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Agency for Toxic Substances and Disease Registry
ATTN: Records Center
1600 Clifton Road, NE, MS E-60
Atlanta, GA 30333

Re: Comments on "Initial Release of A Public Health Assessment for Nuclear Fuel Services, Inc."

To Whom It May Concern:

Nuclear Fuel Services, Inc. ("NFS") has reviewed the "Initial Release of A Public Health Assessment for Nuclear Fuel Services, Inc., Erwin, Unicoi County, Tennessee" (the "Initial Report"). NFS respectfully submits the following comments on the Initial Report.

1. Page v. Under List of Tables, Table 3. Add "in 1997" to the end of this title. The title should then read: "Contaminant concentrations in off-site monitoring wells in 1997"
2. Page 1, fifth paragraph, second sentence. It states, "The site is bordered by the Nolichucky River..." This statement is not accurate. Interstate 26 and an industrial park separate the NFS site's northern boundary from the Nolichucky River. The sentence should now read: "Interstate 26, the Riverview Industrial Park and property belonging to CSX Railroad, are to the north of the site."
3. Page 2, third paragraph, second sentence. Add the word "site" after the words "...northern portion of the..." The sentence should now read: "This included the former pond area in the unused northern portion of the site or areas and buildings in need of decontamination to protect the environment in accordance with NRC and all applicable federal and state regulations."
4. Page 3, first paragraph, first sentence. Add the phrase "In the early history of NFS, several" to the beginning of the sentence and delete "at NFS". The sentence should now read: "In the early history of NFS, several processes required the use of degreasing agents containing volatile organic compounds (VOCs) such as tetrachloroethylene (PCE)."
5. Page 3, first paragraph, third sentence. Delete the words "Also associated with these releases" and add the words "Per applicable laws and permits in effect at the time, NFS also...". The sentence should now read: "Per applicable laws and permits in effect at the

time, NFS also released radioactive materials into the waste holding areas, the on-site ponds."

6. Page 5, second paragraph, last sentence. Delete the entire sentence and replace with: "Besides reducing the concentration of VOCs, dissolved uranium is immobilized by the system as an insoluble precipitate utilizing In-Situ Reactive Zone ("IRZ") technology patented by ARCADIS."
7. Page 7, fourth paragraph, second sentence. Add, ", or downgradient of, the NFS Site" to the end of the sentence. The sentence should now read: "The closest well, the Railroad Well, however, is about 0.5 miles north of NFS and hydrological tests indicate that this well does not draw from beneath, or downgradient of, the NFS Site."
8. Page 7, fifth paragraph, second sentence. Add "or downgradient of the NFS Site" at the end of the sentence. The sentence should now read: "The nearest well is upgradient (Railroad Well) and hydrological tests indicate that this well is not affected by draw down from water beneath, or downgradient of, the NFS Site (7)."
9. Page 7, fourth paragraph on page, third sentence. The statement that the potentiometric surface ranges from 1644 to 1644 is incorrect because no range is provided.
10. Page 8, fourth paragraph, last sentence. The phrase, "as well as the presence of uranium and other naturally occurring radioactive materials in the ground water" should be deleted. As ATSDR acknowledges throughout the Initial Report, the agency does not have the jurisdiction or authority to address releases or potential releases of various types of nuclear materials which are present at the NFS site. The NRC is the agency with such jurisdiction and authority, and therefore is charged with the oversight of the investigation and remediation of radionuclides in environmental media at the NFS Site. Thus, the sentence should read: "ATSDR will address the releases of volatile organic compounds to the air, surface water, and groundwater."
11. Page 9, first paragraph, second sentence. After "(EABRP)" insert the phrase "now patented by ARCADIS as In-Situ Reactive Zone (IRZ) technology..." The sentence should now read: "The RAA identified enhanced anaerobic bioremediation and reductive precipitation (EABRP), now patented by ARCADIS as In-Situ Reactive Zone (IRZ) technology, as the selected technology that would best remove the organic contaminants from the groundwater.
12. Page 9, first paragraph, fifth sentence. Add "and replacement with hydrogen atoms" to the end of the sentence. The sentence should now read: "The molasses accelerates oxygen depletion in the water that is conducive to the degradation of the PCE through the removal of chlorine atoms (reductive dechlorination) and replacement with hydrogen atoms."
13. Page 9, first paragraph, sixth sentence. Delete the entire sentence and replace with: "Additionally, dissolved uranium is immobilized as an insoluble precipitate utilizing the IRZ technology. NFS also adds an iron compound, ferrous sulfate, which provides for additional immobilization of the precipitated uranium by pyrite (FeS) co-precipitation and encapsulation of the precipitated uranium."
14. Page 9, second paragraph, first sentence. Delete the phrase: "Over its approximate 60 years of operations" and replace with "Prior to 1984, as authorized by applicable laws and

permits then in effect..." The first sentence should now read: "Prior to 1984, as authorized by applicable laws and permits then in effect, NFS disposed of various materials on their property."

15. Page 9, second paragraph, second sentence. Delete "storage tanks" because tanks are not disposal units. The sentence should now read: "The disposal areas included landfills, ponds, and other types of impoundments such as trenches."
16. Page 9, fourth paragraph, last sentence. Add "on-site" before "plume" and add "the contaminants in the off-site plume included PCE, TCE, cis-1,2 DCE, and vinyl chloride" at the end of the sentence. The sentence should now read: "The contaminants in the on-site plume, include PCE, TCE, cis-1,2 DCE, vinyl chloride, and uranium and the off-site plume include PCE, TCE, cis-1,2 DCE, and vinyl chloride."
17. Page 12, first paragraph, first sentence. Before "the NFS facility" delete "at" and insert "beneath". The sentence should now read: "Environmental sampling and analysis of groundwater collected during RCRA activities indicated the presence of uranium and PCE in the groundwater beneath the NFS facility."
18. Page 12, first paragraph, second sentence. Please note that 30 pCi/L was the proposed MCL. Currently, 20 ug/L is the MCL for uranium.
19. Page 12, first paragraph, fifth sentence. Change "range" to "ranged". The sentence should now read: "PCE concentrations in this plume ranged from approximately 0.005 milligrams per liter (mg/L) to 14 mg/L."
20. Page 12, entire second paragraph. This paragraph is confusing and should be corrected. Wells 117A, 117B, 120A, and 120B are inside the Riverview Industrial Park. Wells 117A and 117B are also on property owned by NFS (NFS Industrial Park Facility). Wells 116A, 116B, 118A, 118B, and 119A are on CSX property.
21. Page 13, sixth paragraph, last sentence. Change "did" to "does" and add "and is not required to do so by applicable laws," after "materials." The sentence should now read: "NFS does not perform environmental air sampling for non-radiological materials and is not required to do so by applicable laws."
22. Page 13, second paragraph, last sentence. Delete "and the lowest concentration found was in excess of 1000 ug/L." Change the sentence to: "the lowest concentration observed was less than the detection limit and below the MCL." The sentence should now read: "At that time, the maximum concentration limit of PCE was 13,000 micrograms per liter (ug/l) and the lowest concentration observed was less than the detection limit and below the MCL."
23. Page 13. The third paragraph should be changed as follows: "Within a year of the 2000 sampling round and following the bioremediation utilizing the IRZ technology, the plume had decreased in size and concentration as expected. The greatest PCE concentration was approximately 5,000 ug/L beneath the CSX property (Figure 5) and the lowest concentration observed was less than the detection limit and below the MCL."
24. Page 14. Table 2. The headings seem wrong unless each Quarter is a three-year average.
25. Page 15. Table 3. There are no units given on this table.

26. Page 20, sixth paragraph, first sentence. For clarity and specificity sake, delete "volatile organic compounds" and add "PCE and its daughter products". The sentence should now read: "Nuclear Fuel Services, Inc. reported that it has not used PCE and its daughter products since the 1970s". Additionally, the use of the acronym "VOCs" throughout this paragraph should be replaced with "PCE and its daughter products".
27. Page 21, first paragraph, first sentence. Delete the word "directly" and add "in Washington County, TN" after "range". The sentence should now read: "Not related to site contaminants but associated with NFS is the firing range in Washington County, TN used by their security forces."
28. Page 22, second paragraph, second sentence. Reference to 1970's should be changed to include the 1950's, 1960's, and 1970's as releases may have occurred during these decades also. The sentence should now read: "The releases of these materials may have occurred in the 1950's, 1960's, and 1970's and there was little or no monitoring during these times."
29. Page 22, Conclusion Number 1. The discussion of groundwater and soil in Conclusion Number 1 is not complete. Since the 1980s, a great deal of environmental investigation and remediation has occurred (including of soil and groundwater) per extensive remedial actions approved and overseen by the NRC, TDEC, and USEPA. Numerous detailed reports and many thousands of pages of data regarding such investigation and remedial actions have been provided to these federal and State agencies. It is therefore inaccurate to suggest that there is no indication of proper clean up.
30. Page 23, Recommendation Number 1. TDEC is the primary agency overseeing the RCRA Corrective Action Permit efforts at the NFS Site regarding the PCE-related contamination at and from the Site. NRC is charged with the oversight of the decommissioning activities at the NFS Site and the remediation of radionuclides in environmental media at the Site. Because these two agencies are extremely familiar with Site conditions, investigation results, remediation to-date and remedial plans, TDEC and NRC are in the best position to develop an effective community education plan, if one is warranted. Therefore, NFS recommends that this item be referred to TDEC and NRC for their consideration.
31. Page 23, Recommendation 3 and Public Health Action Plan Number 2 and 4 should be deleted. First, ATSDR should not that NFS has a detailed Emergency Plan, approved by the NRC, and that NFS conducts extensive drills with the local hospitals and emergency responders every year. Second, and more importantly, the Recommendation and Public Health Action Plan items are outside ATSDR's jurisdiction and contradict statements made by ATSDR earlier in the Initial Report. On page 1, in the "ATSDR Legislative Authority" section, ATSDR explains that it "derives its authority to address contaminant issues at this site from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)." This section also explains that because CERCLA does NOT apply to releases of "specific radioactive materials that are considered source, byproduct, or special nuclear material....those portions of the petition request concerning releases or potential releases of various types of nuclear materials can not be addressed by this public health consultation or by ATSDR." ATSDR's explanation that it lacks jurisdiction to address releases or potential releases of nuclear materials is repeated not only in the last paragraph on page 8, but also on page 22 as item 3 in the "Conclusions" section.

Accordingly, in the same way that ATSDR proposes to refer the "gun range" concern to EPA (the agency with the authority, expertise, and capability of addressing the concern), the ATSDR should refer any concerns regarding radiation issues to the NRC. Referral to the NRC will ensure regulatory and practical consistency of approach in addressing such concerns and avoid the possibility of confusion caused by "basic" plans that may not be as detailed or protective of public health as those that have been developed at the NFS Site per the requirements of the NRC.

NFS believes that the above changes must be made to the Initial Report before it receives wide distribution in order to ensure that the Final Report provides accurate and unbiased information to the public. If there are any questions on the above comments, or if ATSDR wishes more information, please contact me at 423-743-1737.

Sincerely,

NUCLEAR FUEL SERVICES, INC.



B. Marie Moore
Vice President
Safety & Regulatory

JEG/lsn

cc:

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