NFS Erwin site." EA at 3-14. These locations include areas on the "North Site" that were used between 1958 and 1978. *Id.* Nowhere does the EA state that all of the NFS-Erwin site contamination occurred before 1978.

Even assuming for purposes of argument that all of the contamination of the NFS-Erwin site did occur before 1978, the timing of the contamination would not affect the

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<sup>2</sup> Request for Hearing by Oak Ridge Environmental Peace Alliance, Tennessee Environmental Council, State of Franklin Group/Sierra Club, Friends of Nolichucky River Valley (November 27, 2002) (hereinafter "Petitioners' First Hearing Request").

<sup>3</sup> Finding of No Significant Impact and Environmental Assessment (TAC No. L30873) (January 29, 1999).

potential for cumulative effects. As discussed in the EA, there is an ongoing risk that contamination will migrate to the Nolichucky River. *See* EA, Section 5.1.1.1.

Moreover, in arguing that a past history of environmental contamination shows a credible potential for disregard of environmental protection in the future, Petitioners are not just relying on NFS's record of soil and groundwater contamination, but on various incidents in which NFS has violated its permit, some of which resulted in spills and/or exposure of workers to contamination. *See* Second Hearing Request at 13, 15.

NFS cites a recent Licensing Board decision, *Pacific Gas & Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC \_\_ (Dec. 2, 2003), for the proposition that radiation doses from the proposed BLEU Project will be too small to support a finding that Petitioners have standing. NFS Response at 10. That decision is not dispositive of this case, for several reasons. First, it did not concern a situation in which the applicant had a past history of contaminating the environment, including contamination that may have cumulative effects when taken together with the effects of the proposed project. Second, in *Diablo Canyon*, the petitioner had not shown discrepancies in the applicant's dose estimates that raised fundamental questions about whether those estimates were correct. Finally, the *Diablo Canyon* decision is inconsistent with other Commission precedents -- including a decision by the Commission itself -- which recognize that even small injuries are sufficient to confer standing. *See Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 247-48 (1996); *Duke Cogema Stone and Webster*

(Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 417 (2001).

NFS also argues that Petitioners cannot rely on the cumulative effects of past contamination combined with the proposed BLEU Project, because the injury-in-fact must stem only from the proposed licensing action. NFS Response at 10-11, citing *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), CLI-99-4, 49 NRC 185, 188 (1999); *International Uranium (USA) Corporation* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 251 (2001); *International Uranium (USA) Corporation* (White Mesa Uranium Mill), LBP-01-08, 53 NRC 204, 219-20, *aff'd*, CLI-01-18, 54 NRC 27, 31-32 (2001). Petitioners submit that these cases do not support NFS's position. NFS's comparison of this case to *Commonwealth Edison* is inapt, because Petitioners' claim to standing is based on the effects of the proposed BLEU Project, not just a "general objection" to the existing operation. *See* 49 NRC at 188. Moreover, the Presiding Officer recognized in LBP-01-08 that "increased harm" is cognizable for standing purposes, not just new harm. 53 NRC at 220. Finally, the two *White Mesa* cases are factually distinct from this one. In both cases, the increased harm at issue consisted of negligible incremental doses that would be added to small doses from existing normal operations. LBP-01-08, 53 NRC at 219. As the Commission noted in CLI-01-21, the petitioner had not advanced any claim that current activities had resulted in groundwater seepage or that the proposed activities would create a greater likelihood of such contamination in the future. *Id.*, 54 NRC at 252. Here, in contrast, the applicant has already contaminated the environment. This raises two concerns: (a) that the

applicant will continue its pattern of contaminating the environment, and (b) that the combined effects of environmental contamination, normal existing discharges, and prospective discharges, will be significant. Moreover, amount of the incremental dose is unknown, because NFS has not done an adequate job of estimating radiological effluents. *See* Declaration of January 6, 2003 by Dr. Arjun Makhijani at pars. 8, 12-14 (January 6, 2003) (hereinafter “January 6 Makhijani Declaration”); Declaration of March 7, 2003, by Dr. Arjun Makhijani at pars. 5, 7 (March 7, 2003) (hereinafter “March 7, Makhijani Declaration”). Thus, at this juncture, the Presiding Officer does not have a basis to decide that the doses from the current operation are negligible, that doses from the proposed operation are negligible, or that they are negligible in combination.

NFS also continues to argue that Petitioners cannot base their claim to standing on the potential decline in property values that may result from the proposed BLEU Project. NFS Response at 12. NFS acknowledges that in *Louisiana Energy Services* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 108 (1998), the Commission found that depression of property values as a result of siting an industrial facility was a cognizable impact under the National Environmental Policy Act. However, NFS argues that Petitioners have provided only “generic, unsubstantial concerns” about impacts of the BLEU Project on property values. *Id.* To the contrary, Petitioners have linked the potential depression of property values to actual increases in effluent discharges from the NFS facility. The fact that the public must perceive the threat to their health and safety before acting on their perception and lowering the amount they are willing to pay for property does not make this a purely psychological or speculative concern.

NFS also disputes the relevance of discrepancies in NFS's estimates of future effluent emissions for purposes of establishing "concrete" injury. NFS Response at 13. According to NFS, these alleged errors are "procedural" and not substantive. *Id.* As Dr. Makhijani discusses in his March 7, 2003, Declaration, however, the discrepancies in NFS's data "demonstrate that NFS is not taking due care to make accurate estimates of its prospective radiological discharges," and undermines the credibility of the estimates that it has provided. *Id.*, par. 5. In light of the numerous discrepancies in NFS's data, NFS's projections of radiological effluent discharges simply are not reliable.

Finally, NFS argues that Dr. Makhijani erred in arguing that discrepancies in NFS's estimates of plutonium doses from the proposed BLEU Project show that doses from plutonium discharges to water may be as high as 2.7 mrem per year. NFS Response at 13-14. As discussed in paragraph 6 of his March 7 Declaration, Dr. Makhijani has reviewed his work in response to this argument, and has discovered that he incorrectly assumed that the isotopic composition of the two estimates of plutonium releases provided by NFS was the same in both cases. As a result, his assumption of proportionality of dose to total plutonium release was incorrect. While all other isotopes have the same release estimate in the RAI response as in the EA and the Additional Information Letter, the increase in the estimate of plutonium releases in the RAI Response was entirely due to plutonium-241, which does not have a very large effect on the dose. The total plutonium dose would increase a little, and not by six times, if the NFS assumptions about isotopic plutonium composition of discharges are correct. This is

because the dose conversion factor for plutonium-241 is much lower than for plutonium-238 or plutonium-239.

Nevertheless, Dr. Makhijani is now more concerned about the release estimates and discrepancies than before:

NFS increased the plutonium-241 release estimate by more than nine times in filings it made in a two-month period (i.e., between January 15, 2002 and March 15, 2002). This is an unacceptable amount of uncertainty, and undermines NFS's claims that its radioactive discharges from the proposed HEU downblending operation will be so low that they will not harm the public or pollute the water.

*Id.*, par. 7. Thus, Dr. Makhijani's correction of his error in the calculation of plutonium doses has not dampened his concern that the significant discrepancies in NFS's estimates of radiological contaminant discharges show an unacceptable level of uncertainty regarding the amount of radiological effluent that will be discharged by the proposed BLEU Project.

#### **Response to NFS Arguments Regarding Admissibility of Concerns**

NFS has objected to each and every concern submitted by Petitioners, on the grounds that they either are legally invalid, not germane to the proposed license amendment, or inadequately particularized. None of NFS's objections has merit.

In paragraph A.1 of their statement of concerns, Petitioners charged that the NRC has not yet conducted its safety review for the second license amendment application, and therefore it has not yet fully evaluated the environmental effects of operating the BLEU Processing Facility ("BPF"). NFS cites *Duke Cogema Stone and Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-7, 55 NRC 205, 220-21 (2002) for the proposition that the Staff is not legally required to complete its safety review before

issuing an EIS. However, this case is factually distinct from the *Duke Cogema Stone and Webster* case in an important respect. Here, it appears that the Staff believes, as a practical matter, that completion of its safety review is necessary for an adequate environmental review. Petitioners may legitimately rely on the Staff's factual determination that a safety review is a necessary adjunct to its environmental review, as a basis for their claim that the existing EA, which has no foundation in a safety review, is inadequate.

NFS also objects to the admissibility of Petitioners' concern that the dangers of the BPF, as described in the EA, are significant and therefore warrant the preparation of an Environmental Impact Statement ("EIS"). As noted in Petitioners' Second Hearing Request, the EA itself demonstrates that operation of the BPF poses the risk of a serious leak, explosion or other accident that could have a significant adverse effect on the quality of the human environment. *Id.* at 9. Moreover, the process includes new activities that are not analyzed in any previous EIS. NFS does not dispute the fact that the BPF includes new processes that are not analyzed in any other EIS. *See* NFS Response at 17-18. However, NFS argues that Petitioners have not provided "anything" to show that the impacts of the BPF are significant. NFS Response at 17. To the contrary, Petitioners have provided the best possible case for preparation of an EIS: the words of the EA itself. The factual description of the BPF that is provided in the EA simply and directly contradicts the EA's conclusion that the impacts of the BPF are insignificant.



In paragraph A.1.3, Petitioner raises the concern that the EA lacks a reasonable basis for stating that accidents at the proposed BPF are not credible. NFS provides no plausible reason why this concern should be rejected. It simply tries to foist onto Petitioners the responsibility to identify credible accidents. To the contrary, it is NFS's and the Staff's responsibility, in the first instance, to explain why accidents at a facility that handles highly dangerous and explosive materials are not credible.

NFS also objects that its history of contaminating the environment is not relevant to the significance of the environmental impacts of the proposed BPF because they happened a long time ago. However, NFS does not dispute the fact that it has caused significant contamination of the environment over a period of years. Nor does NFS dispute Petitioners' claim that NFS has reported and/or been cited on numerous occasions for violations of its permit, some of which resulted in spills and/or exposure of workers to contamination. NFS has not provided a plausible reason to reject Petitioners' concern that NFS has demonstrated a pattern of environmentally harmful behavior that warrants consideration in an EIS.

NFS also objects to Petitioners' concern that the adequacy of its decommissioning fund must take into account NFS's liability for cleanup of its other facilities, including the \$4.5 billion cost of cleaning up the West Valley site. NFS argues that this case pertains only to the decommissioning of the proposed BPF. However, Petitioners are legitimately concerned that, due to the enormous liability that NFS bears for other cleanups, it may be unable to provide sufficient funds for cleanup of the BPF. The concern should be admitted.

Finally, NFS opposes the admission of Petitioners' concern that NFS has not demonstrated that it can and will comply with 10 C.F.R. §§ 70.23(a)(2), (3), or (4) in operating the BPF, on the ground that Petitioners' concern is not "specific" enough.<sup>4</sup> NFS Response at 22. To the contrary, Petitioners have specifically provided examples of past incidents which demonstrate a reasonable likelihood that NFS will be unable or unwilling to comply with NRC regulations for the safe operation of the proposed BPF.

### Conclusion

For the foregoing reasons, Petitioners should be found to have standing, and their concerns should be admitted for a hearing.

Respectfully submitted,



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Dated: March 7, 2003

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<sup>4</sup> NFS also argues that this concern is irrelevant because it relates to past operations. *Id.*, citing *Energy Fuels Nuclear, Inc.*, LBP-94-33, 40 NRC 151, 153-54 (1994). The *Energy Fuels* decision does not support NFS's argument. In that case, the Presiding Officer found he had no jurisdiction over disturbance of archaeological areas that was authorized by a previous license. In contrast, in this case Petitioners argue that past conduct by NFS shows a reasonable likelihood that NFS will be unable or unwilling to comply with its permit in the future.

March 7, 2003

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE PRESIDING OFFICER

In the matter of

Nuclear Fuel Services, Inc.

(Materials License SNM-124)

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Docket No. 70-143

**DECLARATION OF MARCH 7, 2003 BY DR. ARJUN MAKHIJANI**

Under penalty of perjury, I, Dr. Arjun Makhijani, declare as follows:

1. On January 6, 2003, I submitted a declaration in this proceeding, regarding discrepancies in the estimates of radiological releases for the proposed BLEU Project at the Nuclear Fuels Inc.'s ("NFS's") NFS-Erwin plant. These estimates are provided in reference documents for the U.S. Nuclear Regulatory Commission's (NRC's) Environmental Assessment for Proposed License Amendments to Special Nuclear Material License No. SNM-124 Regarding Downblending and Oxide Conversion of Surplus High-Enriched Uranium, Nuclear Fuel Services, Inc., Erwin, Tennessee Plant, Docket 70-143 (June 2002). The reference documents consist of a letter from B.M. Moore, NFS, to NRC, regarding "NFS Responses to NRC's Request for Additional Information to Support an Environmental Review for the BLEU Project" (March 15, 2002) (hereinafter "RAI Response"); and a letter from B.M. Moore, NFS, to NRC, regarding "Additional Information to Support an Environmental Review for BLEU Project" (January 15, 2002) (hereinafter "Additional Information Letter").

4. The purpose of this declaration is to address NFS's assertion that my "claims regarding the dose from the BLEU project are wrong." See Applicant's Answer to Second Request for Hearing by Friends of the Nolichucky River Valley, State of Franklin Group of the Sierra Club, Oak Ridge Environmental Peace Alliance, and Tennessee Environmental Council at page 13 (February 21, 2003) (hereinafter "NFS's Answer").

5. NFS has not disputed any of the discrepancies in effluent data reporting that I pointed out in my declaration. Instead, NFS argues that its errors are merely "procedural" and not "concrete." See NFS's Answer at page 13. I disagree with this

assessment. As I stated in paragraphs 5 and 13 of my January 6, 2003, declaration, the RAI Response contains estimates for liquid and airborne releases of plutonium and uranium that are significantly higher than the estimates provided in the EA and Additional Information Letter. There were not one or two but many such discrepancies. Such significant discrepancies demonstrate an unacceptably low level of scientific care and rigor by the NRC in preparing the EA, which undermines the credibility of the NRC's low estimates for liquid and airborne releases from the proposed BLEU Project. These discrepancies also demonstrate that NFS is not taking due care to make accurate estimates of its prospective radiological discharges. For NFS to claim that its figures are credible and that operation of the proposed BLEU Project will not harm public health and be in conformity with applicable standards, NFS must first of all make more precise and credible estimates of radioactivity discharges based on the actual process and actual feed materials. It has not yet done this.

6. I would also like to correct an error I made in my declaration of January 6, 2003. While specifics of this error were not directly pointed out by NFS, I discovered this as a result of a review I made of my work based on NFS's comments.

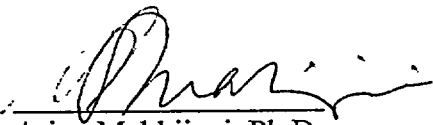
In paragraph 7 of my January 6, declaration, I noted that NFS's RAI Response contained an estimate of plutonium in liquid effluent that was six times greater than the plutonium discharge estimate reported in the EA and NFS's Additional Information Letter. In paragraph 8, I estimated that this six-fold increase in liquid plutonium effluent would correspondingly result in a six-fold increase of the radiation dose due to the plutonium release. In making this estimate, I assumed that the isotopic composition of the two estimates of plutonium releases was the same, and therefore that the dose was proportional to the increase in plutonium releases. In reviewing the attachments to the RAI Response, I now see that my assumption was incorrect.<sup>1</sup> While all other isotopes have the same release estimate in the RAI response as in the EA and the Additional Information Letter, the increase in the estimate of plutonium releases in the RAI Response was entirely due to plutonium-241, which does not have a very large effect on the dose. As a result my assumption of proportionality of dose to total plutonium release was incorrect. The total plutonium dose would increase a little, and not by six times, if the NFS assumptions about isotopic plutonium composition of discharges are correct. This is because the dose conversion factor for plutonium-241 is much lower than for plutonium-238 or plutonium-239.

7. However, I am now more concerned about the release estimates and discrepancies than before. NFS increased the plutonium-241 release estimate by more than nine times in filings it made in a two-month period (i.e, between January 15, 2002 and March 15, 2002). This is an unacceptable amount of uncertainty, and undermines NFS's claims that its radioactive discharges from the proposed HEU downblending operation will be so low that they will not harm the public or pollute the water.

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<sup>1</sup> Letter from B.M. Moore, NFS, to NRC, regarding "NFS Responses to NRC's Request for Additional Information to Support an Environmental Review for the BLEU Project" (March 15, 2002) (hereinafter "RAI Resp"), Attachment IV, ISA Source Term Data and Radioactive Estimates for the TVA Project, Attachment G, BLEU Preparation Facility (BPF) Radioactive Liquid Effluents, p. 4, Table, "Summary of Estimated BPF Liquid Effluents."

I certify that the factual information presented above is true and correct to the best of my knowledge, and that the opinions expressed herein are based on my best professional judgment.

  
Arjun Makhijani, Ph.D

Dated: March 7, 2003

### CERTIFICATE OF SERVICE

I certify that on March 7, 2003, copies of REPLY BY FRIENDS OF THE NOLICHUCKY RIVER VALLEY, STATE OF FRANKLIN GROUP/SIERRA CLUB, OAK RIDGE ENVIRONMENTAL PEACE ALLIANCE, AND TENNESSEE ENVIRONMENTAL COUNCIL FOR LEAVE TO REPLY TO APPLICANT'S RESPONSE TO THEIR SECOND HEARING REQUEST were served on the following by first-class mail, and by e-mail if so designated:

Alan S. Rosenthal, Presiding Officer Atomic Safety and Licensing Board Mail Stop T-3 F23 U.S. Nuclear Regulatory Commission Washington, D.C. 20555 By e-mail to: <a href="mailto:rosnthl@aol.com">rosnthl@aol.com</a> <a href="mailto:Sam4@nrc.gov">Sam4@nrc.gov</a>	Office of Appellate Adjudication U.S. Nuclear Regulatory Commission Washington, D.C. 20555
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Diane Curran