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POLICY ISSUE
(Commission Meeting)

March 9, 1992

SECY-92-075

For: The Commissioners

From: James M. Taylor
Executive Director
for Operations

Subject: RESTART OF SEQUOYAH FUELS CORPORATION FACILITY

Purpose: To brief the Commission in accordance with the Commission's December 9, 1991, memorandum, prior to any decision by the staff with respect to restart of Sequoyah Fuel Corporation's (SFC's) facility under the October 3, 1991, shutdown order.

Background: On October 3, 1991, the staff issued to SFC (a subsidiary of General Atomics) an Order Modifying License and Demand for Information to address a number of significant safety violations and regulatory problems identified at the facility by the U.S. Nuclear Regulatory Commission (NRC) inspections and investigations that had been conducted since the August 1990 solvent extraction excavation. The Order and Demand is based on the NRC's conclusions that:

- (1) Certain managers failed to follow NRC requirements and the conditions of the license;
- (2) A certain SFC employee intentionally made false statements and intentionally withheld information from the NRC; and
- (3) SFC's Health and Safety and Environmental Programs were in need of substantial improvement to assure the health

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and safety of the general public, SFC employees, and contractor personnel who worked at the site, and to assure protection of the environment.

On November 27, 1991, an emergency Petition was filed with the Commission on behalf of Native Americans for a Clean Environment (NACE) and the Cherokee Nation. The Petitioners requested that the NRC immediately revoke the SFC operating license or, alternatively, withhold authorization to restart until:

- (1) A formal adjudicatory hearing is completed on whether the facility can be operated safely and in compliance with its license and NRC safety and environmental regulations;
- (2) Access is provided to the Petitioners to certain internal SFC documents;
- (3) SFC undertakes a "truly independent" audit of its management and operations; and
- (4) SFC is required to complete and implement all changes to management and procedures that are necessary to assure safe operation of the facility.

In addition, the Petitioners requested that the NRC provide notice, in the Federal Register, of all SFC-proposed license amendments, if and when SFC is permitted to resume operations.

On December 9, 1991, the Commission advised the Petitioners that the Petition was referred to the NRC staff for consideration pursuant to 10 CFR 2.206. As a separate matter, an open Commission meeting would be held for the NRC staff to brief the Commission prior to any staff decision with respect to restart of SFC's facility under the October 3, 1991, shutdown order. The Commission indicated that it would also entertain comments regarding restart from SFC and from NACE-Cherokee Nation.

A detailed descriptive chronology of the events and staff enforcement actions, and the staff's analysis of SFC's responses to the enforcement actions and other initiatives are provided as an enclosure to this paper.

The license renewal and the license renewal hearing are separate proceedings and are not discussed here. In addition, the Office of Investigations has been investigating an allegation of SFC employee misconduct. This investigation is not discussed here.

Conclusion:

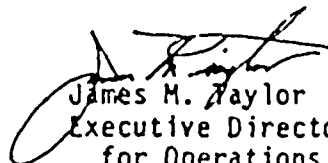
The licensee has provided all information requested in a November 1990 Demand for Information and the 1991 Demand for Information and has taken all actions required by the 1990 and 1991 Orders. As a result, the extent of underground contamination from site operations is much better understood, the sources of this contamination have been identified and characterized, management personnel and operations have been changed, and staffing and training have been increased. Long-term programs to continue improvement in the health and safety and environmental programs and the management controls to ensure compliance are being implemented.

Based on results of inspection and investigation findings, review of licensee and contractor documents, meetings with the licensee, and appropriate licensee performance, the NRC staff expects to authorize restart and to deny the Petition. The authorization to restart depends on:

- (1) The outcome of the current investigation by the Office of Investigations;
- (2) A satisfactory response to restart issues, raised by the inspection team, that are documented in Inspection Report 40-8027/91-17;
- (3) Effective SFC management performance up to the time of restart authorization; and
- (4) Any advice or direction from the Commission, resulting from its meeting on restart issues with the staff and other parties.

Coordination:

The Office of the General Counsel has reviewed this paper and has no legal objection.


James M. Taylor
Executive Director
for Operations

Enclosure:

Restart Issues - Current Staff SA
and Eval of NACE-Cherokee
Nation Petition

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SEQUOYAH FUELS CORPORATION FACILITY
(Subsidiary of General Atomics)

RESTART ISSUES - CURRENT STAFF SAFETY ANALYSIS AND EVALUATION OF NATIVE
AMERICANS FOR A CLEAN ENVIRONMENT (NACE) AND THE CHEROKEE NATION PETITION

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1. INTRODUCTION

Starting with the discovery in August 1990, of underground contamination caused by licensed material, Sequoyah Fuels Corporation (SFC) has undertaken a number of actions that have resulted in (1) changes in senior corporate management; (2) enhanced management functions including effective communications, improved procedures, staffing of safety technicians, comprehensive training, and self-assessment programs; (3) site characterization of environmental contamination from past operations; and (4) a program for continued improvements in health and safety and protection of the environment. Many of these actions have been undertaken as a result of NRC staff inspections, investigations, and enforcement actions, including Notices of Violation, Orders Modifying License, and Demands for Information. Operations at SFC have been suspended since the staff issued the October 3, 1991, Order Modifying License and Demand for Information. In addition, a petition has been filed under 10 CFR 2.206 to prohibit restart. This paper summarizes licensee and staff actions regarding the status of restart issues. In particular, it focuses on the NRC staff's ability to determine whether there is reasonable assurance that, if restart is authorized, the licensee can and will properly manage its activities in accordance with the Commission's regulations and License No. SUB-1010.

II. BACKGROUND TO SFC RESTART ISSUES

A. Description of Facility

SFC in Gore, Oklahoma, is licensed to produce uranium hexafluoride from uranium mill concentrates (yellowcake) and to produce uranium tetrafluoride from uranium hexafluoride. SFC is a wholly-owned subsidiary of Sequoyah Fuels International (SFI). SFI is a wholly-owned subsidiary of Sequoyah Holding Company, which, in turn, is a wholly-owned subsidiary of General Atomics. Kerr-McGee, which had operated the SFC facility since 1969, transferred ownership of the facility to a subsidiary of General Atomics in 1988.

B. Discovery of Licensed Material Contamination Near SX Building and Issuance of September 19, 1990, Order Modifying License

In August 1990, during a scheduled plant shutdown, SFC planned to excavate soil and to construct a concrete vault around two underground process tanks outside the solvent extraction (SX) building. This construction was undertaken because of U.S. Environmental Protection Agency regulations. During the excavation, SFC noted uranium-contaminated soil and water in the excavation area. Contractor personnel, without adequate Part 19 training, worked in the uranium-contaminated area. During an August 6-10, 1990, inspection, Region IV inspectors noted this work in progress but were not aware of the contamination. SFC reported the contamination to NRC on August 22, 1990.

Several additional inspections were conducted thereafter, including one by an Augmented Inspection Team (AIT). On September 14, 1990, shortly after NRC agreed to restart of the SX process, SFC reported contaminated liquid under the

Main Process Building (MPB). Because SFC was not taking aggressive steps to quantify the extent of contamination, NRC issued SFC an Order Modifying License on September 19, 1990, which required SFC to ensure the integrity of the floor and sump of the MPB, characterize the quantity of licensed material under the MPB, identify potential pathways that could contribute to migration of licensed material, determine whether the present and past monitoring well program was adequate to identify migration from the MPB, determine whether licensed material was or is being released beyond the restricted area, and develop a plan to characterize other locations where past or present operations could have contaminated the environment.

In a September 13, 1990, letter, SFC reported the completion of SFC commitments made before restart of the SX process. In addition, SFC committed to investigate other likely locations where similar contamination may have existed. On October 16, 1990, SFC reported that it had responded to the Order by accelerating its major environmental investigation at the MPB. In addition, upon receipt of the Order, SFC initiated action to stop all activities that intentionally placed liquids in sumps and on floors, until the integrity of the sumps and floors could be ensured. All sumps and floors of the MPB were inspected for defects or conditions that could compromise the integrity of the floor. Repairs were made to all identified defects and suspect areas. SFC and its consultant conducted a comprehensive geohydrological investigation of the MPB in response to the Order. SFC also implemented the characterization plan developed in response to the Order. The results of the entire site investigation were submitted on July 31, 1991, in the SFC Facility Environmental Investigation Report.

C. Issuance of November 5, 1990, Demand for Information

On November 5, 1990, the staff issued a Demand for Information to SFC. The Demand was based on the staff determination that significant weaknesses existed in the licensee's organization and management. The staff was not able to determine whether the fundamental causes could be attributed to deficiencies in the organizational structure; weaknesses in the management processes employed at the site; lack of proper experience, qualifications, training, and development of key managers; or all or some combination of the aforementioned. As an interim action to assure adequate management controls, the Demand required SFC to provide the Region IV Administrator with information describing an oversight program that the licensee was willing to put in place while management deficiencies and weaknesses in the permanent organization were being remedied. The oversight was to be provided by persons acceptable to the Region IV Administrator and who had not been employed at SFC but were experienced in the management of radiation and chemical safety and environmental protection.

The Demand also required SFC to inform the Region IV Administrator whether SFC was willing to submit within 30 days, for review and approval, a plan for an independent, written appraisal of the site, and for corporate organizations and activities that would develop recommendations, where necessary, for improvements in management controls and oversight, to provide assurance that personnel would

comply with regulatory requirements and site procedures. The appraisal plan was to include the following elements:

- (1) A description of the appraisal program and qualifications of the appraisal team;
- (2) An independent organization to serve as the appraisal team to evaluate the current organizational structure, responsibilities, management controls, upgraded programs, staffing levels and competence, communications, safety review process, training, quality assurance, and operating practices; and
- (3) A review by the appraisal team of the management and supervisory personnel, to include certain named individuals, to determine their understanding of regulatory and administrative requirements. The appraisal report was to include the views of the independent organization as to the causes of the deficiencies stated in the Demand, and an evaluation of current and planned improvement and upgraded program and management changes, to achieve lasting improvements in compliance with Commission requirements.

The appraisal program was to be completed within 6 months of NRC's approval of the plan. In addition, SFC had to provide to the Region IV Administrator, within 30 days of the final report, an analysis of each recommendation and the actions to be taken in response to each recommendation.

D. SFC Response to November 5, 1990, Demand for Information

On November 20, 1990, SFC responded to the Demand. SFC presented its view of the incidents and conditions of concern to NRC; agreed to the establishment of an oversight team, recommended an oversight team, and discussed how the oversight team would function; and agreed to an independent management assessment. SFC also identified a list of long-standing environmental concerns that had been addressed in the previous 2 years (after the sale by the former owner, Kerr-McGee) and provided a list of the many plant upgrades and equipment modifications that were made to address safety concerns. SFC concluded that:

- (1) The contamination incidents reflected a shortage of trained, technical personnel at a time of maximum stress on the facility, but the incidents entailed no violations and posed no threat to workers, the public, or the environment;
- (2) Although significant strides had been made in the past 2 years, improvements need to continue;
- (3) Existing conditions have been, and will continue to be, a catalyst for positive change; and
- (4) SFC had responded positively to NRC concerns.

On December 18, 1990, SFC provided a management assessment plan which was approved by the staff on January 14, 1991. On May 15, 1991, the licensee's contractor, Morton and Potter, Technical Consultants, completed the appraisal and forwarded to SFC and the staff the final report, "Independent Management Assessment of Sequoyah Fuels Corporation with Emphasis on Safety and Regulatory Compliance." On July 15, 1991, SFC provided its response to each of the 47 recommendations and the schedule for implementation.

E. Issuance of October 3, 1991, Order Modifying License and Demand for Information

As a separate but related action, on September 4, 1990, the Office of Investigations (OI) initiated an investigation related to the discovery of the contamination under the SX building. The Investigation Report was completed on June 28, 1991. During this period of time (September 1990 - June 1991), a number of significant safety violations and regulatory problems were identified by NRC inspections and investigations that were conducted after the August 1990 tank excavation. Consequently, on October 3, 1991, the staff issued to SFC an Order Modifying License and Demand for Information. The Order/Demand was based on NRC's conclusions, from the investigations and inspections, that:

- (1) Certain SFC managers failed to follow NRC requirements and the conditions of the NRC license and, with at least careless disregard for regulatory requirements, failed to instruct workers as to the presence of uranium contamination in the SX excavation;
- (2) The Manager, Environmental, had intentionally made false statements and intentionally withheld information from the NRC; and
- (3) SFC's Health and Safety and Environmental Programs needed substantial improvement to assure the health and safety of the general public, SFC employees, and contractor personnel who worked at the site, and to protect the environment.

In addition, although NRC could not conclude that other SFC managers provided false information, there were serious questions as to whether the Senior Vice President, the Vice President of Regulatory Affairs, and the Health Physics Supervisor, who had not assured that past licensed or safety responsibilities were carried out, could in the future, adequately perform these organizational responsibilities and authorities, especially those required by the license.

The Order required that the Manager, Environmental, "...be removed from supervisory or managerial responsibilities over NRC-regulated activities for a period of one year...." The Order also required that SFC not operate the facility to produce uranium hexafluoride or depleted uranium tetrafluoride after its routine shutdown for maintenance until SFC submitted and obtained NRC approval of a plan and schedule to review the adequacy of the Health and Safety and Environmental Programs and the qualifications of the individuals from outside SFC performing the review. The Demand for Information required SFC to provide information to

demonstrate why the license should not be modified to prohibit SFC's Senior Vice President, the Vice President of Regulatory Affairs, and the Health Physics Supervisor from serving in any capacity involving the performance or supervision of any NRC-regulated activities and to require 30 days notice to NRC prior to the involvement of a named former employee in NRC-regulated activities.

F. SFC Response to October 3, 1991, Order Modifying License and Demand for Information

On October 7, 1991, SFC reported in writing that the Environmental Department Manager had been removed from supervisory and management responsibilities over NRC-regulated activities.

On October 11, 1991, SFC met with the staff and agreed to identify those procedures that would be reviewed, revised as appropriate, and implemented before restart. Criteria for selection and prioritization would be provided. SFC committed not to proceed to restart until NRC approved the plan and to complete those aspects of the plan to be accomplished before restart; and the new SFC President was satisfied that SFC was ready for restart. On October 17, 1991, SFC responded to the Order by identifying Mr. Henry Morton as the overall project manager for the procedure review effort. The staff approved the selection of Mr. Morton in a letter dated October 24, 1991. It should be noted that Diane Curran, Esq., on behalf of Native Americans for a Clean Environment (NACE), by letter dated November 4, 1991, questioned the qualifications of Mr. Morton. In a letter dated November 13, 1991, SFC provided further justification for the project manager. The staff, in a letter dated November 27, 1991, reaffirmed its approval of the project manager.

On November 15, 1991, the new President of SFC reported to Region IV that he had assumed responsibilities for SFC; that he had removed all individuals named in the Order/Demand from management and supervisory positions; and that he was replacing them with new leaders, thereby making it easier to question long-standing practices and to bring new management insights from a different background.

G. NACE-Cherokee Nation Petition

A Petition dated November 27, 1991, filed on behalf of NACE and the Cherokee Nation (Petitioners), requested that the Commission immediately revoke the SFC license or withhold the authorization to restart the facility until: completion of a formal adjudicatory hearing on whether the plant can be operated safely and in compliance with regulations; access is provided to the Petitioners to certain internal documents; SFC undertakes a "truly independent" audit of its management and operations; and SFC is required to complete and implement all changes to management and procedures that are necessary to assume safe operation of the facility.

By memorandum dated December 9, 1991, the Commission referred the Petition to the staff for action. The Commission further ordered that an open Commission

meeting would be held at which the NRC staff would brief the Commission prior to any decision by the staff with respect to restart of SFC's plant under the October 3, 1991, shutdown order. On December 23, 1991, the staff acknowledged receipt of the Petition and denied the Petitioners' request for immediate action.

III. DISCUSSION OF SFC RESTART ISSUES

Before the staff authorizes restart, it must make findings that the licensee has responded adequately to the October 3, 1991, Order/Demand, and that there is reasonable assurance that the SFC plant will be operated so as to protect the public health and safety and in compliance with applicable requirements. This requires consideration of the licensee's responses to the 1990 Order, the 1990 Demand, the 1991 Independent Management Assessment (IMA) and certain issues raised in the NACE-Cherokee Nation Petition. A discussion of these matters is provided below.

A. Adequacy of SFC's Response to the September 19, 1990, Order

In the MPB Final Findings Report of December 15, 1990, SFC reported that it had not only located and quantified the licensed material under the MPB but had begun recovery operations. The contamination under and around the MPB covers an area of approximately 14,900 square feet. The licensed material was estimated at 728 kilograms of uranium in soil used for backfilling in utility trenches around the MPB and 3,260 kilograms beneath the MPB. About 190 kilograms had been recovered by the time that SFC determined the extent of the contamination. SFC identified all known pathways for migration beneath and beyond the MPB. Barriers and sumps were installed to prevent further migration and to recover material in the trenches. SFC also evaluated existing well data and found no evidence of migration associated with the MPB. However, the approximately 115 monitoring wells were not intended to monitor the MPB. Therefore, as part of the environmental investigation, SFC installed 60 new wells around the SX building and MPB to provide detection for releases to the ground water. SFC also determined that some licensed material had migrated into limited areas beyond the restricted area. However, sampling from these wells showed no migration had occurred beyond property boundaries.

By letter dated March 1, 1991, NRC staff (Region IV) concluded that SFC had devoted significant resources to comply with the conditions of the September 1990 Order and that SFC's action adequately complied with the conditions of the Order. SFC's actions, which were consistent with its commitments, went beyond the requirements of the Order.

By use of a contractor, SFC continued to investigate soil and ground water contamination by installation of soil boreholes and monitoring wells. In accordance with the comprehensive Facility Environmental Plan of October 15, 1990, SFC identified 28 past or present operational areas, on approximately 85 acres, where detailed investigations were to be completed. The history of each area, as well as process evaluations, culminated in an understanding

of process waste streams and the constituents of the waste. Surface water investigations were completed to evaluate the potential for migration of licensed material in stormwater runoff. Monitoring stations (20) were installed to characterize the runoff water.

Based on an extensive ground water and soil investigation, the geologic conditions that control the occurrence and movement of ground water and any associated licensed materials were defined. Some 160 additional shallow and deep wells were installed to characterize the ground water at the site. Three recovery wells were installed in strategic locations to pump water containing licensed material from underground to treatment facilities. The geologic formations under the SFC site are such that ground water flow in shallow and deep formations is less than 16 and 112 feet per year, respectively. Isopleth maps indicate that limited areas of ground water are impacted (contaminated) and that the impacts are generally in the MPB and SX building areas. No migration of this ground water contamination beyond SFC boundaries has occurred, based on monitoring data collected up to now.

The Facility Environmental Investigation Findings Report was forwarded to NRC on July 31, 1991. During the site investigation, which took about 9 months, SFC periodically briefed the staff on the status and findings of the environmental investigation. Based on a preliminary review of the report and several site inspections during the conduct of the Environmental Investigation, the staff believes that SFC has adequately identified the extent of ground water and soil contamination with licensed material. On January 10, 1992, SFC submitted its action plan for dealing with the site contamination issues. The staff intends to review the investigation report and the action plan as part of the license renewal process. At a public meeting on February 14, 1992, the staff requested SFC to implement, as a licensing requirement prior to license renewal, an environmental monitoring program involving taking, analyzing and evaluating data from the newly expanded monitoring system. SFC indicated it would submit this sampling and analysis program by the end of March 1992.

B. SFC Response to the November 5, 1990, Demand for Information

On November 20, 1990, SFC responded to the Demand for Information. SFC presented its views and responded to issues raised in the AIT Report and the Demand. SFC asserted that, when it acquired the facility 2 years earlier, the facility was plagued with a history of regulatory and environmental problems from past operating practices, but SFC's management, new as of 1988, had embarked on a program to improve management and deal with long-standing waste and environmental issues.

SFC asserted that discovery of the contamination around and under the SX building and operation of the subfloor monitor in the MPB were not reportable under 10 CFR 20.403, "Notification of Incidents." SFC stated that it had reported these two incidents to establish an informal relationship with the staff. The staff disagreed that the contamination was not reportable and issued a Notice of Violation on January 27, 1992.

SFC contended that it had satisfied the requirements of 10 CFR Parts 19 and 20 regarding training and instruction of contract workers. The staff did not agree with SFC regarding Part 19 and issued a Notice of Violation on January 27, 1992. SFC contended that it moved promptly to investigate the contamination under the MPB. On August 22, 1990, SFC had located a drilling rig and had it onsite on August 27, 1990. SFC contended that NRC inspectors provided helpful advice but also interfered with the site investigation. NRC management does not agree with this contention.

In response to the AIT's and an SFC consultant's findings of SFC management failings discussed in the Demand, SFC reported that it had responded to the identified weaknesses and had taken, or had committed to implement, corrective actions, revised its Design Change Authorization procedure (used to initiate the excavation near the SX building), and agreed to improve corporate staff communications. Also, SFC management disagreed with the assertion in the Demand that it had exacerbated poor communications since taking over the company in 1988.

SFC highlighted the environmental and process improvements that it had made during its 2 years of ownership. SFC's plans to deal with long-standing problems included: a \$1,000,000 project to improve and control site drainage, lined impoundment improvements, a separate Environmental Laboratory away from the process area, replacement of poorly constructed environmental wells, planned reduction of acres of land in the restricted areas, upgraded raffinate treatment to improve production rates and reduce personnel exposures, modified process powder transfer systems, covered fertilizer ponds, and numerous process equipment modifications to improve personnel safety.

SFC closed its November 20, 1990, response to the Demand by concluding that the incidents reflected a shortage of trained, technical people at a period of maximum stress on the facility but entailed no threat to workers or the environment. SFC did agree to the Independent Oversight Team surveillance and the conduct of an IMA. The staff did not fully agree with these conclusions and responded with an expanded inspection program.

C. Independent Management Assessment

On May 15, 1991, SFC's consultant, Morton and Potter, Technical Consultants, completed its "Independent Management Assessment of Sequoyah Fuels Corporation with Emphasis on Safety and Regulatory Compliance" report. The report identified goals for strengthening management systems and undergirding a high standard of safety and compliance with regulatory requirements. Forty-seven recommendations were made to achieve the goals dealing with policy, planning, communications, organization, management controls, human resources management, training, and regulatory relations. As noted in the October 3, 1991, Order Modifying License, neither the consultant nor SFC directly addressed root causes for the deficiencies in SFC's management.

SFC received a 30-day extension to provide its response to the recommendations in the management assessment report. On July 15, 1991, SFC provided the NRC with its response, including the implementation schedule for each recommendation. The schedule took into account other major activities and initiatives underway at SFC, including the site-wide contamination characterization study, implementation of a Conduct of Operations program, the performance improvement program for Health Physics procedures, submittal of an Environmental Corrective Action Plan, and the license renewal process.

In a January 3, 1992, letter, the new President of SFC informed the staff of actions that he had taken since his appointment in September and the October 3, 1991, NRC enforcement action. Significantly, SFC has identified two fundamental underlying causes of the problems leading to the October 3, 1991, enforcement action. The first was that a strong nuclear safety and regulatory compliance culture had not been instilled throughout the SFC organization, and the second was that a disciplined/formal management process had not been implemented throughout the organization. Factors contributing to these underlying causes included the particular background and experience of SFC senior managers, weaknesses in organizational structure, insufficient sensitivity to radiological aspects of SFC's activities, and inadequate communications internally and with NRC. SFC believes that the broad combination of actions being taken is sufficient to address any underlying causes of previous problems at SFC.

The SFC President enclosed the "Sequoyah Fuels Corporation Plan for Achieving and Maintaining High Performance Standards." The Plan has eight objectives, which SFC believes are the principal elements of an effective management process, and which will help ensure that previous problems do not recur at SFC. The SFC President highlighted significant actions taken or planned to achieve each objective, including:

- (1) Recruiting new senior managers with experience in the nuclear fuel cycle and nuclear power industry;
- (2) Clear articulation and effective communication to SFC personnel of SFC's corporate mission, goals and strategies, and its management policies and expectations;
- (3) SFC procedures being significantly improved through the independent review of Health and Safety and Environmental Procedures, in accordance with the Order, and the Procedure Improvement Program initiated by SFC in mid-1991;
- (4) Basic improvements made in the key health and safety area;
- (5) SFC's training program being significantly enhanced; and
- (6) SFC strengthening its program for identification and correction of problems to prevent recurrence by enhancing its commitment tracking system, developing a broader self-assessment program, training of key personnel in root cause analysis, improved trending of deficiencies, and developing performance indicators.

In a letter dated January 27, 1992, SFC provided a status report on the IMA actions. In addition to reporting the completion of many actions taken in response to the IMA recommendations, SFC provided a matrix showing how the IMA recommendations and SFC actions had been integrated into the aforementioned Plan submitted by SFC on January 3, 1992.

D. Staff Evaluation of SFC Response to IMA Recommendations

As part of NRC's review of the IMA and SFC's responses to the report, Region IV and Office of Nuclear Material Safety and Safeguards (NMSS) conducted a special inspection at SFC during the week of January 27, 1992. The inspection team reviewed SFC's response to the recommendations, which has been supplemented by a program of objectives developed by the current management team. The inspectors determined that the programs described in the supplemental SFC submittals dated January 3 and 27, 1992, if fully implemented, would satisfy the concerns in the November 5, 1990, Demand. This conclusion is based on several observations, including:

- (a) SFC, in its January 3, 1992, letter identified two underlying causes for the management concerns and deficiencies identified in the Demand. Based on the findings of the inspection team, the NRC staff has determined that the causal factors in SFC's conclusions are consistent with NRC's views.
- (b) The team determined that communications by the President give the SFC staff an opportunity for an open exchange on expectations of management techniques, staff performance, the status of restart actions, and regulatory compliance. Senior management also initiated formalized communications within departments and up the line of management.
- (c) Management tours of the plant and meetings with groups of employees are steps taken to increase management visibility and demonstrate an open-door policy.
- (d) Initiatives to instill a sense of job ownership and accountability, team concepts, and acknowledgment of employee initiatives for improvement have been well-accepted.
- (e) Proposed initiatives for maintenance to upgrade equipment, process control, water treatment, and removal of waste are focused on reducing environmental impacts and onsite waste.
- (f) Periodic assessment of site management oversight will be addressed in future corporate program audits.
- (g) SFC has planned or partially implemented a Conduct of Operations Program to establish responsibilities of operators, supervisors, and managers; a Business Plan to prioritize actions and to ensure necessary resources are allocated to programs which affect safety and regulatory compliance; and a Quality Assurance Program.

E. Restart Issues From Inspection

The inspection team identified three issues that SFC must address after it has had an opportunity to review Inspection Report No. 40-8027/91-17. The first issue concerns the adequacy of the permanent health physics technician staffing. The second issue concerns a question about management sensitivity to regulatory concerns because of its initial slowness in responding to the contamination in the warehouse and Training Center. (This contamination event is discussed further in III.H.) The third item concerns the use of the oversight team during the startup period while corrective actions are being implemented. These issues were identified at the public inspection exit meeting (held at SFC's Carlile Training Center) on February 3, 1992, and again by senior NRC management during the February 14, 1992, public meeting with the licensee (held at NRC Headquarters). SFC will be required to respond satisfactorily to these three issues before the staff is willing to consider authorization to restart the facility.

F. SFC Response to the October 3, 1991, Order/Demand

On October 7, 1991, SFC responded to part of the Order and announced that the Environmental Department Manager had been removed from supervisory and managerial responsibilities over licensed activities. On November 15, 1991, SFC informed the staff of several other significant personnel changes: on September 20, 1991, Mr. J. J. Sheppard became President of SFC; three of the remaining SFC managers subject to the Order/Demand were removed from their positions and from the performance of supervision of regulated activities; and the fourth remaining manager had resigned. On December 18, 1991, SFC clarified its November 15, 1991, letter. SFC stated that it did not intend that four of the named individuals in the October 3, 1991, Order/Demand would be used in the foreseeable future in the performance or supervision of NRC-licensed activities and that the fifth individual would not be reemployed. SFC also stated that NRC would be given 30 days prior notice before any of the five individuals were returned to the performance or supervision of NRC-regulated activities. On December 2, 1991, SFC responded to the remainder of the Order and the Demand. Because SFC did not have access to the OI report, SFC conducted its own investigation. Many of NRC's findings were confirmed, but SFC claimed differences and additional circumstances that were not reflected in the Order/Demand. As a result, SFC maintains that the individuals did not act in careless disregard for their respective responsibilities for licensed activities and did not fail to be candid with the NRC, and that the Manager, Environmental, provided complete and accurate information to NRC and committed no intentional violations. SFC believes that the individuals made errors in judgment, missed opportunities to identify and correct deficiencies at an earlier stage, and could have done more to assure that NRC was fully informed. SFC did not believe that the actions of these individuals warrant the imposition of any condition in SFC's license limiting their employment. Nonetheless, SFC consented to the Order and removed the individuals named in the Order/Demand from supervisory and management responsibilities for NRC-licensed activities.

To confirm SFC responses to the Order/Demand, on January 13, 1992, the staff issued a Confirmatory Order Modifying License (Effective Immediately) which required that SFC shall provide NRC at least 30 days notice prior to SFC

reassignment of the four named individuals still in the employ of SFC or rehiring of the individual who had been the Health Physics Manager for the purpose of performing or supervising NRC-licensed activities.

G. Inspection Findings on SFC Response to October 3, 1991, Order

By letters dated October 17, November 4, and December 10, 1991, SFC responded to the October 3, 1991, Order and submitted a plan to classify health and safety and environmental procedures that needed to be reviewed and revised before restart and those procedures that could be reviewed and revised in the months after restart. An inspection team, consisting of Region IV and NMSS staff, conducted a special inspection during the week of December 2, 1991. During the inspection, several additional procedures were identified as necessary for review and revision prior to startup. During the week of January 27-31, 1992, another inspection team consisting of Regional and Headquarters staff returned to SFC and determined that SFC had satisfied that section of the Order (Item B, Section VI) dealing with operation (restart) of the facility. The team's conclusion was based on findings that selected procedures had been adequately revised and workers understand procedural requirements. The team interviewed health and safety technicians and found that the technicians understood requirements. This latter finding, however, mostly applied to contract technicians. Permanent Health and Safety Technicians were undergoing a 5-week training program. The team found the training program to be comprehensive and believes that the training will result in improved technician performance. The team found the improvements in the refresher training program to be minimal, but SFC has proposed additional program enhancements.

The inspection team also found that SFC had adequately performed SFC-committed actions for SFC's Environmental Department. Revised procedures were found to address the issue of interdepartmental communications. A qualified individual had been hired for the position of Manager, Environmental.

The team also examined SFC's plan for deferring review of selected procedures until after restart. The team had no objection to the SFC plan and review schedule. The team found some indications of a lack of attention to minor details but did not identify any significant deficiency. The team concluded that SFC had adequately fulfilled those items in SFC's plan and schedule, before restart of the facility. The team reviewed additional SFC actions that went beyond the requirements of the Order. These actions included an internal evaluation of operational readiness by the SFC Readiness Review Committee (RRC), use of senior contract health and safety technicians, and SFC's procedure improvement program. The Readiness Review Committee, in its mid-December review, had informed SFC management that additional actions were needed before restart. In mid-January, the SFC President met with the RRC again and resolved all of the RRC's concerns. The second action increased the number of technicians from 9 to 27. The contract technicians helped in the training of the SFC technicians. The third action, operating procedure improvement, actually is a licensee initiative started in September 1991. SFC continued this program even after the October 3, 1991, Order was issued and has produced improved operating procedures to support restart.

H. Discovery of Licensed Material in Unrestricted Area

The most recent major inspection concern was the failure of SFC to respond promptly to the discovery of licensed material contamination in unrestricted areas on SFC property. On November 13, 16, and 17, 1991, SFC contract technicians identified fixed contamination in SFC's Training Center. In December 1991, more contamination was discovered in the Warehouse. The team noted that the contamination levels in the Training Center and the Warehouse did not constitute a significant threat to SFC workers or the general public. However, SFC actions to control or remove the contamination had not been taken until the issue was addressed by the NRC inspection team.

By the end of the inspection, SFC had removed the contamination from the Training Center and had conducted surveys to verify the removal. The warehouse had been converted to a contamination control area. These SFC corrective actions will be reviewed during a future NRC inspection. As discussed in E above, SFC management sensitivity to regulatory concerns is an issue which SFC must address before the staff considers any authorization to restart.

I. February 14, 1992, Public Meeting

On February 14, 1992, SFC met with staff in a public meeting to discuss SFC's readiness for restart. SFC discussed its plan to achieve and maintain high performance standards, health and safety staffing levels, the planned feedback and additional assurance mechanisms during restart, and the contamination discovery at the Carlisle Training Center. SFC also addressed its compliance with the requirements of the Order Modifying License and Demand for Information. In SFC's view, the requirements have been met, and SFC is ready for restart. The staff suggested that SFC initiate the feedback and assurance mechanisms now to provide an indication of how much progress has been made toward safe facility operations. Also, the staff expressed concern about the lack of permanent employees in two key management positions and the lack of an interim environmental monitoring program; however, these are not restart issues.

J. Staff Analysis of NACE-Cherokee Nation Petition

The Petitioners allege as bases for the request that: (1) SFC's license renewal application contains material false statements of fact relating to ground water contamination at the site; (2) the NRC's October 3, 1991, Order and Demand constitutes the third time in 5 years that NRC has cited SFC for a serious breakdown in plant management; however, the Order is inadequate to reasonably assure safe operation of the facility, and the experience of the past 5 years demonstrates that SFC is doomed to repeat its unsafe and environmentally hazardous practices until the basic causes of its poor environmental and safety record are resolved; and (3) SFC has been given and wasted numerous chances to address and resolve its serious safety and environmental problems, at the expense of the public safety and the environment. The Petitioners assert that the plant should not operate until the completion of a formal adjudicatory hearing on whether the plant can be operated safely and in compliance with its license and NRC safety and environmental regulations.

Although the staff has not issued a final decision on the NACE-Cherokee Nation Petition, the staff has analyzed the issues. The Petition largely relied on the events on which the staff's enforcement actions were based. The staff believes that the Order/Demand was and is the appropriate action. The bases for the staff's position on the NACE-Cherokee Nation 2.206 Petition will be fully set forth in a Director's Decision to be issued as soon as possible following the Commission briefing on March 17, 1992. The staff addresses briefly below those aspects of the Petition that it believes have a bearing upon a restart decision.

With respect to the Petitioners' request to immediately revoke SFC's license, because of alleged material false statements in the SFC license renewal application, the staff does not believe that the Petitioners have established an adequate basis to withhold a restart decision or to revoke the license. The Petitioners allege that SFC deliberately misrepresented the scope of its ground water monitoring program and deliberately withheld data showing uranium contamination under and around the SX building and the MPB. The staff cannot conclude that SFC's description of its ground water monitoring program was a material false statement. The omitted data does demonstrate uranium contamination under or around the SX building and the MPB; however, SFC did notify the NRC of the fact of the uranium contamination in the SX excavation pit on August 22, 1990, and beneath the MPB on September 14, 1990. With respect to the notification to the NRC regarding the uranium contamination in the SX excavation pit, the licensee failed to meet the requirements of 10 CFR 20.403(b) to make a report within 24 hours of the discovery of the event and was cited for this violation on January 27, 1992. However, since SFC did inform NRC of the fact of contamination, the omission cannot be considered to have been the result of an intent to deceive NRC about, or to conceal the fact of, contamination. Accordingly, the staff cannot conclude that the omission of that information from the renewal application constitutes a material false statement. The staff also does not agree with the Petitioners' contention that SFC misrepresented the scope of its ground water monitoring program. Nonetheless, the failure to include SX sandwell and MPB subfloor monitor data is an apparent violation of 10 CFR 40.9. The staff expects to issue a Notice of Violation but because of the significant enforcement action already taken against SFC in the October 3, 1991 Order, the staff does not expect to propose a civil penalty.

The Petitioners contend that SFC has routinely violated safety procedures and put workers at significant risk over the past year, despite oversight, and that these violations are the same ones for which SFC was cited previously, and that this cycle will not be broken because (a) the fundamental causes of the management breakdown have not been identified and (b) SFC has hired the same consultants who were involved in two unsuccessful management studies and who are not sufficiently independent to be objective.

The May 15, 1991, Morton and Potter Technical Consultants report, "Independent Management Assessment of Sequoyah Fuels Corporation with Emphasis on Safety and Regulatory Compliance," did not directly address root causes for the deficiencies in SFC's management. However, in a January 3, 1992, letter, SFC identified two fundamental underlying causes of the problems. The first was that a strong nuclear safety and regulatory compliance culture had not been instilled throughout the SFC organization, and the second was that a disciplined/formal management process has not been implemented throughout the organization. SFC identified as contributing factors the particular background and experience of SFC senior managers, weakness in organizational structure, insufficient sensitivity to radiological aspects of SFC's activities, and inadequate communications internally and with the NRC. These causal factors are consistent with the staff's view. SFC has initiated measures to correct its program deficiencies. The staff has concluded that if the improvement programs are fully implemented, they will satisfy the concerns in the November 5, 1990, Demand. As discussed in E above, there are three issues that SFC must still address: the adequacy of health physics technician staffing, management sensitivity to regulatory concerns, and the use of the oversight group during the startup period while corrective actions are being implemented. SFC must satisfactorily address these issues prior to staff consideration of any authorization to restart.

The issue of independence primarily concerns the use of Henry Morton as the project manager for the procedure review requested by the October 3, 1991, Order. Mr. Morton was a participant in the IMA, which the staff has determined did not fully address the issue of identification of root causes; however, the procedure review does not include a review of management but consists of a technical review. It has been determined that the procedure review met the requirements of Item B, Section VI, of the Order. The staff found the SFC plan and review schedule for the procedures to be acceptable.

The staff agrees with the Petitioners that SFC's performance and compliance record has not been satisfactory. However, the staff continues to believe that it took the appropriate enforcement actions and that the extreme remedy of license revocation is not justified. In response to this enforcement action, a new management team has been developed and a disciplined/formal management process has been implemented throughout the organization.

With respect to the Petitioners' request for an adjudicatory hearing before restart, the staff believes that initiation of a proceeding is unwarranted. The safety issues identified by the Petitioners are already being adequately considered through the staff's enforcement and assessment actions and by actions already taken by SFC in response. Moreover, the Petitioners will have an opportunity to address essentially the same safety issues in the pending renewal proceeding in which Petitioners have been granted intervenor status.

In additional correspondence dated February 28, 1992, Diane Curran, on behalf of NACE, wrote to the Commission stating the position that "...before restart of the SFC plant may be permitted, the NRC must issue an Environmental Impact Statement...and circulate it for public comment, as required by 10 C.F.R. §§ 51.100 and 51.117." The letter stated the intent to seek appropriate legal relief if the request is denied; reply by March 6, 1992, was requested. The staff has responded to this request, denying it by letter from R. M. Bernero on March 5, 1992. Denial was based on the provisions of the Commission's regulations, in particular 10 CFR 51.10(d), which make clear that an environmental review is not required in connection with an enforcement action such as that directed by the October 3, 1991, Order. In amending this regulation in 1989, the Commission clarified that resumption of operation following remediation of those matters underlying an enforcement action does not require an environmental review. See, 54 FR 43576 (October 26, 1989). In this regard, it should be noted that the SFC facility's operation was evaluated in a Final Environmental Statement dated February 1975, an Environmental Impact Appraisal dated October 1977, and an Environmental Assessment dated August 1985; the fundamental operating parameters under which restart may be authorized are the same as those considered in these environmental reviews. Moreover, the environmental impacts are being reevaluated again as part of the license renewal review process which will not be prejudiced by restart.