

**RAS 11297**

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

LBP-06-09

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Before Administrative Judges:

G. Paul Bollwerk, III, Chairman  
Dr. Paul B. Abramson  
Dr. Charles N. Kelber

In the Matter of

LOUISIANA ENERGY SERVICES, L.P.

(National Enrichment Facility)

Docket No. 70-3103-ML

ASLBP No. 04-826-01-ML

March 3, 2006

MEMORANDUM AND ORDER  
(Ruling on Summary Disposition Cross-Motions  
Relating to Remand from CLI-05-20)

In CLI-05-20, 62 NRC 523 (2005), the Commission remanded to the Licensing Board for further proceedings an amended contention, intervenors Nuclear Information and Resource Service/Public Citizen (NIRS/PC) environmental contention (EC)-4, Impacts of Waste Storage and Disposal,<sup>1</sup> regarding the environmental impacts of depleted uranium disposal associated with the proposed operation by applicant Louisiana Energy Services, L.P., (LES) of the National Enrichment Facility (NEF) located near Eunice, New Mexico. Subsequently, NIRS/PC and the NRC staff filed cross-motions for summary disposition regarding one aspect of the remanded contention -- the question of the adequacy of the staff's National Environmental Policy Act (NEPA) environmental impact statement (EIS)-related discussion of estimated doses arising

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<sup>1</sup> Though the Board modified the title of this contention by deleting the words "and Disposal" from that title in its November 22, 2004 ruling on late-filed contentions, see Licensing Board Memorandum and Order (Ruling on Late-Filed Contentions) (Nov. 22, 2004) at 15 (unpublished), based on the Commission remand of amended contention NIRS/PC EC-4 to this Board in CLI-05-20, and the fact that contention NIRS/PC EC-4 now contains challenges related to the disposal of depleted uranium, the original title of this contention has been reinstated.

from depleted uranium disposal in a geologic repository<sup>2</sup> -- that is currently pending before the Board. For the reasons stated herein, we deny the NIRS/PC dispositive motion and grant the staff's summary disposition request regarding this aspect of contention NIRS/PC EC-4.

## I. BACKGROUND

### A. Prior Litigation Regarding Contention NIRS/PC EC-4

Because the Commission in its remand decision provided an extensive discussion of the background regarding contention NIRS/PC EC-4, see CLI-05-20, 62 NRC at 526-33, and the Board also discusses this subject at some length in a partial initial decision (PID) issued today regarding another portion of remanded contention NIRS/PC EC-4 concerning the environmental impacts associated with near-surface disposal of depleted uranium, see LBP-06-08, 63 NRC \_\_, \_\_-\_\_ (slip op. at 2-13) (Mar. 3, 2006), and a ruling on a November 11, 2005 NIRS/PC request to amend that same contention, see Licensing Board Memorandum and Order (Ruling on Motion to Amend Contention NIRS/PC EC-4) (Mar. 3, 2006) at 2-8 (unpublished) [hereinafter Contention Amendment Ruling], we will not provide another lengthy discussion here. Rather, we below summarize the procedural avenue by which this matter regarding depleted uranium deep disposal impacts came to be before the Board on remand, as well as provide a description of pertinent post-remand developments relative to that issue statement.

As originally admitted by the Board in LBP-04-14, 60 NRC 40, 78 (2004), NIRS/PC EC-4 contested the sufficiency of the NEF Environmental Report (ER) as it allegedly failed to discuss the environmental impacts of the construction and operation of a deconversion plant for the

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<sup>2</sup> Throughout this proceeding, the parties have referred to the type of disposal at issue here variously as deep disposal, geologic disposal, and mine disposal, among others. The Board uses those terms interchangeably herein, and no distinction should be inferred from the use of one term or another.

depleted uranium hexafluoride (DUF<sub>6</sub>) waste produced at the NEF. On October 20, 2004, NIRS/PC filed a motion to amend or supplement previously admitted contentions, including contention NIRS/PC EC-4, in accordance with the general schedule set for this proceeding, based on the recent publication of the staff's draft environmental impact statement (DEIS) for the NEF. See LBP-06-08, 63 NRC at \_\_-\_\_ (slip op. at 3-4); LBP-05-13, 61 NRC 385, 395-96 (2005). In support of this request relative to contention NIRS/PC EC-4, NIRS/PC proffered a number of additional bases, including paragraph C in support of a challenge to the staff's treatment in the DEIS of the impacts of waste disposal, that provided:

C. The DEIS attempts to estimate the impact of disposal of depleted uranium from the NEF in its modeling of the releases expected from the site. (at 4-58, 4-59 and Table 4-19). The DEIS fails to disclose the models used or the parameter values. The text suggests that models used in analyzing the [Claiborne Enrichment Center (CEC)] site were used; however, the results are unlike any reported in connection with the CEC facility. Further, the model addresses only two hypothetical disposal sites and fails to examine any actual location of disposal. Performance of a disposal site is highly site-specific.

Motion on Behalf of Petitioners [NIRS/PC] to Amend and Supplement Contentions (Oct. 20, 2004) at 16 [hereinafter October Contention Motion]. The reference in this NIRS/PC motion to the "CEC facility" site analysis is to an NRC NEPA analysis, set forth in a final environmental impact statement (FEIS), associated with an LES request for authorization to construct and operate the Claiborne Enrichment Center uranium enrichment facility in Claiborne Parish, Louisiana, in the early 1990s.

In a November 22, 2004 memorandum and order, the Board admitted a portion of the proffered amendment to EC-4 that alleged a failure of the DEIS to discuss the environmental impacts of the construction and operation of a depleted uranium (DU) deconversion plant,<sup>3</sup> but

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<sup>3</sup> In the Board's first PID on environmental contentions, we decided the contention  
(continued...)

declined to admit a supplemental paragraph regarding the DEIS's treatment of the impacts of disposal of DU given that an issue related to that challenge was then pending before the Commission, i.e., a question of whether depleted uranium constitutes low-level waste. See LBP-06-08, 63 NRC at \_ (slip op. at 4); LBP-05-13, 61 NRC at 398, 400. In rejecting this latter part of the proffered amendment, including paragraph C above, the Board did, however, note that the challenges appeared to rest on new information contained in the DEIS, such that the amendment was not precluded by its untimely filing, and that it rejected the contention without prejudice to a renewed motion at a later date should a Commission ruling on the low-level waste question indicate the Board should hear that issue. See Licensing Board Memorandum and Order (Ruling on Late-Filed Contentions) (Nov. 22, 2004) at 14-15 (unpublished) [hereinafter November Contention Ruling].<sup>4</sup>

On January 18, 2005, the Commission issued a ruling concluding that depleted uranium from an enrichment facility is properly considered low-level waste, see CLI-05-5, 61 NRC 22, 34 (2005), but cautioned that "low-level radioactive waste can encompass both those wastes suitable for near-surface disposal and those that may require greater isolation," id. at 32. The Commission also noted that contentions challenging LES's waste disposal cost estimates were pending before the Board, and that additional environmental or safety analysis might be required to resolve the issues raised by those contentions. See id. at 35.

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<sup>3</sup>(...continued)

NIRS/PC EC-4 challenges to the discussion of the environmental impacts relative to the construction and operation of a deconversion facility in favor of LES and the staff. See LBP-05-13, 61 NRC at 434-36. The Commission declined NIRS/PC's petition for review of that portion of the Board's decision. See CLI-05-28, 62 NRC 721, 726-31 (2005). Therefore, contention NIRS/PC EC-4 deconversion issues are no longer before this Board.

<sup>4</sup> In addition, to further clarify the scope of contention NIRS/PC EC-4 as then admitted, the Board modified the title of the contention to delete the words "and Disposal." See LBP-05-13, 61 NRC at 398.

Following the Commission's ruling on the low-level waste issue, on February 2, 2005, NIRS/PC filed with the Board a second motion for the admission of an amendment to EC-4, among others. See Motion on Behalf of Intervenors [NIRS/PC] For Admission of Late-Filed Contentions (Feb. 2, 2005) [hereinafter February Contention Motion]. With regard to EC-4, NIRS/PC referred to the Board's previous statement concerning the possibility of a renewed contention amendment motion based on the Commission's ruling on the low-level waste issue, and averred that the Commission ruling in CLI-05-5 raised new information on which the proposed amendment to contention NIRS/PC EC-4 appropriately was based. See id. at 1-5. Specifically, NIRS/PC again challenged the analysis in the DEIS of the environmental impacts of near-surface disposal methods and the analysis of estimated doses from geologic disposal, as well as raising a host of new issues purportedly related to DU disposal. See id. at 8-30. In particular with regard to the deep disposal impact concerns previously specified in paragraph C of its October 2004 amendment request, NIRS/PC declared in a paragraph K that:

K. . . . Staff also stated that doses from deep disposal of DU in a mine would be low and provided estimates of doses under a well water and river water scenario (DEIS Table 4-19) that are greatly below the limit of 25 mrem per year for [low-level waste] disposal. The estimates are said to be based on those in the CEC FEIS. However, NRC has declined to provide the methods and assumptions underlying the dose calculation. Moreover, doses in the DEIS are not broken down by radionuclide, and the totals are different from those in the CEC FEIS by nearly a factor of 2, with one notable exception. The difference may partly be explained by the NEF's generation of roughly twice the amount of DU of the CEC proposal. However, the estimate for the drinking water dose in the river scenario with a sandstone/basalt site is almost 54,000 times lower in the current DEIS than in the CEC FEIS. This discrepancy remains unexplained.

Id. at 17 (footnotes omitted).

In a May 3, 2005 ruling, the Board again declined to admit the proffered amendment to contention NIRS/PC EC-4 relative to the environmental impacts of DU disposal. See Licensing

Board Memorandum and Order (Ruling on NIRS/PC Late-Filed Contentions and Providing Administrative Directives) (May 3, 2005) at 9-11 (unpublished). Specifically, the Board found that the proffered amendment failed to meet both the standard for nontimely amendment of contentions and the general contention admissibility requirements, in that NIRS/PC did not demonstrate good cause for the untimely amendment and, in any event, raised issues outside the scope of the admitted contention and which did not have sufficient factual or expert opinion support. See id. at 10-11.

Prior to the Board's May 3 ruling on NIRS/PC's second motion to amend contention NIRS/PC EC-4, the Board held an evidentiary hearing in Hobbs, New Mexico, during which it took testimony and evidence from LES, NIRS/PC, and the staff on several contentions, including the contention NIRS/PC EC-4 challenges to the ER and DEIS discussions of deconversion impacts. See LBP-05-13, 61 NRC at 401-02; Tr. at 340-1692. On June 8, 2005, the Board issued its first PID regarding those contentions, determining, as relevant here, that NIRS/PC's contention EC-4 challenges could not be sustained in that the staff's analysis in the DEIS adequately discussed the impacts of the construction and operation of a DUF<sub>6</sub> deconversion facility. See LBP-05-13, 61 NRC at 436. Because the Board had not admitted any further amendment to EC-4, its PID relative to EC-4 represented its final determination with regard to that contention, see id. at 402 n.3, albeit one that could be appealed to the Commission, see id. at 446.

On June 23, 2005, NIRS/PC did in fact petition for Commission review of the Board's decision in LBP-05-13 with regard to each of the contentions litigated at the February 2005 hearing. See Petition on Behalf of [NIRS/PC] for Review of First Partial Initial Decision on Environmental Contentions (June 23, 2005). As is relevant here, NIRS/PC averred that "[t]he Board erred in refusing to allow NIRS/PC to show the environmental impacts of waste disposal"

when it declined to admit the amendments to contention NIRS/PC EC-4 proffered by NIRS/PC in October 2004 and February 2005. See id. at 14-15.

In an October 19, 2005 issuance, the Commission ruled that “the Board erred in not admitting for hearing an amended contention on the environmental impacts of depleted uranium disposal.” CLI-05-20, 62 NRC at 524. In this regard, the Commission directed the Board to consider the text and bases of the October 2004 amendment proffered by NIRS/PC, and to address the February 2005 motion only to the extent it legitimately amplified or elaborated upon the arguments made in the October 2004 motion. See id. at 532, 533 n.49. Further, in remanding the contention NIRS/PC EC-4 “impacts” matters to the Board, the Commission indicated that the issues likely could be given consideration in conjunction with the Board’s upcoming evidentiary hearing on various other NIRS/PC contentions, or could be amenable to summary disposition. See id. at 524-25, 533 n.48. And with respect to the latter procedural mechanism, the Commission made specific mention of an issue raised by NIRS/PC in paragraph C of its October 2004 contention motion about the adequacy of the DEIS models used for deep disposal impacts analysis, stating:

NIRS/PC’s support for their challenge to the DEIS estimate of doses from a geological repository is more sparse. They question whether the DEIS used the same models used in the earlier Claiborne proceeding because, they say, it is not clear how the DEIS used the earlier Claiborne dose estimates to calculate new estimates. Given corrections made in the FEIS, this issue appears amenable to summary disposition. Significantly, the NRC staff in the FEIS clarified that the same models used in the Claiborne proceeding were used, and apparently has corrected the DEIS dose discrepancy highlighted by NIRS/PC. See LES FEIS (NUREG-1790), Vol. 1 at 4-64. If NIRS/PC actually mean to challenge the dose estimates used in the Claiborne proceeding, such a challenge appears untimely, given that the LES Environmental Report said that it was relying on the Claiborne dose estimates. Similarly, if NIRS/PC seek to challenge the dose analysis because it is based upon two representative disposal sites, such a claim seemingly also could have been based upon the Environmental Report, which addressed the same two representative sites.

Id. at 533 n.48.

On October 24-27, 2005, the Board held the scheduled evidentiary hearing on the subject of the remaining admitted NIRS/PC contentions, see Tr. at 1738-3179,<sup>5</sup> and, with the agreement of the parties, heard testimony and received evidence from each of the parties regarding the sufficiency of the staff's review in the FEIS of the impacts of disposal of depleted uranium from the NEF, see Tr. at 2607-3083. During that hearing, the Board also heard argument on an October 25, 2005 LES motion in which it asserted, among other things, that the NIRS/PC paragraph C-based challenges should be dismissed as moot. The Board declined to accept that LES assertion, and instead directed that the staff and NIRS/PC file dispositive motions regarding the matters at issue in paragraph C. See Tr. at 2597-2600.

Following the conclusion of the October 2005 evidentiary hearing, NIRS/PC filed a motion with the Board, once again seeking the admission of an amendment to contention NIRS/PC EC-4. See Motion on Behalf of Intervenors [NIRS/PC] For Admission of Supplemental and Additional Late-Filed Contentions Under 10 CFR 2.309(c) (Nov. 11, 2005) [hereinafter November Contention Motion]. Specifically, with that motion NIRS/PC seeks to add two paragraphs challenging as insufficient the FEIS analysis of the impacts of waste disposal, in that (1) the staff's discussion of near-surface disposal of large amounts of depleted uranium from an enrichment facility did not satisfy its obligation to take a "hard look" at the impacts of such disposal, and (2) the FEIS fails adequately to disclose the models and parameter values used in its analysis of the impacts of deep geologic disposal, and the results of that analysis cannot be reproduced by NIRS/PC based on the available information. See id. at 8-14. LES

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<sup>5</sup> Although the October 2005 evidentiary hearing was conducted as a nonpublic session because of concerns about the use of proprietary information, redacted versions of the transcripts for those proceedings subsequently were placed on the public record and are available via the agency's Agencywide Documents Access and Management System (ADAMS) electronic document search and retrieval system. See Licensing Board Memorandum (Public Availability of Previously Withheld Transcripts and Exhibits From October 2005 Evidentiary Hearing) (Jan. 9, 2006) (unpublished).

and the staff filed responses to this motion on, respectively, November 28 and 29, 2005, each objecting to the admission of any additional amendment to contention NIRS/PC EC-4 on both timeliness and general admissibility grounds. See NRC Staff Response to Motion on Behalf of Intervenors [NIRS/PC] For Admission of Supplemental and Additional Late-Filed Contentions Under 10 C.F.R. § 2.309(c) (Nov. 29, 2005); [LES] Response to Intervenors' Supplemental and Additional Late-Filed Contentions (Nov. 28, 2005). The Board issues a separate ruling today on that motion, denying the NIRS/PC request to amend/supplement contention NIRS/PC EC-4. See Contention Amendment Ruling at 16-17. To the extent that ruling impacts the issues before the Board in the context of NIRS/PC's most recent motion to amend EC-4, we discuss those implications in the context of our ruling herein.

Relatedly, while this NIRS/PC contention motion was pending before the Board, the staff and NIRS/PC filed motions for full or partial summary disposition of a portion of remanded contention NIRS/PC EC-4, which are the subject of the Board's instant ruling. See NRC Staff Motion for Summary Disposition (Nov. 18, 2005) [hereinafter Staff Dispositive Motion]; Motion for Partial Summary Disposition Submitted on Behalf of Intervenors [NIRS/PC] (Nov. 18, 2005) [hereinafter NIRS/PC Dispositive Motion]. These cross-motions were followed by responses from LES, NIRS/PC, and the staff to the positions of the other parties, as well as NIRS/PC and staff replies to those responses. See NRC Staff Reply to Responses of LES and NIRS/PC to NRC Staff's Motion for Summary Disposition (Dec. 8, 2005) [hereinafter Staff Reply]; Reply on Behalf of Intervenors [NIRS/PC] to Response by [LES] to NRC Staff Motion for Summary Disposition and to NIRS/PC Motion for Partial Summary Disposition (Dec. 8, 2005) [hereinafter NIRS/PC Reply]; [LES] Response to Motions for Summary Disposition Filed by NRC Staff and by [NIRS/PC] (Nov. 28, 2005) [hereinafter LES Response]; NRC Staff Response to NIRS/PC's Partial Motion for Summary Disposition (Nov. 28, 2005) [hereinafter Staff Response]; Response

on Behalf of [NIRS/PC] to NRC Staff Motion for Summary Disposition (Nov. 28, 2005) [hereinafter NIRS/PC Response]. Below, we describe the positions set forth in those dispositive motions and the responses and/or replies of the various parties to the staff and NIRS/PC motions.

B. Staff and NIRS/PC Dispositive Motions and Parties' Responsive Pleading

1. Staff Dispositive Motion

In its dispositive motion, the staff asserts it is entitled to summary disposition regarding that portion of contention NIRS/PC EC-4 in which NIRS/PC contends that the staff's environmental impact analysis fails to support or explain the modeling of disposal of depleted uranium. In support of its motion, the staff provides a statement of material facts not in issue that lists nine items, as well as the affidavits of (1) Dr. Donald E. Palmrose, a staff contractor who asserts he developed or contributed to the DEIS and FEIS sections and appendices outlining both the public and occupational health impacts of the proposed NEF under normal operations and the waste management impacts, included disposal of depleted uranium; and (2) Dr. Rateb Abu-Eid, a senior level advisor on waste management and environmental protection in the NRC's Office of Nuclear Material Safety and Safeguards, who declares he reviewed the dose impact analysis regarding deep disposal of depleted uranium that was presented in Appendix A of the CEC FEIS. See Staff Dispositive Motion; id., Statement of Material Facts on Which No Genuine Dispute Exists at 1-3 [hereinafter Staff Material Facts Statement]; id. attach. A at 1 (Affidavit of Donald E. Palmrose) [hereinafter Palmrose Aff.]; id. attach. B at 1-2 (Affidavit of Dr. Rateb Abu-Eid) [hereinafter Abu-Eid Aff.].

According to the staff, in its remand determination relative to contention NIRS/PC EC-4, the Commission limited the matter sent back to the Board, at least with regard to the matters raised by paragraphs C and K, to the question of whether the DEIS for the NEF failed to

disclose the models or parameters used in assessing the impacts of mine disposal. The Commission did not, the staff declares, send back any NIRS/PC assertions in its October 2004 or February 2005 supplemental filings seeking to challenge the use of two hypothetical disposal sites, given that the LES ER utilized those same two sites in its disposal impacts analysis and such use was not contested by NIRS/PC. Further, according to the staff, the Commission directed the Board to focus only on the terms and bases, here paragraph C, of the contention supplement submitted in October 2004 rather than the February 2005 filing, except to the extent the later filing elaborated on issues already raised in the October motion. The staff thus declares that the language at issue relative to the October 2004 contention supplement concerns only the question of the adequacy of the models used in analyzing the CEC site by reason of the fact that the results reported in Table 4-19 the NEF DEIS were unlike any reported in connection with the CEC facility, with the additional elaboration from the February 2005 filing that (a) the staff had failed to provide the methods and assumptions underlying the dose calculation; (b) the estimate for drinking water dose in a river scenario in connection with a sandstone/basalt site is almost 54,000 times lower in the NEF DEIS than in the CEC FEIS; and (c) the total dose estimates are different from those in the CEC FEIS by nearly a factor of two. See Staff Dispositive Motion at 4-5.

In addition, to provide background regarding the staff's view as to the matters properly in contest with regard to the modeling of deep disposal impacts, the staff explains in its motion that Table 4-19 of the NEF DEIS, which addresses deep disposal dose estimates, was developed based on the 1994 CEC FEIS which, in turn, looked at two postulated/generic mine disposal sites, one in granite and one in sandstone/basalt. Further, according to the staff, the modeling for the CEC FEIS included potential water impacts at the sites and was based on the assumption that contaminated water would discharge into a well or river (referred to as the well

scenario and river scenario, respectively). As part of its analysis for the NEF DEIS, the staff concluded that it was appropriate to utilize the CEC modeling analysis in the DEIS with respect to the parameters used and, therefore, relied upon those CEC results in developing the NEF EIS disposal impacts assessment. See id. at 5-6; Staff Material Facts Statement at 2-3 (¶¶ 4-6).

As to the purported error identified in the NIRS/PC issue statement, the staff declares that while the CEC FEIS divided the well and river scenario data into two separate tables (Tables A.7 and A.8, respectively), the NEF DEIS consolidated the relevant information into one table (Table 4-19). Further, the staff indicates, the CEC FEIS listed the estimated dose from each associated radionuclide separately, while the NEF DEIS listed the sum of the dose estimates from all the associated radionuclides, which the staff then further revised upward to account for the expected increased quantity of waste material from the NEF relative to the CEC. See Staff Dispositive Motion at 6-7. Finally, the staff notes that the June 2005 FEIS for the NEF also contains a Table 4-19, see id. at 7, which, as we discuss below, is substantially the same as Table 4-19 contained in the DEIS.

Relative to the issues it asserts are properly presented by the Commission remand, the staff declares that the NIRS/PC concern about the lack of conformity between the CEC and NEF environmental statements, despite the use of the same models for analyzing the disposal impacts, involved a typographical error that was later corrected in the NEF FEIS. Also, the staff maintains, the methodology it used in translating the CEC-related analysis to the specific circumstances of the NEF project has been fully disclosed and was used to generate the Table 4-19 values in the FEIS. See id. at 8.

In this regard, the staff asserts that challenges to many aspects of this methodology by principal NIRS/PC witness Dr. Arjun Makhijani were litigated in the CEC case and upheld by the

Licensing Board there, which also found reasonable the staff's environmental analysis of dose estimates relative to the CEC facility. Moreover, according to the staff, its reliance upon the CEC NEPA analysis for compiling the NEF DEIS was based on a separate staff determination that the CEC analysis was appropriate and reasonable, an analysis that was recently confirmed by Dr. Abu-Eid. This, the staff asserts, is sufficient to justify incorporating the CEC analysis into the NEF DEIS and FEIS. See id. at 9-10; Staff Material Facts Statement at 3 (¶¶ 6, 9).

As to the specific challenges to the reported results of using that analysis in the DEIS, the staff recognizes there was an error in the text of the CEC FEIS relative to the figure for the total dose estimate for the river scenario drinking water pathway for the sandstone/basalt site in Table A.8, which should have been  $1.6 \times 10^{-14}$  Sievert ( $1.6 \times 10^{-9}$  millirem) rather than the listed  $1.6 \times 10^{-9}$  Seivert ( $1.6 \times 10^{-14}$  millirem). Staff incorporation of this incorrect value into the NEF DEIS resulted in the NEF radiological dose listed in Table 4-19 being 54,000 times lower than in the CEC FEIS, a mistake the staff corrected in the NEF FEIS (namely, a change from  $3 \times 10^{-16}$  millisievert ( $3 \times 10^{-14}$  millirem) to  $3 \times 10^{-11}$  milliseivert ( $3 \times 10^{-9}$  millirem)). Additionally, the staff notes that it corrected a second typographical error by changing the river scenario drinking water pathway dose for the granite disposal site from  $3 \times 10^{-11}$  millirem to  $9 \times 10^{-11}$  millirem. See Staff Dispositive Motion at 10-11; Staff Material Facts Statement at 3 (¶ 7).

The staff further declares that the NIRS/PC concern that the total dose estimates for the NEF DEIS and the CEC FEIS differ by a factor of nearly two is adequately explained in the NEF FEIS in its recognition that potential impacts from the disposal of NEF depleted uranium for similar geologic sites would be proportional to the postulated quantity of material. According to the staff, since there is a larger quantity of NEF material (i.e., 157,000 metric tons for NEF versus 91,000 metric tons for CEC, or 1.72 times as much for the NEF), the estimated doses

stated in the NEF DEIS reflected that difference relative to those stated in the CEC FEIS. See Staff Dispositive Motion at 11-12; Staff Material Facts Statement at 3 (¶ 8).

As noted above, relative to the NIRS/PC challenge in the October 2004 amended contention that the DEIS addresses only two hypothetical deep disposal sites, the staff asserts that this matter is not subject to further litigation because the Commission did not disagree with the Board's ruling that this aspect of the amendment was foreclosed as untimely, given that the LES ER also relied upon the two hypothetical site approach. There being no significant difference between the ER and the DEIS/FEIS, rejection of this portion of the contention as untimely was appropriate. Additionally, the staff asserts, even if this matter is properly before the Board, summary disposition in favor of the staff is appropriate because, as was the case at the time the adequacy of the CEC FEIS was litigated, there is no currently existing licensed mine, or any pending application to license such a facility, so as to preclude a site-specific assessment of deep disposal impacts. See Staff Dispositive Motion at 13-15.

Finally, in its motion the staff takes issue with several items raised by NIRS/PC at the October 2005 evidentiary hearing that it considers new claims, asserting that these should be denied for failure to submit them as late-filed contentions, or amendments to existing contentions. Further, asserts the staff, as a substantive matter those new claims fail based on the affidavits of Dr. Palmrose and Dr. Abu-Eid, which demonstrate the CEC dose impact analysis was reasonable and appropriate for the NEF EIS, as well as Dr. Palmrose's explanation of how the values for Table 4-19 of the NEF FEIS were generated. See id. at 15.

## 2. NIRS/PC Dispositive Motion

In their dispositive motion, based on a statement of material facts not in dispute that includes eighteen items and the attached declarations of Dr. Arjun Makhijani, Director of the Institute for Energy and Environmental Research, and professional hydrologist George Rice,

NIRS/PC asserts that relative to the NEF DEIS and FEIS, they are entitled to judgment in their favor regarding contention NIRS/PC EC-4 to the degree that those environmental documents contain dose results relative to deep disposal of DU that lack a demonstrable basis in scientific data or analysis, and because the dose estimates grossly understate the potential impacts of such disposal. See NIRS/PC Dispositive Motion at 2-3; id., Statement of Undisputed Facts Submitted on Behalf of Intervenors [NIRS/PC] in Support of Motion for Partial Summary Disposition [hereinafter NIRS/PC Material Facts Statement]; id., Declaration of Arjun Makhijani; id., Declaration of George Rice.

Initially NIRS/PC asserts that, because scientific results can have no credibility if they cannot be reproduced from source data, and because the CEC FEIS does not include the necessary source data or disclose the modeling methodology used sufficient to allow reproduction of the Table 4-19 results, the information in the CEC FEIS cannot be given any credence. NIRS/PC also maintains that while the stated NEF DEIS results regarding the DU disposal impacts appear to be consistent with the stated DEIS premise that NEF impacts will be proportional to the CEC based on disposal quantities (i.e., a ratio of 1 to 1.72), both in its response to a NIRS/PC interrogatory requesting impact modeling information and in the NEF FEIS, the staff has failed to provide any discussion of the waste configuration as compared to the CEC FEIS or any justification for concluding that asserted linear relationship is appropriate. See NIRS/PC Dispositive Motion at 3-4; NIRS/PC Material Facts Statement at 3, 5 (¶¶ 4, 7).

In particular, NIRS/PC finds that dose values for the CEC FEIS well-water scenario for the hypothetical granite and sandstone/basalt sites are much too low, with the former having a thorium concentration of one atom per liter while the latter has a uranium-234 ( $U_{234}$ ) concentration of one atom per 200 liters and a thorium concentration of one atom per 1.9 million liters. So too, according to NIRS/PC, the implied thorium concentration figure of two

atoms per liter and its radium-226 concentration of one atom per 28 liters for the CEC FEIS river scenario at the granite site is very low. Moreover, NIRS/PC declares, although the CEC FEIS states that depleted  $U_3O_8$  would be the disposal form for depleted uranium from that facility, their expert's analysis suggests that CEC modeling actually assumed, without explanation, the dominant solid phase for depleted uranium would be  $UO_2$ , which would produce solubility values that are lower by several orders of magnitude than would be produced for  $U_3O_8$ , such as to introduce a nonconservative bias into the analysis that would cause erroneous results. See NIRS/PC Dispositive Motion at 4-5, 8-9; NIRS/PC Material Facts Statement at 5.

In addition, aside from asserting the CEC FEIS groundwater flow and radionuclide transport modeling analyses are inadequate because the specifics of such modeling are not adequately disclosed in the CEC FEIS and so cannot be reproduced, NIRS/PC also declares the reference on page A-13 of the CEC FEIS to a retardation coefficient in the range of 1,200 is another nonconservatism that would cause erroneous results. Finally, NIRS/PC maintains that without knowing the specific parameter values used at each step of the CEC modeling exercise, the data source for the values, and how the models were used in conjunction with such values, it is impossible to discern what other errors lie behind the modeling results reported in the CEC FEIS, or may have been transferred to Table 4-19 of the NEF DEIS and FEIS. See NIRS/PC Dispositive Motion at 5-6, 8-9; NIRS/PC Material Facts Statement at 6-7. According to NIRS/PC, by seeking to quantify the environmental impacts of the NEF without sufficient supporting data or a sufficient explanation, the NEF DEIS and FEIS violate NEPA. See NIRS/PC Dispositive Motion at 6-8 (citing 10 C.F.R. §§ 51.45, 51.71; Land Council v. Powell, 395 F.3d 1019, 1027 (9th Cir. 2005); Boston Edison Co. (Pilgrim Nuclear Generating Station,

Unit 2), ALAB-479, 7 NRC 774, 779 (1978); Duke Energy Corp. (Catawba Nuclear Station, Units 1 and 2), LBP-04-4, 59 NRC 129, 149 (2004)).

The result of these various errors or uncertainties, according to NIRS/PC, is to render the NEF DEIS and FEIS analyses of deep disposal impacts inadequate under NEPA and the relevant Commission rules so as to require a new staff impacts analysis.

### 3. LES Response to Staff and NIRS/PC Dispositive Motions

In its response to the staff and NIRS/PC motions, LES asserts that, given the scope of what is actually before the Board in conjunction with the Commission remand, the staff clearly is entitled to summary disposition. According to LES, the remanded issue concerns only whether the NEF DEIS/FEIS are based on the same models used in connection with the CEC FEIS, and how they were used, matters LES asserts are amenable to summary disposition in accordance with the staff motion. See LES Response at 8.

Initially, LES declares there can be no dispute regarding the staff's reliance in preparing the NEF DEIS and FEIS upon the results of the CEC FEIS analysis, as emphasized in a November 2004 staff interrogatory answer. Additionally, LES asserts that in its dispositive motion the staff recognizes and addresses fully the three items that NIRS/PC added in its February 2005 elaboration on its October 2004 attempt to supplement contention EC-4, namely that (1) the staff had declined to provide the methods and assumptions underlying its DEIS/FEIS dose calculations, (2) the total dose estimates are different from those in the CEC FEIS by nearly a factor of two, and (3) the estimate for the river dose scenario with a sandstone/basalt site is almost 54,000 times lower in the DEIS than in the CEC FEIS, so as to render all those matters moot. As to the first item, LES points to the discussion in Dr. Abu-Eid's affidavit regarding the methodology underlying the CEC analysis, as well as the fact that the methodology is amply discussed in the CEC FEIS at pages 4-46 to 4-48 and Appendix A.

Regarding the second point, the factor of two difference, LES avers that this is fully explained by the staff as based on the greater production of DU at the NEF relative to the CEC. So too, LES maintains, the issue of the NEF DEIS river dose scenario estimate that is purported to be 54,000 times lower is fully dealt with by the staff in its acknowledgment that this was caused by an error in the CEC FEIS text (which was improperly transferred to the NEF DEIS, rather than the correct value from the CEC FEIS tables) and later corrected in the NEF FEIS. In addition, LES declares, the staff has acknowledged a second FEIS correction regarding a typographical error that, as Dr. Palmrose explained, was corrected by changing the river scenario drinking water pathway dose for the granite disposal site. See id. at 8-11.

Additionally, LES finds that the seven items NIRS/PC seeks to assert in its dispositive motion relative to the FEIS are, in fact, an attempt to raise untimely challenges to the adequacy of the CEC FEIS. Noting that many of the issues are also raised in the context of the pending November 2005 NIRS/PC motion to amend contention EC-4, LES declares that because its ER for the NEF identified and relied upon the CEC FEIS dose evaluation, all these NIRS/PC concerns about the CEC FEIS analysis were untimely. See id. at 11-13. LES also asserts that the NIRS/PC challenge to the staff's reliance on the CEC FEIS dose analysis based on its failure to provide a detailed explanation of the CEC analysis sufficient to allow that analysis to be recreated and retested is inconsistent with prior Board and Commission rulings in this case regarding the propriety of staff reliance on a Department of Energy (DOE) programmatic environmental impact statement (PEIS) and site-specific FEISs relative to DOE's Portsmouth and Paducah deconversion facilities. See id. at 14-15 (citing CLI-05-28, 62 NRC at 730; LBP-05-13, 61 NRC at 405).

4. Staff Response to NIRS/PC Dispositive Motion

In its response to the NIRS/PC motion, the staff asserts initially that the sandstone/basalt site river scenario drinking water dose and the “factor of 2” total dose estimate matters regarding the NEF DEIS that were the focus of the Commission’s remand were not addressed by NIRS/PC in its motion. Instead, according to the staff, NIRS/PC now seeks to focus on purported deficiencies in the NEF FEIS relative to its reliance upon the CEC FEIS, which it can only do by way of the late-filed contention amendment that is pending separately with the Board. Moreover, according to the staff, because the NEF ER and the staff’s DEIS for that facility clearly relied upon the CEC FEIS, such a late-filed amendment raising these new challenges to the CEC FEIS analysis in the context of the NEF FEIS is not admissible. See Staff Response at 6-7.

And as to the specific NIRS/PC challenges to the FEIS as set forth in its motion and the supporting statement of material facts not at issue, the staff contests the last twelve issue statements by NIRS/PC. It asserts that a NIRS/PC challenge to the use of two representative sites, as opposed to performing a site-specific analysis, is immaterial as not within the scope of the Commission remand regarding contention NIRS/PC EC-4. The staff finds the other eleven items raising various NIRS/PC concerns regarding the NEF FEIS are outside the scope of the remand and so immaterial as well. In addition, however, it declares that the Commission in CLI-05-28 recently rejected the NIRS/PC view regarding the need for extensive staff re-analysis and explanation prior to incorporation of other analyses and data into an environmental impact statement. Instead, the staff maintains, such incorporation is appropriate after reasonable and appropriate consideration by responsible personnel, as the staff has established was done here by the affidavits included with its dispositive motion. Moreover, as to the solubility value and retardation coefficient matters, the staff indicates that both are merely attempts to relitigate

matters already considered and rejected in the Claiborne proceeding based on the distinction between near-surface and deep disposal. Finally, the staff urges the Board to reject the NIRS/PC arguments that extremely low doses in the CEC FEIS impacts analysis are indicative of significant analytical errors that must be reviewed and corrected as conjecture in light of the staff's independent analysis of the CEC FEIS's deep disposal impacts analysis and the fact that the CEC FEIS emplacement horizons were envisioned as being well below the water table.

See id. at 8-12 & n.12.

5. NIRS/PC Response to Staff Dispositive Motion

NIRS/PC asserts in its response that the staff's attempt to support its failure to provide an adequate explanation regarding the basis for its reliance upon the CEC FEIS in analyzing deep disposal impacts with the affidavits of staff witnesses stating they found the analysis "reasonable," does not comport with the requirements of NEPA, implementing NRC regulations, and agency and judicial precedent that require the agency to set forth the data and methodologies underlying its analyses rather than rely on mere assertions. See NIRS/PC Response at 3, 9. NIRS/PC asserts that because the staff is unable to explain how the results in Table 4-19 were derived in the face of assertions by NIRS/PC experts that the information the staff made available in the CEC FEIS and the NEF FEIS is insufficient to reproduce the results the staff published, summary disposition is inappropriate. Indeed, according to NIRS/PC, a careful reading of the staff affidavits makes clear that the staff itself did not try to reproduce the CEC modeling and results, and in fact did not have access to a number of the critical elements necessary to undertake that analysis. Rather, the staff merely looked at what was available and declared it "reasonable," a critique that is insufficient to support summary disposition, particularly in the face of Dr. Makhijani's declaration that the supposed analysis of

deep disposal impacts produces incredibly low dose values and grossly differs from two recent analyses of the same subject. See id. at 2-6.

Finally, in its response NIRS/PC also takes issue with the relevance of the staff reference to the fact that some issues relative to the CEC FEIS deep disposal analysis were litigated previously, given that NIRS/PC was not a party to that litigation and, in any event, the Claiborne Licensing Board's holdings on those matters were vacated following the withdrawal of the CEC application. Also inapposite, NIRS/PC asserts, is the Commission's recent holding regarding staff reliance upon the NEPA analyses of other agencies, given that here, unlike in the case of its reliance upon the DOE PEIS, the staff does not have the supporting documentation to review, but must rely on a rubber stamp assertion of reasonableness for a study that cannot be reproduced or defended. See id. at 8-10.

#### 6. Staff Reply to LES and NIRS/PC Responses

Again asserting that the Commission's remand provides only for consideration of issues raised in the October 2004 NIRS/PC contention motion, as elaborated on in their February 2005 motion, the staff reiterates that NIRS/PC has done nothing to counter the validity of its showings regarding the sandstone/basalt site river scenario drinking water dose and the "factor of 2" total dose estimate matters regarding the NEF DEIS, and that, relative to the CEC FEIS, the staff has complied with recent Commission guidance regarding reliance on an EIS prepared by another entity. The staff also rejects the NIRS/PC arguments regarding the application of 10 C.F.R. § 51.45 and 51.71, asserting that neither provides a basis for providing an EIS description to such a level of detail that it can be duplicated by members of the public, so as to permit an individual to run applicable computer codes or make other detailed computations. So too, the staff finds the Catawba and Lands Council cases cited by NIRS/PC to be inapposite, the former because it stands only for the proposition that the staff must provide an impact

analysis in quantitative rather than qualitative terms if it has the relevant information, while the latter makes no holding about the level of scientific detail that must be included in an EIS discussion. Finally, the staff declares that its reference to Dr. Makhijani's challenges to the CEC FEIS in the Claiborne case was posited as support for the proposition that the CEC FEIS analysis apparently was sufficiently detailed to permit him to raise a challenge in that instance, though not then a witness for or representative of NIRS/PC. See Staff Reply at 4-9.

7. NIRS/PC Reply to LES Response

In its reply to the LES response, NIRS/PC makes three points. NIRS/PC first declares that the argument that a challenge should have been made to the LES ER in the first instance is inapposite because the LES reference to the CEC FEIS in the ER did not contain the dose results that the staff have presented in Table 4-19, either as issued in the DEIS or corrected in the FEIS. According to NIRS/PC, it was not required to scour the entire CEC FEIS for errors based on an LES reference to that document as establishing that estimated deep disposal facility impacts would be "less than 0.25 [millisieverts per year] (25 [millirem per year])." See NIRS/PC Reply at 2-6 (citing NIRS/PC Exh. 133, at 4.13-14 (National Enrichment Facility, Environmental Report, Ch. 4, Revision 2 (July 2004))). NIRS/PC further maintains that 10 C.F.R. § 2.309 requires that contentions addressing deficiencies in NEPA documents be based on those documents, not other documents to which those NEPA documents might refer, and are required to be put forth only when the disclosure at issue is published. NIRS/PC asserts that it had no obligation to go behind the ER and examine documents referred to in the ER, or seek deficiencies in those documents or advance contentions about such documents that are not part of the NEPA disclosure for the NEF. Rather, under section 2.309, only when the DEIS was issued with Table 4-19 did NIRS/PC have any obligation to advance a contention, given that the DEIS differed significantly from the ER in this regard. NIRS/PC also declares

that the Commission's remand decision did not in any way decide this issue, but left it to the Board to decide based on any analysis of the specific factual situation relative to the NEF ER. See id. at 5-8.

In response to the LES claim that the NIRS/PC contention is moot as to deep disposal because the staff has explained how they took the figures from the CEC FEIS, made adjustments and errors, and later fixed the errors, NIRS/PC again states that the staff's assertion that it finds the CEC FEIS analysis reasonable is not enough to provide the needed scientifically-traceable trail, particularly when the ER did not contain or make reference to the dose results in Appendix A to the CEC FEIS, the source for Table 4-19. Nor is the LES claim that NIRS/PC has failed to challenge the CEC FEIS analysis of any significance, NIRS/PC asserts, because this fails to recognize that the CEC analysis only has meaning in the context of the NEF DEIS, where it was used by the staff to justify Table 4-19. See id. at 8-11.

Finally, as to the LES argument that the staff can rely upon the CEC FEIS analyses in projecting impacts, NIRS/PC argues that there are limits to the staff's power to use analyses in previous documents. According to NIRS/PC, the critical solubility values are undeniably low, but the input data used for the CEC calculations cannot be reproduced. Because the agency cannot understand the CEC analyses in order to conduct an assessment of those analyses, NIRS/PC declares, it has no legitimate basis for making a decision regarding the validity of the analysis. See id. at 12.

## II. ANALYSIS

### A. Dispositive Motion Standard

The well-established standard governing the grant of summary disposition under 10 C.F.R. § 2.710<sup>6</sup> has been described as follows:

Under 10 C.F.R. § 2.749(a), (d), summary disposition may be entered with respect to any matter (or all of the matters) in a proceeding if the motion, along with any appropriate supporting material, shows that there is “no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law.” The movant bears the initial burden of making the requisite showing that there is no genuine issue as to any material fact, which it attempts to do by means of a required statement of material facts not at issue and any supporting materials (including affidavits, discovery responses, and documents) that accompany its dispositive motion. An opposing party must counter each adequately supported material fact with its own statement of material facts in dispute and supporting materials, or the movant’s facts will be deemed admitted. See Advanced Medical Systems, Inc. (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102-03 (1993).

Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-02-20, 56 NRC 169, 180 (2002).

B. Application to Staff and NIRS/PC Dispositive Motions

The parties’ motions present several different issues for resolution, which we deal with below.

1. Challenges to DEIS Figures Regarding “Factor of 2” and “54,000 Times Lower Dose”

Although there is a substantial dispute among the parties concerning the scope of the Commission’s remand to the Board regarding contention NIRS/PC EC-4, one thing that is clear is that the Commission returned to the Board for further consideration the merits of the two particular DEIS discrepancies alluded to by NIRS/PC in their October 2004 contention

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<sup>6</sup> Prior to the January 2004 revision of the NRC’s Part 2 procedural rules, 10 C.F.R. § 2.749 governed summary disposition motions. Although the rule regarding summary disposition now appears in section 2.710, such change had no substantive impact on the standards governing dispositive motions. See 69 Fed. Reg. 2182, 2219 (Jan. 14, 2004).

amendment and set forth specifically in their February 2005 supplement, namely (1) the staff-acknowledged exponent transposition error in CEC FEIS Table A.8 sandstone/basalt site river scenario drinking water pathway total dose estimate (i.e., the listed  $1.6 \times 10^{-9}$  Seivert ( $1.6 \times 10^{-14}$  millirem) should have been  $1.6 \times 10^{-14}$  Sievert ( $1.6 \times 10^{-9}$  millirem)), that resulted in the NEF DEIS Table 4-19 radiological dose being 54,000 times lower than in the CEC FEIS; and (2) the depleted uranium disposal total dose estimates for the CEC FEIS and the NEF DEIS differing by a factor of nearly two. In its motion, as supported by the accompanying affidavit of Dr. Palmrose, the staff explained that the former error was corrected in the NEF FEIS by a change in Table 4-19 from  $3 \times 10^{-16}$  millisievert ( $3 \times 10^{-14}$  millirem) to  $3 \times 10^{-11}$  millisievert ( $3 \times 10^{-9}$  millirem),<sup>7</sup> while the latter is explained fully in the NEF FEIS with its recognition that potential impacts from the disposal of NEF depleted uranium for similar geologic sites would be proportional to the postulated quantity of material, meaning that the larger quantity of NEF material, i.e., 157,000 metric tons for the NEF versus 91,000 metric tons for the CEC, or 1.72 times as much for the NEF, correlates to the estimated difference in doses between the NEF DEIS and the CEC FEIS.

As the staff points out in its responsive filings, NIRS/PC has not presented a substantive challenge to the validity of either of these corrections, other than in the context of its general assertions that (1) the purported linear relationship between the “factor of 2” difference in the CEC and NEF doses as being based on the differences in the amount of DU produced at each facility has not been established; and (2) the CEC FEIS impacts analysis for depleted uranium disposal cannot be utilized to support any aspect of the staff’s environmental analysis

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<sup>7</sup> The second typographical error in the NEF FEIS regarding the river scenario drinking water pathway dose for the granite disposal site, which required a change in Table 4-19 from  $3 \times 10^{-11}$  millirem to  $9 \times 10^{-11}$  millirem for that scenario pathway, see Staff Dispositive Motion at 11, has not been the subject of any NIRS/PC challenge.

for the NEF because the staff is unable to provide the information necessary to allow NIRS/PC to reproduce this information. We address the latter challenge in section II.B.3 below. As to the former, in the context of contention EC-4 as admitted by the Commission, in which NIRS/PC, while acknowledging that the quantity of DU at issue at least “partly” explained the difference, proffered as a challenge only that the estimate for the drinking water dose in the river scenario with a sandstone/basalt site is almost 54,000 times lower in the DEIS than in the CEC FEIS, see February Contention Motion at 17, the failure of NIRS/PC now to raise any challenge to the staff’s correction in the NEF FEIS of the “54,000 times lower dose” item essentially renders this aspect of the remanded NIRS/PC challenge moot. In other words, NIRS/PC has raised no litigable challenge to the “factor of two” relationship,<sup>8</sup> and has likewise set forth no challenge to the staff’s correction in the NEF FEIS of that error resulting in a reported dose in the DEIS approximately 54,000 times lower than that reported in the CEC FEIS. Accordingly, as to this aspect of contention NIRS/PC EC-4 as remanded by the Commission, the Board finds that the staff has established that there are no disputed material factual issues and that the staff is entitled to judgment in its favor as a matter of law.

## 2. Other Challenges to DEIS/FEIS Deficiencies

In addition to the two error corrections discussed in section II.B.1 above, the only other substantive difference between the NEF DEIS and FEIS is the revision in Table 4-19 of the figure for the river scenario drinking water pathway dose for the granite disposal site, which the staff has revised from  $3 \times 10^{-11}$  millirem to  $9 \times 10^{-11}$  millirem to correct a purported typographical error. Under the circumstances here, the validity and significance of this FEIS-related change

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<sup>8</sup> See Advanced Medical Systems, Inc. (One Factory Row, Geneva, Ohio 44041), CLI-94-6, 39 NRC 285, 306-07 (1994) (something more than suspicions or bald assertions are necessary as the basis for any purported material factual disputes), aff’d sub nom. Advanced Med. Sys., Inc. v. NRC, 61 F.3d 903 (Table) (6th Cir. 1995) (per curiam).

is a matter the Board would have allowed NIRS/PC to contest at this juncture, notwithstanding the fact that such a challenge otherwise might fall well outside of what would be considered timely under the late-filing standards of section 2.309(c) and (f)(2). See Tr. at 2597-98.

NIRS/PC has not mounted such a challenge here. Instead, in its partial summary disposition motion, NIRS/PC seeks to interpose a number of other challenges to the validity of the FEIS and the DEIS, many of which are repeated in a motion to admit a late-filed amendment to EC-4 that is also the subject of a separate Board ruling issued today, including assertions that CEC FEIS U<sub>234</sub> and thorium sandstone/basalt site drinking water dose concentrations and the thorium and radium-226 river scenario concentrations are “so low as to be incredible”; inappropriately low solubility values result from CEC modeling that assumes, without explanation, that the dominant solid phase for DU would be UO<sub>2</sub> rather than U<sub>3</sub>O<sub>8</sub>; and CEC modeling of flow of groundwater and transport of radionuclides, the specifics of which were not disclosed, used “inappropriately high retardation factors.” But these challenges to the CEC FEIS, applicable to the DEIS by reason of its incorporation of the CEC FEIS generic site-related analysis of deep disposal impacts, were not timely raised by NIRS/PC in contesting the DEIS. Given the scope and terms of the Commission’s remand, we are unable to see how these matters can be raised now.<sup>9</sup> Accordingly, relative to the NIRS/PC motion asserting it is entitled to partial summary disposition regarding the inadequacy of the NEF DEIS/FEIS based these matters, we deny that motion.

3. Challenge to Overall Validity of Staff DEIS/FEIS Analysis as Based on Unavailable CEC FEIS Analysis

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<sup>9</sup> It seems apparent from the Commission’s remand that it wishes the Board to consider, to the extent appropriate, the timeliness of any NIRS/PC challenges to the DEIS. See CLI-05-20, 62 NRC at 533 n.48.

In its second contention EC-4-related challenge to the validity of the NEF DEIS/FEIS now before the Board, NIRS/PC asserts that these documents, as well as the CEC FEIS upon which they rely, are inadequate to fulfill the agency's NEPA responsibilities. According to NIRS/PC, these environmental impact analyses fail to contain information that is adequate to enable other scientists to verify independently the dose results published in the DEIS/FEIS or, alternatively, to determine what other errors may be behind the modeling efforts underlying the CEC FEIS and, accordingly, the NEF DEIS/FEIS as they rely on the CEC FEIS.

We find this challenge unavailing for several reasons. Initially, we are unable to accept the apparent NIRS/PC postulate that a DEIS or FEIS is deficient per se unless its various NEPA findings include an explanation that is sufficient on its face to enable independent verification of any scientific results that underlie those findings. We are not aware of, nor has any party provided, judicial or agency authority that supports such a sweeping assertion.<sup>10</sup>

If there is a basis for this NIRS/PC challenge, it lies in the premise that, to the degree a staff NEPA statement employs a scientific or technical analysis to make a finding regarding an environmental cost, benefit, or impact, the statement should cite the report, study, or other scientific analysis upon which it relies so that the source that supports its conclusion is clear. By the same token, the source document should support the finding that the staff seeks to make in reliance on that reference. See CLI-05-28, 62 NRC at 730.

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<sup>10</sup> The Land Council, Pilgrim, and Catawba cases cited by intervenors NIRS/PC do not support the broad assertion that a DEIS/FEIS must contain information adequate to enable scientists to verify independently the dose impact or other results published in those documents or, alternatively, to determine what other errors may be behind the modeling efforts underlying those documents or referenced supporting documents, but rather stand for the much narrower proposition that the staff must provide an impact analysis in quantitative rather than qualitative terms if it has the information, albeit without making any holding regarding the level of scientific detail that must be included in such an EIS discussion. See 395 F.3d at 1027-28; ALAB-479, 7 NRC at 779; LBP-04-4, 59 NRC at 149-50, 165.

On this basis, we consider the nub of the NIRS/PC concern to be the validity of the CEC FEIS upon which the staff places obvious, primary reliance in making the DEIS/FEIS section 4.2.14.4 findings that are the central subject of the instant staff and NIRS/PC dispositive motions. And relative to the sufficiency of that report, putting aside the fact that principal NIRS/PC expert Dr. Makhijani is apparently intimately familiar with the CEC FEIS and its underlying scientific basis, albeit as the witness for another party in a prior LES case, see, e.g., Louisiana Energy Services, L.P. (Claiborne Enrichment Center), LBP-97-3, 45 NRC 99, 103 (1997), and the fact that, as the Commission recognized, there is a compelling argument that any CEC FEIS-related arguments should have been raised as part of the NIRS/PC challenge to the ER for the NEF, see CLI-05-20, 62 NRC at 533 n.48, the Board finds dispositive here the principal enunciated by the Commission in this case relative to staff reliance on a prior environmental impact statement, albeit one from another federal agency.

In CLI-05-28, 62 NRC at 730, the Commission affirmed this Board's holding, as part of its NEPA findings, that the staff could rely upon two DOE FEISs regarding environmental impacts expected from a DUF<sub>6</sub> conversion facility upon the basis that (1) the documents were publicly available; and (2) the NRC staff's expert had "assessed the reasonableness of the DOE assumptions, calculations, and conclusions, even though he did not redo its underlying calculations." In this instance, relative to the CEC FEIS previously prepared by the NRC staff, this document clearly is publicly available. Indeed, as we noted above, it was the subject of a previous adjudicatory hearing. Further, the Board has before it the affidavits of Drs. Palmrose and Abu-Eid, describing in detail how staff experts, in preparing the NEF DEIS and FEIS, as well as the supporting information for the staff's summary disposition motion, undertook a fresh review of the dose impact analysis contained in Appendix A to the CEC FEIS and concluded that, considering the generic nature of the analysis, the assumptions in the CEC FEIS Appendix

A deep disposal analysis appear to be reasonable and appropriate for application in assessing the possible deep disposal doses relative to DU generated by the NEF.<sup>11</sup>

To be sure, as the Board outlined in section II.B.2, .5 above, intervenors NIRS/PC have proffered information they assert establishes that the CEC FEIS analysis is suspect as applied to the NEF, thereby rendering the NEF DEIS/FEIS in noncompliance with NEPA. Nonetheless, given the Commission's recognition that redoing calculations from another environmental impact statement "would be a duplication of resources not required by law," id., and in light of the scope of contention NIRS/PC EC-4 as remanded by the Commission, we find that nothing

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<sup>11</sup> In this regard, Dr. Palmrose asserts that before the CEC FEIS analysis results were incorporated into the DEIS, a member of the staff's NEF EIS team with expertise in hydrology reviewed the information in the CEC FEIS regarding the parameters and the models that were used and determined that they, along with the analytical results they produced, were appropriate. Dr. Palmrose also states he discussed the CEC deep disposal analysis with Dr. Abe Zeitoun, the NEF DEIS Project Manager, who was also CEC FEIS Project Manager, who declared that analysis was still reasonable and appropriate for the proposed NEF. See Palmrose Aff. at 2.

For his part, Dr. Abu-Eid states that he also has recently reviewed the dose impact analysis regarding the deep disposal of  $U_3O_8$  presented in Appendix A to the CEC FEIS. According to Dr. Abu-Eid, that analysis, which was based on generic assumptions regarding two potential deep mine disposal sites, (1) provided a generic deep disposal site description and presented a summary of approaches and methodology of the dose analysis and estimates of the most sensitive flow path parameters, including hydraulic conductivity, flow area, and gradient; (2) identified certain chemical constituents of the deep groundwater with concentration ranges of these constituents, including the solubilities of uranium, thorium, and radium; (3) considered radionuclide transport through groundwater seeping vertically through the disposal facility to a more permeable unit (i.e., an aquifer); (4) assumed radionuclides would be dispersed horizontally through the aquifer by the predominately horizontal flow; and (5) analyzed two potential radiological exposure pathways, i.e., discharge in a river, and (under conditions not expected to occur), an individual obtaining water by drilling a deep well down-gradient from the disposal facility. While recognizing that CEC FEIS Appendix A did not provide detailed input and output of data and parameters and that a duplication of the Appendix A analysis cannot be made because of the lack of detailed input data and because some of the codes used in the assessment have been modified or updated, Dr. Abu-Eid nonetheless finds the assumptions for the deep disposal analysis in Appendix A of the CEC FEIS to be reasonable given the generic nature of the analysis, and further finds the analysis resulting from those assumptions to be reasonable and conservative considering the assumptions used for the exposure and transport scenarios. See Abu-Eid Aff. at 2-3.

presented by NIRS/PC creates a material factual dispute that precludes, or interposes a legal impediment to, a finding that the staff has established that it is entitled to summary disposition in its favor regarding the deep disposal impacts aspect of remanded contention NIRS/PC EC-4.<sup>12</sup>

### III. CONCLUSION

In connection with that aspect of Commission-remanded contention NIRS/PC EC-4, Impacts of Waste Storage and Disposal, concerning the NEF DEIS analysis of the impacts of deep disposal of NEF-generated DU, we conclude that (1) relative to intervenors NIRS/PC November 18, 2005 motion for partial summary disposition, summary disposition in their favor is not appropriate because the matters upon which they rely as a basis for their motion are not appropriately raised in the context of the issue as remanded by the Commission; and (2) relative to the staff's November 18, 2005 summary disposition motion, the staff having established there are no genuine issues as to any material fact and it is entitled to judgment as a matter of law regarding the deep disposal impact aspects of contention NIRS/PC EC-4 remanded by the Commission, a decision regarding this aspect of contention NIRS/PC EC-4 is rendered in favor of the staff.<sup>13</sup>

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<sup>12</sup> In its October 2004 paragraph C supplement, NIRS/PC makes reference to NEF DEIS and CEC FEIS use of two hypothetical deep disposal sites, which NIRS/PC suggests is a deficiency because disposal site performance "is highly site-specific." October Contention Motion at 16. Even putting aside (again) the Commission's suggestion that this claim is untimely as really relating to the ER for the NEF, see CLI-05-20, 62 NRC at 533 n.48, given the NIRS/PC acknowledgment that this objection is only another variation on its central concern that the information underlying the CEC FEIS analysis is unavailable, see NIRS/PC Response at 8-9, the Board considers its ruling regarding that concern to be dispositive of NIRS/PC's hypothetical site assertion as well.

<sup>13</sup> As is apparent from our rulings today regarding the NIRS/PC challenges to the staff's NEPA assessment of the impacts of deep disposal and the adequacy of the staff's analysis of  
(continued...)

For the foregoing reasons, it is this third day of March 2006, ORDERED that:

1. The November 18, 2005 motion for partial summary disposition of intervenors NIRS/PC regarding the Commission-remanded aspect of contention NIRS/PC EC-4 concerning the adequacy of the NEF DEIS analysis of the impacts of deep disposal of NEF-generated DU is denied.

2. The November 18, 2005 NRC staff motion for summary disposition regarding the Commission-remanded aspect of contention NIRS/PC EC-4 concerning the adequacy of the

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<sup>13</sup>(...continued)

the impacts of near-surface disposal, the staff has analyzed the environmental impacts of both depleted uranium disposal options. As such, we need not resolve now the question of whether deep geologic disposal should be mandated for the NEF depleted uranium, an issue we will address when we rule on the question of the cost of disposal relative to contentions NIRS/PC EC-5/Technical Contention (TC)-2 and EC-6/TC-3.

NEF DEIS analysis of the impacts of deep disposal of NEF-generated DU is granted and a decision regarding this facet of contention NIRS/PC EC-4 is rendered in favor of the staff.

THE ATOMIC SAFETY  
AND LICENSING BOARD<sup>14</sup>

/RA/

\_\_\_\_\_  
G. Paul Bollwerk, III  
ADMINISTRATIVE JUDGE

/RA/

\_\_\_\_\_  
Paul B. Abramson  
ADMINISTRATIVE JUDGE

/RA/

\_\_\_\_\_  
Charles N. Kelber  
ADMINISTRATIVE JUDGE

Rockville, Maryland

March 3, 2006

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<sup>14</sup> Copies of this memorandum and order were sent this date by Internet e-mail transmission to counsel for (1) applicant LES; (2) intervenors NIRS/PC; and (3) the staff.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
LOUISIANA ENERGY SERVICES, L.P. ) Docket No. 70-3103-ML  
 )  
 )  
(National Enrichment Facility) )

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM AND ORDER (RULING ON SUMMARY DISPOSITION CROSS-MOTIONS RELATING TO REMAND FROM CLI-05-20) (LBP-06-09) have been served upon the following persons by deposit in the U.S. mail, first class, or through NRC internal distribution.

Office of Commission Appellate  
Adjudication  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Administrative Judge  
G. Paul Bollwerk, III, Chair  
Atomic Safety and Licensing Board Panel  
Mail Stop - T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Administrative Judge  
Paul B. Abramson  
Atomic Safety and Licensing Board Panel  
Mail Stop - T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Administrative Judge  
Charles N. Kelber  
Atomic Safety and Licensing Board Panel  
Mail Stop - T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Lisa B. Clark, Esq.  
John T. Hull, Esq.  
Margaret J. Bupp, Esq.  
Jerry Bonanno, Esq.  
Office of the General Counsel  
Mail Stop - O-15 D21  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Tannis L. Fox, Esq.  
Deputy General Counsel  
Office of General Counsel  
Ron Curry, Secretary  
New Mexico Environment Department  
1190 St. Francis Drive  
Santa Fe, NM 87502-6110

Docket No. 70-3103-ML  
LB MEMORANDUM AND ORDER  
(RULING ON SUMMARY DISPOSITION  
CROSS-MOTIONS RELATING TO  
REMAND FROM CLI-05-20) (LBP-06-09)

James R. Curtiss, Esq.  
David A. Repka, Esq.  
Martin J. O'Neill, Esq.  
Amy C. Roma, Esq.  
Tyson R. Smith, Esq.  
Winston & Strawn LLP  
1700 K Street, NW  
Washington, DC 20006

David M. Pato, Esq.  
Stephen R. Farris, Esq.  
Christopher D. Coppin, Esq.  
Assistant Attorneys General  
Glenn R. Smith, Esq.  
Deputy Attorney General  
Office of the New Mexico Attorney General  
P.O. Box Drawer 1508  
Santa Fe, NM 87504-1508

Lindsay A. Lovejoy, Jr.  
618 Paseo de Peralta, Unit B  
Santa Fe, NM 87501

Lisa A. Campagna, Esq.  
Assistant General Counsel  
Westinghouse Electric Company LLC  
P.O. Box 355  
Pittsburgh, PA 15230-0355

John W. Lawrence, Esq.  
Louisiana Energy Services, L.P.  
2600 Virginia Ave., NW, Suite 610  
Washington, DC 20037

[Original signed by Adria T. Byrdsong]

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Office of the Secretary of the Commission

Dated at Rockville, Maryland,  
this 3<sup>rd</sup> day of March 2006