



NUCLEAR REGULATORY COMMISSION

REGION IV

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ARLINGTON, TEXAS 76011-8064

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MEMORANDUM FOR: Richard E. Cunningham, Director
Division of Industrial and Medical
Nuclear Safety, NMSS

FROM: L. J. Callan, Director
Division of Radiation Safety and Safeguards
Region IV

SUBJECT: REVIEW OF SEQUOYAH FUELS CORPORATION (SFC)
APPLICANT'S ENVIRONMENTAL REPORT

This memo forwards the results of the Region IV review of SFC's revised Applicant's Environmental Report. SFC submitted the environmental report by cover letter dated January 10, 1992. Gary Konwinski from our Uranium Recovery Field Office performed the review, and his detailed comments are attached.

The attachment describes two basic areas of concern regarding the environmental report. First, the environmental monitoring program appears dated. It relies upon monitoring locations that have not been adjusted based upon recent environmental findings. Secondly, the environmental report does not seem to recognize that environmental impacts already have taken place, nor does it discuss operational changes that will be implemented to mitigate these impacts. SFC implies that contamination within the property boundary does not represent an impact. In our view, such contamination represents an impact, the mitigation of which should be discussed in the environmental report.

Should you have any questions about our comments, please contact myself or Gary Konwinski at FTS 8 (303) 231-5800.

L. J. Callan
L. J. Callan, Director
Division of Radiation Safety
and Safeguards, Region IV

Attachment:
As stated

- cc: w/att.
- R. D. Martin, RIV
- J. T. Greeves, NMSS
- J. W. N. Hickey, NMSS
- M. Tokar, NMSS
- Merri Porne, NMSS
- R. E. Hall, URFO

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ATTACHMENT

Review of Secuoyah Fuels Corporation Applicant's Environmental Report

Section 1.3 indicates that the principal environmental impacts are a result of effluent streams to the environment. From NRC inspection report findings, it appears that the majority of the impacts at the site have resulted from process and pond leakage. These pathways have been shown to have caused ground-water contamination. Similarly, widespread soil contamination has caused surface water degradation and sediment contamination at the various monitoring locations. This situation should be fairly represented in the environmental report. Additionally, operational changes should be discussed that will mitigate the existing impacts.

Figure 2-1 is dated. Not shown on this figure is the storm-water retention basin. This basin is an important feature that may affect the environment in the vicinity of the plant. Similarly, Pond 2 and the contaminated soil storage area are not represented as they currently exist.

Section 2.1.6 discusses ponds, basins, and impoundments. The language associated with these features does not indicate the state of disrepair that several of these ponds are in. NRC inspection reports, review memorandums, and SFC correspondence have confirmed that many of the lined impoundments are leaking. Furthermore, the unlined impoundments are contributing to ground-water contamination as are the leaking lined ponds. To fairly address the environmental effects of these ponds, their contribution to the ground water must be presented. Additionally, a commitment to repair the leaking ponds as well as decommission the unlined ponds is needed. The automated underdrain systems that have been installed, in several of these ponds, are discussed in the environmental report. Although they collect much of the seepage, plumes continue to grow. This situation needs to be corrected.

Pond 2 decommissioning is discussed in Section 2.1.6. There is no mention of the fact that the sludge and the clay liner was removed to an action level of 2000 pCi/gm U. Due to this, the soil liner and remaining sludge represent an ongoing source term. Additionally, SFC placed a liner within Pond 2 and breached the southwestern berm. This was done to allow rainwater to gravity drain to the stormwater runoff basin. However, settlement has taken place in the northern part of the basin which now ponds water. This could reactivate leakage and mobilize constituents known to be in the underlying materials.

The surface water impoundment discussed in Section 2.1.6 warrants some type of monitoring program. Outfalls 004, 005, and 007 have been diverted to this structure and planning is underway for a similar action at outfall 008. Data associated with a previous SFC surface water study indicate that constituents of concern flow in these water courses. This situation warrants a surface water, ground water, and sludge monitoring program.

Section 2.2.2 discusses the ammonium nitrate fertilizer program. IIRC inspection reports document that ground-water monitoring of nitrate concentrations is an unreliable method to assess the environmental effects, if any, of this program. Rather, accumulation in the soil of various constituents of concern should be evaluated. Furthermore, no documentation of the ground-water monitoring wells, in the form of completion reports, is presented in the environmental report. Consequently, the zones that are being monitored are unknown. This, in turn, makes the ground-water data questionable.

Section 2.2.3 discusses solid wastes. However, contaminated soils stockpiled at the site, as well as those that are drummed, are not discussed. These sources represent a significant amount of material that warrants discussion of environmentally-sound techniques utilized for its disposal.

The discussion of packaging contaminated wastes to minimize the spread of contamination is not representative of what actually occurs. Wastes that are stored or buried at the site are source terms for soil and water contamination. These sources need not only minimization, but also elimination by way of appropriate disposal in a licensed disposal area. This comment also has application relative to the other sludges in the various basins. IIRC has calculated the volume of these sludges to be roughly 2,550,000 cubic feet. This does not include contaminated soils that are barreled, stockpiled, or in place. Similarly, buried sludges are not included in this figure.

Section 2.3 presents an inadequate discussion of decommissioning. IIRC should design a decontamination/decommissioning plan and set aside financial resources for its implementation. An acceptable decommissioning plan must contain a credible bonding vehicle based upon a justifiable cost estimate.

The licensee's renewal application does not contain a decommissioning funding plan as required by 10 CFR 40.31(f) and 40.36. Under the provisions of Part 40.36(c)(2), the licensee currently has \$750,000 in either a funding plan or certification of financial assurance. The renewal application is required to contain a cost estimate and a description of the funding method, as required by Part 40.36(c). This should be detailed in the environmental report.

The current licensee arrangement utilizes a uranium mill for disposal of contaminated material. Due to reclamation at this facility, this option may not be available to the licensee in the future. Based upon this, other waste disposal options should be assessed.

It is not clear whether any material from the site could be considered "byproduct material" for the purpose of disposal. If it is not considered byproduct material, disposal would have to be at a licensed low-level

waste facility. Alternatively, an onsite disposal option would have to be licensed. The environmental report must address these issues.

Table 3-2 discusses water quality criteria. The discussion is based upon dated references. This discussion should, at a minimum, cite the current published Oklahoma Water Quality Standards (1988). Additionally, the State of Oklahoma is formulating new regulations that were draft as of December 1991. If these are final, they should be incorporated into the environmental report.

Section 4.1 discusses air monitoring, and the monitoring locations are shown on Figure 4-1. The constituents that are being monitored appear to be adequate. However, the location of the environmental monitoring stations is impossible to evaluate without knowing the wind distribution at the site. SFC should supply a site-specific wind distribution diagram.

Section 4.1.2 discusses effluent concentrations. This discussion should be expanded to incorporate the pending revisions that will appear in 10 CFR 20. These concentrations will likely be regulatory standards during the term of the license and therefore will represent operational constraints.

Also within this section, SFC states that other responsive actions are planned, based upon the January 1992 Action Plan. This report was previously reviewed and found to be weak from the standpoint of corrective action commitments. The "responsive actions" should be defined and their implementation discussed.

The surface water management project is discussed within Section 4.1.2; however, no monitoring program has been proposed. The pool of water that will be contained behind this structure and the sediment that will accumulate in it may have an impact on the ground water in the area. Both the ground water and the sediment that accumulates should be monitored for constituents that are known to exist at the site.

Section 4.2 discusses environmental monitoring. The environmental monitoring program, as specified in this section, is dated. All monitored environs should be revised to account for the most recent data that has been developed for the site. Certainly, water, soil, and vegetation monitoring locations should be reviewed for their adequacy based upon the information contained within the FEI. Additionally, some of the current monitoring locations show no monitored constituents during the period of record. Consideration should be given to deleting these locations. The monitored constituents are also inadequate. For instance, arsenic is absent in the monitoring program, although it is known to be a contaminant at the site. The environmental monitoring program should establish background concentrations of monitored constituents in the various environs, address monitoring frequency and propose reporting requirements.

Section 4.2.3 discusses surface water monitoring. The State of Oklahoma, Department of Health, has implemented a surface water monitoring program at this site. The monitoring stations associated with this program should be considered as locations in the SFC program. If these locations are not appropriate, it should be stated in the environmental report.

SFC also uses a series of procedures to report exceedances of action levels. Rather than filing reports at every exceedance of an action level, an annual report should be submitted for MRC review. The report should discuss the licensee's analysis of the data, the effects on the environment, and the corrective actions that have been taken.

Water quality comparisons should be made to establish background concentrations, permit limits, and/or mixing equations. If action levels are utilized, the levels need to be justified based upon a defensible criteria.

Section 4.2.4 discusses sediment monitoring. Incidental sediment samples collected by the MPC indicate that the combination stream effluent is contributing to uranium concentrations in sampled sediments. Previous action to mitigate this situation involved extension of the combination stream pipeline up to the 100-year flood plain. This did not modify the effluent quality, but rather relied upon providing a more direct disposal path. The sediment data that is presented indicates that uranium is present in elevated levels at the monitoring points. There is no discussion of licensee attempts to see that constituent concentrations are reduced to ALARA levels.

Section 4.2.5 discusses ground-water monitoring wells. The data presented for these wells in Appendix E.3 in most cases comes from wells without adequate completion details. Due to this, the data was considered unreliable and therefore was not reviewed. Again, the action level concept is discussed. Meaningful comparisons should be made to established background values or defensible action levels. Action level exceedance reporting should be abandoned in favor of implementation of a corrective action program and the evaluation of the program on ground water quality.

Section 4.2.6 discusses the recently installed ground-water monitoring wells. Repeated references are made to the Action Plan. Regional comments on the adequacy of this plan have been previously furnished.

It is implied in this section that the three recovery wells that have been installed and are controlling existing as well as potential uranium releases at the site. The environmental report presents no analyses of the zone of influence that has been created, if any, relative to these pumping wells. Therefore, SFC's statement relative to control is not justified.

This section indicates that a new ground-water monitoring program will be developed and submitted for review. This submittal should be obtained prior to expending any additional effort on review of the unreliable system that is currently in place.

- ° Section 4.3.1 discusses the SX sand wells and the data that was collected from these monitoring points. In this discussion, it is stated that the monitored water is not ground water. The water in this area has been, and remains to be, free to move under saturated conditions. This is evidenced by the transport of constituents from known sources. Consequently, these waters do represent ground water, both in the area of the SX sand wells and in the area of the MPB subfloor process monitor.