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Environmental Impact Statement Rescoping Process

Rescoping Summary Report

Reclamation of the Sequoyah Fuels Corporation Uranium Conversion Facility

Gore, Oklahoma

November, 2003



U.S. Nuclear Regulatory Commission
Rockville, Maryland

1. INTRODUCTION

The Sequoyah Fuels Corporation (SFC) owns a uranium-conversion facility located near Gore, Oklahoma. In 1993, the SFC ceased its operations and notified the U.S. Nuclear Regulatory Commission (NRC) that it would pursue decommissioning of the facility. Subsequently, under Subpart E to Part 20 of Title 10 (10 CFR Part 20), the SFC conducted site characterization studies and submitted a "Final Decommissioning Alternatives Study Report" to the NRC that identifies several alternatives for SFC site reclamation. In 1999, the SFC submitted a Decommissioning Plan to the NRC. In this plan, the SFC proposed that the hazardous chemicals and radioactively contaminated material at the SFC facility be consolidated in an onsite-disposal cell. In addition, the SFC proposed that the remaining land and buildings be decontaminated, the NRC license be terminated, and sections of the property be released under restricted and unrestricted conditions.

In January 2001, the SFC requested that the NRC review whether solvent extraction process wastes could be designated as 11e.(2) byproduct material as defined in Section 11e.(2) of the *Atomic Energy Act of 1954* (AEA). A benefit of designating the wastes as 11e.(2) byproduct material is that either the U.S. Department of Energy (DOE) or the State of Oklahoma would provide the long-term custodial care for the site. In July 2002, the NRC concluded that those wastes, which comprise most of the waste at the site, could be classified as 11e.(2) material. On December 11, 2002, in response to the SFC's request¹, the NRC amended the Source Materials License SUB-1010 to authorize the SFC to possess 11e.(2) byproduct material as defined in Section 11e.(2) of the AEA².

The reclassification of the waste at the SFC facility transferred the regulatory oversight of the site remediation from the license termination requirements of Subpart E, 10 CFR Part 20 to the uranium mill tailings requirements of Appendix A of 10 CFR Part 40. This shift in regulatory oversight required the SFC to withdraw its Decommissioning Plan and submit, instead, a Reclamation Plan for the SFC site in January 2003. The Reclamation Plan is a requirement of Appendix A of 10 CFR Part 40, and it delineates remediation and corrective actions planned for the site. On June 12, 2003, the SFC submitted its Ground-Water Monitoring Plan to the NRC that describes the existing ground-water conditions at the site and the SFC proposed monitoring program. The Ground-Water Corrective Action Plan was submitted to the NRC in June 2003 and details the SFC strategy to remediate ground-water resources at the site.

The SFC's proposed remediation alternative continues to be an onsite-disposal cell with an engineering design similar to that previously proposed under the 10 CFR Part 20 Subpart E

¹J.H. Ellis, Sequoyah Fuels Corporation, letter to L.W. Camper, USNRC, September 30, 2002.

²D.M. Gillen, USNRC, letter to J.H. Ellis, Sequoyah Fuels Corporation, December 11, 2002.

process. The State of Oklahoma would provide long-term custodial care of the site, if it chose to, but DOE would be required to assume this responsibility should the State decline the role of custodian. The SFC plans to place both the 11e.(2) materials, which constitute the majority of the wastes at the site, and non-11e.(2) materials in the proposed cell. As part of its Reclamation Plan, the SFC has addressed the eight criteria of NRC Regulatory Issue Summary (RIS) 2000-23, dated November 30, 2000, for disposing non-11e.(2) material wastes in tailings impoundments. The SFC attempted to demonstrate consistency and compliance with these criteria; for this reason, the SFC made no distinction between the 11e.(2) materials and non-11e.(2) materials in the Reclamation Plan.

The NRC is preparing an environmental impact statement (EIS) on the proposed SFC site reclamation as part of its decisionmaking process. In addition to the EIS, the NRC is preparing a Technical Evaluation Report (TER) to address safety aspects of the SFC site and reclamation activities.

The NRC, the U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (ACE), the U.S. Geological Survey (USGS), the Oklahoma Department of Environmental Quality (ODEQ), and the Cherokee Nation have an interest in the proposed reclamation of the SFC site. Because the interests of these agencies are interrelated on this project, the EPA, the ACE, the USGS, the ODEQ, and the Cherokee Nation have agreed to cooperate with the NRC in the preparation of a single EIS. Although the NRC is the lead agency in the preparation of this EIS, all the cooperating agencies are involved in its development and review. The preparation of a single EIS results in more efficient use of Federal resources.

The main purpose of the proposed action is to ensure that SFC has acceptably demonstrated to the NRC that the closure and the reclamation of the SFC site, as an 11e.(2) byproduct material site, meets the performance standards and regulatory requirements of Appendix A of 10 CFR Part 40. The performance standards in Appendix A include: 1) isolation of the waste materials in a manner that protects human health and the environment, 2) reduction of the rate of radon emanating from the cover to an average of 20 pCi/square meter-second or less, 3) effectiveness of the reclamation for a long period of time (200 to 1,000 years), and 4) minimal reliance on active maintenance.

The NRC's regulations in 10 CFR Part 51 contain requirements for conducting a scoping process prior to preparation of an EIS. On October 20, 1995, the NRC published in the *Federal Register* (60 FR 54260) a Notice of Intent (NOI) to prepare an EIS for the proposed decommissioning of the SFC facility and to conduct scoping for the EIS. At that time, the NRC regulatory oversight for the site decommissioning activities was the license termination requirements (10 CFR Part 20, Subpart E). For the scoping process, the NOI invited written comments on the proposed action, announced a public scoping meeting to be held regarding the project, offered a proposed outline for the EIS, and discussed the alternatives considered. On November 15, 1995, the NRC held a public scoping meeting in Gore, Oklahoma.

Since 1993, the SFC has informed the public of its plans and gained input from potentially affected parties through its public outreach program. The SFC presented the proposed decommissioning approach in over 35 presentations, several public meetings, and site tours. In addition, the SFC distributed an information paper to the community, incorporated the public comments in the decommissioning plan, and submitted a Decommissioning Alternatives Study, a Site Characterization Report, and a Decommissioning Plan.

On June 9, 1999, the NRC published a *Federal Register* Notice stating its consideration of a license amendment request to authorize decommissioning at the SFC facility. On October 17, 2000, the NRC staff and its consultant, Advanced Technologies and Laboratories International, Inc. (ATL), visited the site and held a public meeting to update the public on the progress of the EIS and obtain additional comments on issues related to the decommissioning of the facility.

Following the NRC's 2002 reclassification of waste at the SFC facility as 11e.(2) byproduct material and transfer of the NRC regulatory oversight to Appendix A of 10 CFR Part 40, the NRC published another *Federal Register* Notice (68 FR 20033, April 23, 2003) for a rescoping meeting. On May 13, 2003, the NRC held a public rescoping meeting in Gore, Oklahoma. This meeting was part of the continuing process to keep affected stakeholders and the public informed of plans, schedules, and milestones affecting the SFC corrective action. The objectives of the meeting were to inform interested parties and the public of the changes in classification of materials at the SFC facility, discuss the reclamation of 11e.(2) byproduct material sites, define the DEIS schedule, and conduct a rescoping session for the draft EIS (DEIS). The main subject discussed during the rescoping part of the meeting was the shift in regulatory oversight of the SFC and its effect on the DEIS. The NRC conducted this meeting to complement the previous scoping and public outreach meetings held in Gore on November 15, 1995, and October 17, 2000, respectively.

Since the license amendment was granted, SFC has submitted updated documents to NRC in 2003, including a groundwater corrective action plan and a site reclamation plan. These reports are currently being reviewed by the NRC for technical merit.

Section 2 of this report summarizes the comments and concerns raised by the meeting attendees concerning the development of the DEIS and any associated concerns that may not have been addressed in the NRC's initial scoping process. Section 3 identifies the issues the DEIS will address and those issues that are not within the scope of the DEIS. Where appropriate, Section 3 identifies other places in the decisionmaking process where issues that are outside the scope of the DEIS may be considered.

2. ISSUES RAISED DURING THE SCOPING PROCESS

2.1 OVERVIEW

A total of 36 individuals attended the May 13, 2003, public rescoping meeting. During the meeting, eight individuals offered comments concerning the reclamation activities at the SFC uranium conversion facility and the development of the DEIS. Of these eight commenters, one represented a sovereign Indian tribe and the remaining seven spoke on behalf of other organizations or as private citizens. In addition, 15 written statements from various individuals were received during the public rescoping period. Most of these submissions were written statements or summaries of the verbal testimony. This active participation by the public in the rescoping process is an important component of determining the major issues that the DEIS should assess.

Individuals providing oral and written comments addressed several subject areas related to the SFC facility reclamation and the DEIS development. The comments received during the course of the rescoping meeting were categorized into the following general topics:

- Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) concerns.
- Accountability.
- Ground-water impacts.
- Cost of remediation.
- Ownership of site.
- Expansion of waste on the site.
- Reclassification of waste.
- Onsite disposal cell.
- Disposal options.
- Endangered species.
- Cherokee Nation involvement and concerns.
- Earthquake risk.
- Post-reclamation risk assessment.
- DEIS and rescoping process.

Written comments received during the rescoping period following the public rescoping meeting were categorized into the following general topics:

- Site Specific Advisory Board.
- Draft Environmental Impact Statement.
- Regulation concerns.

Attachment A to this report lists the commenters and, on the basis of the topics above, shows the subject areas covered by their comments. Note that Attachment A lists only the comments received (i.e., within or outside of the scope of this report) during the rescoping

meeting.

Section 2.2 summarizes the oral and written comments received during the public rescoping meeting and public rescoping period. Most of the issues raised have a direct bearing on the analysis of potential environmental impacts and the NRC's related decisionmaking process.

2.2 SUMMARY OF ISSUES RAISED

Following their presentations at the public rescoping meeting, NRC representatives asked the members of the public to provide comments on the DEIS that would be recorded. These comments, both oral and written, have been consolidated and categorized by topic areas.

2.2.1 UMTRCA Concerns

A commenter stated that 24 other UMTRCA sites have been completed in the United States within the past 10 to 15 years and a pool of knowledge should be available about disposal cells concerning (1) their stability and integrity, and (2) both the expected and unanticipated problems that may have occurred. The commenter encouraged the NRC to extract this information from previous experience and compare it to what is being done at the SFC site to head off any future problems.

Another commenter expressed concern that the UMTRCA regulations may not be a good fit to the SFC site due to differences in uranium contamination at mill sites compared to the SFC site. The commenter requested that the NRC require a more protective uranium soil criterion.

A commenter indicated concern about the EPA's role under an UMTRCA reclamation and questioned whether all of the criteria that apply to UMTRCA sites apply to the SFC site.

2.2.2 Accountability

A commenter asked who will be held accountable for unforeseen problems that may arise at the SFC site.

Another commenter expressed concern about accountability in the event that contamination migrates from the restricted portion to the unrestricted portion of the site.

2.2.3 Ground-Water Impacts

Several commenters expressed concerns about the impacts to ground-water resulting from proposed reclamation at the SFC facility. One commenter suggested that a leak in the proposed cell would severely impact the ground-water, and cleanup would be almost impossible if the contaminants leak into water wells, ground-water, and the waters of the Arkansas and

Illinois Rivers.

Another commenter noted the close proximity of the proposed disposal cell to the ground-water table and worried that the site has not been properly characterized. The same commenter recommended a full characterization of deep groundwater and stated that new information about ground-water contamination on the site needs to be integrated into the site reclamation plan. This information is related to sand and gravel fill under the process area and along buried lines on the site that could provide conduit paths for movement of contaminated groundwater through and possibly off the site.

A few commenters expressed concern about well contamination. One commenter stated that the reclamation plan should specify that public water wells in the area be tested at least two times per year (i.e., in the rainy and drought seasons) for hazardous constituent levels in the ground-water. Another commenter noted that deep groundwater monitoring wells were plugged after they "became contaminated," and that mostly shallow wells currently exist to characterize groundwater contamination.

Another commenter expressed concern about uranium seepage from the Kerr-McGee deep injection test well. One commenter noted that conflicting opinions about what contaminants were put into the deep injection well may require testing in the deep aquifer to determine whether there is contamination.

One commenter noted that a drop in the initial pressure at which the 26 million gallons of waste were contained in the injection well indicates that the waste has migrated. One commenter felt that the budget for the ground-water remediation plan seems very low and appears to amount to little more than a monitoring program rather than actual remediation.

A commenter asked when the full ground-water corrective plan will be available and what the NRC will require to be included in the plan.

2.2.4 Cost of Remediation

Commenters indicated various concerns about the potential cost of remediation of the SFC site. One commenter felt that the lack of available funds will be the driving factor in deciding what sort of reclamation is performed rather than what is best for the communities in the immediate vicinity of the SFC site.

Another commenter suggested that Kerr-McGee, original owner and licensee of the SFC facility, should be held responsible for the cleanup at the SFC site due to a statement made to the *Sequoyah County Times* on December 9, 1984. The commenter also stated that, in 1965, Kerr-McGee was required to deposit \$200 million for cleanup, and that money was available at one time to carry out this operation. The commenter added that the NRC has already given that money back.

A commenter expressed concern that the “astronomical” cost of the site cleanup will deplete the funds available for proper cleanup, and that the resultant economic impact for the future will leave the area and cities downstream both fiscally deprived and contaminated. The commenter added that the SFC “gets off the hook” in the case that any migrating contamination is discovered on the site, and the taxpayer will be stuck with paying for whatever cleanup has to occur.

One commenter stated that the site should be cleaned up, regardless of the cost, to protect future generations. Another commenter expressed concern that offsite disposal will be considered as an option even though it would cost several times the available budget. Another commenter stated that NRC needs to assess what is the right thing to do environmentally within the financial capacity that currently exists for reclamation on the SFC site.

2.2.5 Ownership of the Site

A commenter expressed concern over the issue of subsurface rights following reclamation of the SFC site. Within the amendment, it is not clear how much of the land DOE would own after it takes ownership for long-term stewardship under the provisions of Title 2 under the Atomic Energy Act. The same commenter also indicated concern about future contaminant migration from the restricted to unrestricted portions of the site. The commenter wanted to know who would be responsible if such migration occurred, and was especially concerned about the proximity of the unrestricted area to the disposal cell.

2.2.6 Expansion of Waste on the Site

Two commenters were concerned that DOE would be able to expand the waste site and bring in more waste (up to 20 percent additional waste) from other locations. One commenter requested clarification on this issue, and expressed concern that the public would not have a right to object. Another commenter expressed concern for “imported wastes” (i.e., fly-ash) that are proposed to be brought into the site and mixed with the onsite waste to solidify it. The same commenter also indicated concern that “bootlegged” waste (i.e., hazardous material prohibited from being in a 11.e(2) disposal cell) would be brought in.

A commenter stated that tribal “lifeways” (i.e., water wells, streams, lakes, and other sources of ground-water affecting tribes) should be evaluated in the environmental review and that no contamination from outside the site should be placed in the proposed onsite cell.

2.2.7 Reclassification of Waste

A commenter noted that, upon the change from SFC’s previous permit status to the current status (which authorizes possession of 11e.(2) byproduct material), the dose level to be used changes from that of the exposure level of radium 226, thorium 230, and uranium (due to uranium conversion) to that of the exposure level of only radon. The same commenter suggested that the exposure level to the public will be lessened under UMTRCA regulations,

and that this reclassification will be misleading to future generations because DOE will own the site and the public will not have the money to fight or sue for health and environmental damages. The commenter also noted that the NRC made a ruling on a change of classification (i.e., reclassification from processing to mill tailings for the SFC) prior to the end of the public comment period, and this change of classification could set a precedent.

Another commenter requested clarification as to what soil cleanup standards would apply under UMTRCA and to what constituents. The commenter was specifically concerned about standards that apply to uranium.

2.2.8 Onsite Disposal Cell

A number of commenters expressed concern and made recommendations about the proposed onsite disposal cell on the SFC site. One commenter recommended that, due to the possibility that hazardous constituents disposed of in the onsite disposal cell could have a half-life of millions of years, consideration be given for the possibility that the river could change course over time and impact the disposal cell. The same commenter also recommended that the more hazardous material be taken offsite and not disposed of in the onsite disposal cell.

Another commenter recommended that the reclamation plan look into the idea of incorporating multiple retrievable cells in the main disposal cell. In the case of cell leakage, this would enable parts of the cells that are leaking to be retrieved and removed to a place out of the ground-water table. The same commenter recommended that a lower ground-water sampling system be developed to help detect leaks in the disposal cell. In addition, the commenter suggested that a good liner of some kind be used in the disposal cell other than the compacted clay liner "that has leaked in pond 2 at this cell" and is "still leaking." The commenter also suggested that a "buffer zone" be designated (i.e., a restricted area around the disposal cell site that extends the restricted area in the case of a leak) and that "some type of vitrification system" be developed to ensure the "more contaminated materials" (i.e., the radium and thorium and the raffinate sludges) in the disposal cell cannot leach into the ground-water.

A commenter expressed concern that high concentrations of uranium products constitute a high-risk level that "calls for 20 [feet] of concrete entombment, not 4 feet of clay." Another commenter indicated his concern about the mixing of waste in disposal and suggested that barium, thorium, arsenic, and the heavy metals be separated from one another and the radiological waste in individual cells within the larger disposal cell.

A commenter requested to see a written report from the NRC on the performance of UMTRCA sites that were built in similar climates to Eastern Oklahoma (e.g., high rainfall). The same commenter pointed out the inadequacy of the plan for the liner under the cell and recommended that a plan be developed to monitor water leakage from the cell into the soil and ground-water adjacent to the cell. In addition, the commenter expressed concern that the planned vegetation on the cell cover will be incapable of absorbing the entire water load in the

time-frame of a downpour, the incline of the sides of the cell will present an excessive risk of erosion, and that safety of workers and the community may be at risk during construction of the disposal cell. The commenter also recommended a full assessment of the future possibility that the Illinois River could change course and pass through or nearer the disposal cell.

A commenter expressed concern about how liquid wastes on the site will be stabilized under the new 11e.(2) plan.

2.2.9 Disposal Options

A commenter suggested that the NRC consider in its assessment of the site a range of onsite options as was presented in the draft decommissioning plan rather than just one onsite option.

2.2.10 Endangered Species

A commenter noted that having open waterways on the SFC site endangers several animal species including the Gray Bat and the Indiana Bat.

2.2.11 Cherokee Nation Involvement and Concerns

A commenter expressed concern that the Cherokee Nation is the only tribe involved with the scoping process and asked whether the Cherokee Nation plans to submit its rescoping issues separately or at the current rescoping meeting.

Another commenter noted that the Cherokee Nation is involved and affirmed that the DEIS addresses the major environmental and socioeconomic concerns. The same commenter stated that the Cherokee Nation will provide its concerns in writing to the NRC on the DEIS and has provided its concerns to the NRC regarding the reclassification of materials on the site.

2.2.12 Earthquake Risk

Two commenters expressed concern for the risk of earthquakes. One commenter discussed the proximity of the Carlisle Fault within one mile of the site and the Warner Fault located within a half mile of the site.

2.2.13 Post-reclamation Risk Assessment

A commenter voiced concern that the post-reclamation risk assessment purposefully ignored exposure to radon, disturbance of the cell, and drinking water.

2.2.14 DEIS and Rescoping Process

A commenter asked for clarification concerning the deadline for turning in written

comments.

2.2.15 Site Specific Advisory Board

A commenter asked “about where the Site Specific Advisory Board idea stands for the SFC site.”

2.2.16 Environmental Impact Statement (EIS)

A commenter asked about when the EIS will be released and how it will assess Environmental Justice impacts.

2.2.17 Transfer of Solid Materials Offsite

A commenter expressed concern over SFC’s historical practice of releasing contaminated solid materials offsite for reuse. This comment was made in the context of the NRC’s ongoing rulemaking for controlling the disposition of solid materials.

2.2.18 Regulation Concerns

A commenter requested that the EIS explicitly address what actions would be taken if the cost of the site cleanup were to exceed available private funds.

A commenter recommended that the NRC prohibit deregulation of all solid materials containing or contaminated with radiation that have been intentionally mined from the ground. The commenter stated that under no conditions should this contaminated material be dumped in unlicensed facilities that are not prepared to monitor for or contain radioactive waste.

Another commenter expressed concern about the current position of the State of Oklahoma and how their actions will affect this plan.

3. SUMMARY AND CONCLUSIONS

3.1 SCOPE OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

To a large extent, the general content of an EIS prepared by NRC is prescribed by the National Environmental Policy Act (NEPA) (Public Law 91-90, as amended), NRC's regulations for compliance with NEPA (10 CFR Part 51), and guidance provided by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508). These regulations broadly define the areas that must be considered in the assessment of potential impacts resulting from a proposed action and its alternatives. The scoping process summarized in this report (as well as previously-held scoping processes on this issue) helped to identify and refine the project-specific issues that warrant consideration in the DEIS.

The NRC identified reasonable alternatives to the proposed action during scoping and review of the licensee's submittals. The scope of the DEIS includes consideration of both radiological and nonradiological (including chemical) impacts associated with the proposed action and the reasonable alternatives. The DEIS also identifies necessary monitoring, potential mitigation measures, unavoidable adverse environmental impacts, economic impacts, the relationship between short-term uses of the environment and long-term productivity, and irreversible and irretrievable commitments of resources. In addition, it identifies several issues that could result in significant short- or long-term impacts.

3.2 ISSUES OUTSIDE THE SCOPE OF THE DEIS

Most of the comments received were within the scope of the DEIS and relate to issues that will be analyzed in-depth in the document. Potential comments that are considered out-of-scope for the DEIS involved technical issues related to Appendix A of 10 CFR Part 40 (e.g., financial responsibility, legal issues) and are more directly addressed in that context. Other comments addressed the regulatory process and jurisdiction (e.g., re-classification to 11e.(2) byproduct material, petitions for hearing, etc.). Although such issues may be analyzed in the DEIS as part of the proposed action and alternatives assessments, decisions concerning these issues are not made within the realm of the DEIS. Concerns about the roles of other parties (e.g., Oklahoma, Cherokee Nation) are, likewise, not resolved through the DEIS process.

As indicated above, some issues raised during the scoping process may be analyzed in the TER. The DEIS and the TER are related in that they may cover the same topics and may contain similar information, but the analysis in the DEIS is limited to an assessment of potential environmental impacts. In contrast, the TER primarily deals with safety evaluations and procedural requirements or license conditions to ensure the health and safety of workers and the general public.

The NRC has made a determination that some issues are associated with small or no impacts. For this reason, these issues are not considered to be of high priority among the

proposed alternatives and will not be addressed in detail in the DEIS. They include: socioeconomic impacts during reclamation, impacts to historical and cultural resources, environmental justice issues, air quality impacts, noise, impacts to ecological resources, aesthetics issues, mineral resource issues, and cost.

**Comment Subject Areas by Commenter
Oral Comments**

Commenter/Affiliation	UMTRCA Past	Ground-Water Impacts	Remediation Cost	Site Ownership	Expansion of Waste	Reclassification of Waste	Onsite Disposal Cell	Disposal Options	Endangered Species	Cherokee Nation Concerns	Post-Reclamation Assessment	Earthquake Risk	Deregulation of Waste
Oral Comments													
Doug Brugge/Citizen	✓	✓	✓		✓		✓	✓			✓		
Don Carroll Laster/Citizen		✓	✓				✓					✓	
Nadine Barton/Citizens Action for a Safe Environment		✓	✓	✓	✓	✓	✓						
Ed Henshaw/Citizen		✓			✓		✓						
Jessie Collins/Citizen									✓	✓			
Pat Gwin/Cherokee Nation										✓			
Patricia Ballard/Nuclear Risk Management for Native American Communities							✓						
Kathy Carter-White/ecoLaw Institute Staff Attorney													✓