LICENSE AMENDMENT INSTRUCTIONS

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CHAPTER 2. GENERAL ORGANIZATIONAL AND ADMINISTRATIVE REQUIREMENTS

2.1 Licensee's Policy

The Corporate Manager, Health Physics shall be responsible for establishing corporate radiation health and safety standards and procedures, and coordinating them with managers and executives directly affected. Corporate radiation health and safety standards and procedures shall require the approval of the Corporate Vice President, Human Resources.

The Corporate Manager, Health Physics shall publish and maintain the Corporate Radiation Health and Safety Manual. This manual shall contain corporate radiation health and safety standards and procedures, and radiation exposure limits for all employees and other persons (e.g., visitors, contractors, etc.) potentially subject to such exposure from company operations.

The Corporate Manager, Licensing, Safety and Nuclear Compliance (LS & NC) is functionally responsible for obtaining and maintaining federal and state licenses and permits required for possessing and processing radioactive materials for all operational units of General Atomics with the exception of Sequoyah Fuels Corporation. The Corporate Manager, LS & NC may provide counsel to SFC in matters relating to licensing and permits.

The Vice President, Regulatory Affairs shall be the primary contact with the Nuclear Regulatory Commission and other federal and state agencies.

All significant actions with regulatory agencies shall be subject to the approval of the Vice President, Regulatory Affairs, or the President, SFC.

The Manager, Health, Safety, and Environment shall be responsible for the facility's radiation health and safety activities which includes:

- Initiating and directing programs to ensure compliance with all applicable provisions of corporate radiation health and safety standards and procedures, federal and state regulations and license conditions,
- Establishing and maintaining systems for recording facility radiation survey and exposure data,
- Coordinating on-site contacts with representatives of federal and state agencies responsible for regulating radioactive materials and advising the Vice President, Regulatory Affairs and the Corporate Manager, Licensing, Safety, and Nuclear Compliance, of the results of the on-site contacts.

- Identifying and proposing new and revised radiation health and safety standards and procedures as needed, and

- Notifying the Corporate Manager, Health Physics of radiation related incidents or emergency situations involving radioactive materials

The Corporate Manager, Health Physics shall be responsible for ensuring the qualifications of the Manager, Health, Safety, and Environment to perform these duties and shall assist and advise him on matters involving radiation exposure and related subjects.

The Corporate Manager, Licensing, Safety, and Nuclear Compliance shall review the radiation health and safety practices of Sequoyah Fuels Corporation. This review is to ensure compliance with the current company radiation health and safety standards and procedures, applicable federal and state regulations, and license conditions. The Corporate Manager, Licensing, Safety, and Nuclear Compliance, shall document and submit the results of each review and any recommendations for new or revised standards and procedures to the Senior Vice President, and the Vice President, Regulatory Affairs, with copies to the Corporate Manager, Health Physics and the Corporate Vice President, Human Resources. Information copies shall be furnished to other corporate executives as appropriate.

In the event of a radiation-related incident or emergency situation, the Manager, Health, Safety, and Environment shall conduct or have conducted a thorough investigation, including preparation of an incident report which will be distributed to the appropriate individuals.

2.2 Organizational Responsibilities and Authority

The organization for Sequoyah Fuels Corporation and its corporate oversight is described below and depicted in Figure 2-1.

The President, Sequoyah Fuels Corporation shall have overall responsibility for the safe operation of the Sequoyah Facility. Additional responsibility has been assigned to the Senior Vice President, the Vice President, Business Development, the Vice President, Regulatory Affairs, the Controller, and the Manager, Health, Safety, and Environment for various functions as described in this license. These individuals report directly to the President, Sequoyah Fuels Corporation.

The Corporate Manager, Licensing, Safety, and Nuclear Compliance who reports to the Corporate Vice President, Human Resources, shall be responsible for directing quarterly audits at the Sequoyah Facility to evaluate and verify compliance with the applicable federal and state regulations, NRC license conditions, permits, corporate policies, adherence to facility procedures, and Emergency Plan and Implementing Procedures and operational matters. The

results of each review and any recommendations for new or revised standards and procedures shall be submitted to the Vice President, Regulatory Affairs, with copies to the Senior Vice President, and the President, SFC, the Corporate Manager, Health Physics and the Corporate Vice President, Human Resources.

The Corporate Manager, Health Physics who reports to the Corporate Manager, Licensing, Safety, and Nuclear Compliance, shall be responsible for the preparation of detailed corporate standards dealing with the control of radiation, spread of radioactive contamination and the monitoring of personnel and nuclear facilities. He is responsible for auditing procedures and plant operations in the health physics area. He reports his findings and recommendations for program improvements to the Corporate Manager, Licensing, Safety, and Nuclear Compliance and the ALARA Committee.

The Manager, Health, Safety, and Environment, who reports to the President, SFC, shall be responsible for developing and implementing programs, procedures and guidance in the functional areas of health physics, industrial hygiene, industrial safety, physical security, and environmental analyses. He shall be responsible for the effluent monitoring program, the respiratory protection program, the bioassay program, the health and safety program, the environmental laboratory, and the program for surveillance of all plant activities related to these areas. He shall be responsible for maintaining all radiation exposure and other health and safety records required by General Atomics, Sequoyah Fuels Corporation and by regulatory agencies. He shall assist the Corporate Manager, Health Physics in establishing radiation health and safety standards and procedures and in coordinating them with the managers and executives directly affected. He manages the Health, Safety, and Environment Department.

He serves as the Emergency Plan Coordinator and is responsible for the implementation of the Emergency Plan and Emergency Plan Implementing Procedures. He works with the Manager, Procedures and Training to ensure that all facility employees and members of the response organizations receive initial and continuing training.

He and the Manager, Procedures and Training, or their designated representatives, shall certify that each chemical operator's on-the-job training and module certification has been adequate and that the employee is competent and qualified to perform his or her responsibilities.

The Manager, Environmental, who reports to the Manager, Health Safety, and Environment, shall be responsible for developing and implementing programs and procedures to comply with all environmental monitoring requirements required by federal and state agencies. This includes the maintenance of environmental records required by Sequoyah Fuels Corporation and by regulatory agencies.

The Vice President, Regulatory Affairs, who reports to the President, SFC, is responsible for the development and implementation of a Facility Quality Assurance Plan to assure that all operations and safety related activities are performed in accordance with facility procedures. He oversees the quality assurance program and the licensing program. He is also responsible for maintaining the company's NRC licenses and preparing correspondence and reports submitted to NRC. He advises management on nuclear regulatory issues and provides regulatory compliance oversight in environmental compliance and other regulatory areas.

The Senior Vice President shall be responsible for all nuclear manufacturing activities, which includes operations, maintenance, engineering, and the process laboratory. He specifically oversees the operations, modifications, and process and equipment criteria. He shall be responsible for safe and efficient plant operations. He reviews all operating procedures, plant modifications and processes, equipment criteria and other general and administrative matters. He reports to the President, SFC.

The Manager, Maintenance, who reports to the Senior Vice President, shall be responsible for all maintenance activities. He shall prepare and maintain maintenance and surveillance procedures which specify maintenance-related activities within the requirements of approved health and safety standards and regulations.

The Manager, Engineering, reporting to the Senior Vice President, shall provide and supervise engineering services to safely, efficiently and economically convert yellowcake to UF_6 and to reduce UF_6 to UF_4 through process and design modification and process evaluations.

The Manager, Operations, who reports to the Senior Vice President, shall be responsible for all operational and process engineering activities at the Sequoyah Facility. He shall also be responsible for developing process improvements, investigating off-normal conditions and conducting special studies that provide safe and efficient operations. Operating procedures, which specify operating steps within the requirements of the approved health and safety standards and process and equipment criteria, shall be prepared and maintained under his direction.

The Area Managers, UF_6, DUF_4, and UO_3, who report to the Manager, Operations, shall be responsible for planning and coordinating the safe and efficient operation of their assigned areas. They also provide technical direction to the Shift Supervisors and shall perform short and long range planning involving the overall operation of the assigned production areas.

The Shift Supervisors, who report to the Area Managers, shall be responsible for directing the activities of operators and for assuring that all operating procedures are followed in the performance of the production activities.

The Manager, Process Laboratory, who reports to the Senior Vice President, shall be responsible for the Process Laboratory which provides quality control and process development support, as well as other designated analytical work. Required analytical and calibration procedures shall be prepared and maintained under his direction and approved by the Senior Vice President.

The Manager, Procedures and Training who reports to the Senior Vice President, shall be responsible for managing the facility's procedures system and training program. In addition, he will manage the community relations program. He and the Manager, Health, Safety, and Environment, or their designated representatives, shall certify that each employee's on-the-job training and module certification has been adequate and that the employee is competent and qualified to perform his or her responsibilities.

The Vice President, Business Development shall be responsible for the development and implementation of the facility's waste management plan including programs related to decontamination projects, decommissioning, and fertilizer distribution. He reports to the President, SFC.

The Controller, who reports to the President, SFC, shall be responsible for nuclear material accountability.

2.3 Safety Review

The independent overview functions carried out under the Corporate Vice President, Human Resources through his staff shall be as follows:

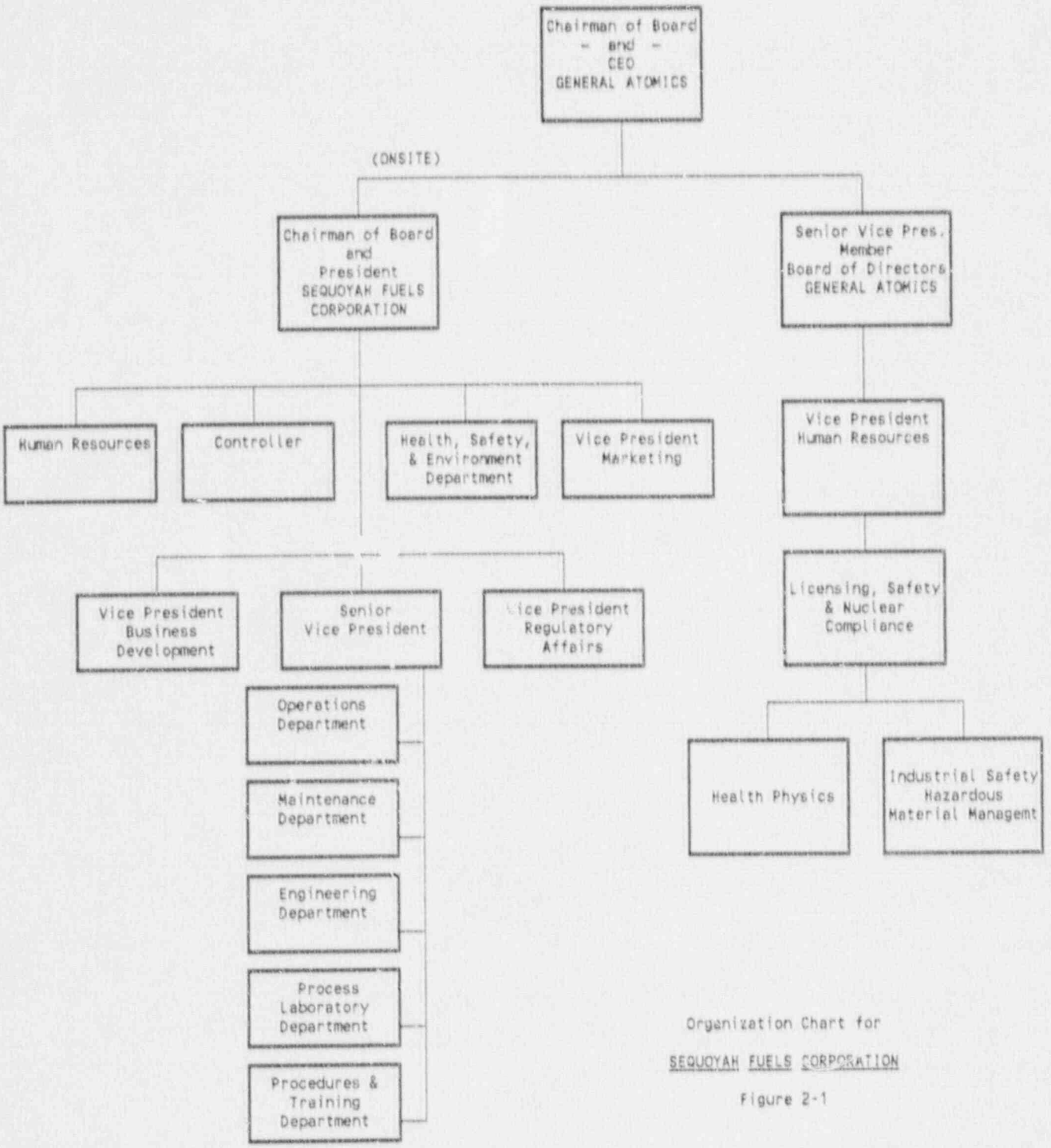
1. To establish the corporate criteria and standards for contamination control and radiation protection for manufacturing processes and equipment.

2. To establish the corporate standards for procedures to be followed by operations management in assuring that processes and equipment are operating in a way to prevent spread of contamination and radiation exposure.

3. To make periodic routine and non-routine inspections against the criteria, standards and procedures of the program.

4. To maintain technical liaison with regulatory agencies, of local, state, and federal government.

5. To offer expert professional advice and counsel to Corporate and Sequoyah Facility Management in health and safety matters.



Organization Chart for

SEQUOYAH FUELS CORPORATION

Figure 2-1

6. To procure, as required, special audit services, inspections or calculational capability for problems from qualified consultants or other divisions of General Atomics when it appears that an adequate solution definition exceeds the capability of the staff.

The Sequoyah Facility Plant Operations Review Committee is composed of senior facility managers having key roles in ensuring that facility operations are conducted safely and in compliance with regulatory requirements. The Committee is responsible for reviewing and approving new and revised operating procedures; determining training requirements prior to implementing new or revised procedures; and reviewing revisions to the chemical operator qualification and certification system.

2.4 Approval Authority for Personnel Selection

The President, SFC, shall approve personnel selection for safety related Sequoyah Facility staff positions described in Section 2.5 of this license.

2.5 Personnel Education and Experience Requirements

The education, training, and experience requirements for all safety-related management and staff positions shall be as follows:

The Corporate Vice President of Human Resources of General Atomics shall have a minimum of five years of nuclear industry management experience of high level general management nature.

The Corporate Manager, Licensing, Safety and Nuclear Compliance of General Atomics shall hold a degree in science or engineering and shall have at least 5 years experience in matters related to radiation protection. The individual shall be thoroughly familiar with NRC license requirements, NRC, and EPA regulations and regulations of other agencies having oversight responsibilities for activities conducted at the Sequoyah Facility. He shall be capable of providing authoritative advice and counsel in matters related to NRC licensing, regulations and procedures.

The Corporate Manager, Health Physics of General Atomics shall hold a degree in the physical sciences, biological sciences, or other related fields with a minimum of two years experience in appropriate phases of nuclear health physics and the evaluation of potential radiological hazards. He will have demonstrated his proficiency in managing a radiological health and safety program.

The Corporate Manager of Industrial Safety of General Atomics shall hold a degree in science or engineering with a minimum of two years applicable work experience. He shall have demonstrated

experience in managing or implementing fire, safety, and health programs.

The Manager, Health, Safety, and Environment shall hold a degree in science or engineering and have at least 5 years experience in areas such as radiation protection, radiation monitoring, health physics, emergency preparedness and personnel exposure evaluation. He shall have demonstrated a proficiency to conduct specified radiation safety programs, recognize potential radiation safety problem areas in operations and advise operation supervision on radiation protection matters. He shall be capable of directing the surveillance activities of the Health and Safety Technicians.

The Manager, Environmental shall hold a degree in science or engineering with 2 years of technical experience. The individual shall have demonstrated proficiency to formulate and conduct specified non-radiological environmental monitoring programs and to recognize potential environmental problem areas.

The Vice President, Regulatory Affairs shall hold a degree in science or engineering with 3 years experience in a chemical or nuclear processing plant, and 3 years of management experience in programs having quality assurance responsibilities.

The Senior Vice President shall hold a degree in science or engineering and have at least 5 years of supervisory or management experience, with at least 2 years management experience in chemical or nuclear materials manufacturing facilities. The individual shall have demonstrated through progressively more responsible management positions the ability to manage complex technical and administrative programs similar to those found in a chemical processing plant or other type nuclear fuel cycle facilities.

The Manager, Maintenance shall hold a degree in science or engineering with 5 years experience in maintenance/operation of a chemical or nuclear materials processing plant.

The Manager, Engineering shall hold a degree in science or engineering with 5 years experience in chemical or nuclear materials processing, or chemical materials handling. The individual shall have 3 years experience in a supervisory position.

The Manager, Process Laboratory shall hold a degree in science with 5 years experience in the analytical laboratory including radiochemistry and quality control techniques. The individual shall have experience in a supervisory position.

The Manager, Operations shall hold a degree in science or engineering with 5 years experience in the operation of a chemical or nuclear materials processing plant with at least 3 years of management experience. He shall have demonstrated experience in

project engineering and proficiency in identifying process changes which require health physics and safety analysis.

The Area Managers shall hold a degree in science or engineering with 3 years experience in chemical processing, process engineering, or project engineering and handling of uranium materials. They shall have demonstrated experience in a project, engineering, or managerial activity.

The Manager, Procedures and Training shall hold a degree in science or business administration and have at least 3 years experience in procedure development, training and computer services. He shall have demonstrated proficiency in directing activities in those functional areas.

The Shift Supervisors shall hold a degree in science or engineering or have a high school diploma with 5 years experience in a chemical processing plant. The individual shall be thoroughly familiar with the uranium production activities and have a thorough knowledge of the approved operating procedures.

The Vice President, Business Development shall hold a degree in business or science and have at least 5 years of supervisory or management experience, with at least 2 years management experience in chemical or nuclear materials manufacturing facilities. The individual shall have demonstrated through progressively more responsible management positions the ability to manage technical and administrative programs similar to those found in a chemical processing plant or nuclear fuel cycle facility.

2.6 Training

SFC is committed to a comprehensive training program to ensure that all employees receive the instruction necessary to be able to perform their jobs safely and efficiently. Components of the training program include:

2.6.1 General Employee Training

General Employee Training consists of classroom lectures and demonstrations for all new hires. Topics covered include radiation protection, emergency requirements, and procedures, as appropriate to the individual's position.

Each employee signs a statement committing to following corporate policy and procedures.

2.6.2 Chemical Operator Training and Certification

Chemical Operator Training consists of classroom lectures and on-the-job training modules for specific operating area positions. Before being permitted to perform the position requirements without

direct supervision, operators are certified by operating position based upon successful completion of required classroom and on-the-job training. The certification system is promulgated in an operating procedure which is reviewed and approved by the Plant Operations Review Committee.

2.6.3 Retraining

Refresher training is conducted each calendar year for all employees whose normal duties expose them to licensed or hazardous materials, and includes such subjects as plant operations, chemistry andphysics, health physics, safety, hazard communications, specified procedures, and the Emergency Plan.

2.6.4 Development and Approval of Training Materials

Development and approval of training materials is conducted by the department under whose cognizance the subject matter falls. New training materials and revisions to existing training materials are approved by the cognizant Department Manager.

2.7 Conduct of Operations

2.7.1 Operating Procedures

It shall be the responsibility of the Senior Vice President, to see that written operating procedures are established, maintained and adhered to for all operations and safety-related activities involving source or hazardous materials. All operating procedures shall be reviewed by the Manager, Health, Safety, and Environment, and approved by the Senior Vice President, and appropriate training conducted and documented prior to the implementation of the procedure. Temporary changes shall not be made to operating procedures without review by the procedure's proponent or his designee and written approval of the Senior Vice President, or his designee. All operating procedures shall be reviewed and revised whenever necessary to reflect changes in facility operations, but in no event, less than once every 24 months. The Sequoyah Operating Procedure System shall establish requirements for the development of new operating procedures, revisions to existing operating procedures, the review and approval process, the level of training required, if any, and the degree of documentation necessary to demonstrate that the appropriate facility operating personnel are knowledgeable of new or revised operating procedures.

2.7.2 Document Control

A document control system shall be established and maintained to assure that the procedures in use are the latest revision. A

sanction statement regarding the serious nature of failure to follow the procedures shall be included in the Sequoyah Operating Procedures System and emphasized in the employee training program.

2.7.3 Activities Involving Uranium

All activities involving uranium shall be conducted in accordance with approved radiation health and safety standards. The radiation health and safety standards shall be prepared by the Corporate Manager, Health Physics, and shall be reviewed by the Vice President, Regulatory Affairs. The standards shall be reviewed for operability by the Manager, Health, Safety, and Environment, and the Senior Vice President, and approved by the Corporate Vice President, Human Resources. Changes to the health and safety standards shall follow the same administrative review and approval system as original standards.

2.7.4 Design Control

Process and equipment design, which delineate the process and prescribe critical design parameters, shall be prepared by the Manager, Engineering, reviewed by the Manager, Operations and the Manager, Health, Safety, and Environment, and shall be approved by the Senior Vice President. Major changes to process operations and to equipment design shall be reviewed for operability and approved by the Senior Vice President, or the President, SFC.

Modifications or changes to process operations or equipment that normally occur during operations shall be prepared by the Manager, Engineering; reviewed by the Manager, Health, Safety, and Environment, and the Manager, Operations; and approved by the Senior Vice President. All experimental and developmental work to be performed at the Sequoyah Facility shall be approved by the Senior Vice President, prior to its initiation.

2.7.5 Maintenance Work

All maintenance work shall be performed in accordance with the Maintenance Work Order Procedure. Operations department supervisors shall determine if any planned maintenance work involves a potential release of radioactive material or potential exposure to radioactive material. If a determination is made that the work could involve uncontained uranium, the operation supervisor shall prepare a Hazardous Work Permit in accordance with established procedure.

The maintenance supervisor shall inspect the repaired work and shall sign the work order indicating that the work has been completed and is acceptable. For work that could involve uncontained uranium, the operations supervisor shall inspect the

repair work prior to removal of protective devices and closing out the Hazardous Work Permit by signature.

At the completion of major modification work, a Safety Review and Acceptance Team, including the Manager, Health, Safety, and Environment shall review the completed work in accordance with the established Design Change Authorization Procedure. The Safety Review and Acceptance Team shall document that the work has been completed in an acceptable manner. For work orders involving modifications, covered by the Design Change Authorization Procedure, a copy of the completed work order will be forwarded to the Engineering Department for updating plant drawings.

A maintenance surveillance program shall be established for critical instrumentation, alarms and interlocks. The critical instruments, alarms and interlocks covered in the maintenance surveillance program shall be periodically checked and calibrated commensurate with the safety function but at least once every 12 months plus or minus 2 months.

2.8 Audits and Inspections

The Manager, Health, Safety, and Environment, or the Supervisor - Health Physics, shall conduct an inspection of all plant activities involving radioactive materials on a monthly basis in accordance with a written procedure. A written report documenting the inspection findings shall be made to the Senior Vice President, with copies to the Vice President, Regulatory Affairs, and the Vice President, Business Development.

The Corporate Manager, Licensing, Safety and Nuclear Compliance, shall ensure that quarterly audits are conducted at the Sequoyah Facility to evaluate and verify compliance with applicable federal and state regulations, NRC license conditions, permits, corporate policies and facility procedures in accordance with a written plan. The audits shall apply to major areas such as operations and safety-related activities involving radioactive materials, radiation protection, health physics, industrial safety, environmental control and emergency response programs. The audits shall be conducted by qualified personnel trained in basic radiation protection and knowledgeable about federal and state regulations, corporate policies and facility procedures. At the conclusion of the audit, the auditor shall conduct an exit interview with the Vice President, Regulatory Affairs, or his designee, and apprise him of any significant findings and the need for any immediate corrective actions. A formal report of findings, observations, and recommendations shall be prepared and submitted by the Corporate Manager, Licensing, Safety and Nuclear Compliance to the Vice President, Regulatory Affairs. Copies of the report shall be furnished to the Corporate Manager, Health Physics, the Senior Vice President, and the President, SFC. In responding to the report, the manager of the area affected shall give the status of corrective

action that has been taken and provide a schedule for additional action which will be taken. The auditor shall conduct a follow-up review to ensure corrective action is being taken in a timely manner.

The Vice President, Regulatory Affairs, or his designee, shall conduct periodic audits, at least once every 12 months, of operations and safety-related activities in accordance with the QA Plan and Procedures. The audits shall be conducted to verify compliance with corporate policies, procedures, license conditions and federal regulations. A report of the areas audited shall be made quarterly to the President, SFC. Audit findings shall be documented with copies of the report forwarded to the Senior Vice President, and the President, Sequoyah Fuels Corporation. The Senior Vice President shall be responsible for assuring that audit findings are addressed in a timely manner. Follow-up action, including reaudit of deficient areas, shall be taken where indicated.

2.9 Investigation and Reporting of Non-Normal Occurrences

The Sequoyah Facility shall establish an "Incident Report" system. An incident report shall be made for each release of material resulting in gross airborne alpha activity in excess of 3 MPC based on uranium. This incident report shall be initiated by the Manager, Health, Safety, and Environment and is directed to the supervisor whose personnel were potentially exposed and then forwarded to the Senior Vice President. The supervisor shall sign the report including any pertinent observations as to the correction of the condition to avoid further incidents. The report shall then be distributed to the Senior Vice President, the Manager of Operations, the Vice President, Regulatory Affairs, the Corporate Manager, Health Physics, and the Corporate Manager, Licensing, Safety and Nuclear Compliance. These reports form a basis for the quarterly ALARA review and include a dose assessment based upon the occupancy conditions and protective equipment used at the time of the incident.

Releases of radioactive material to the environment exceeding established release reporting criteria given in 10 CFR Part 20 shall be reported promptly to the Manager, Health, Safety, and Environment, and the Corporate Manager, Licensing, Safety and Nuclear Compliance and reported to the NRC as required by Sequoyah Operating Procedures and Federal regulations. Subsequently, the matter shall be investigated by a designated manager and the Manager, Health, Safety, and Environment at the Sequoyah Facility and a written report submitted as required.

Chemical releases to the environment exceeding State or EPA limits shall be reported as appropriate in accordance with the above reference procedures and regulations.

2.10 Records

All plant and personnel health physics data and reports shall be recorded and filed in accordance with applicable regulations. Timely trend analyses and reports shall be made at monthly intervals to plant management. The records of surveys and personnel exposure records are retained and reports are made in accordance with applicable regulations.

All required plant training activities shall be documented in the facility training files. Facility audit results by both the Corporate Manager, Licensing, Safety, and Nuclear Compliance, or his designee, and the Vice President, Regulatory Affairs, or his designee, shall be maintained in accordance with the Quality Assurance Plan and Implementing Procedures and Corporate Policies.

All documentation, records and tests required as a part of this License shall be maintained for a minimum of 5 years, or longer if applicable regulations so require.

3.3 Technical Requirements

Technical requirements to minimize exposures to radiation and radioactive materials shall include access controls, ventilation controls, monitoring for release of radionuclides, and monitoring for external and internal exposure.

3.3.1 Access Control

3.3.1.1 Protected Area

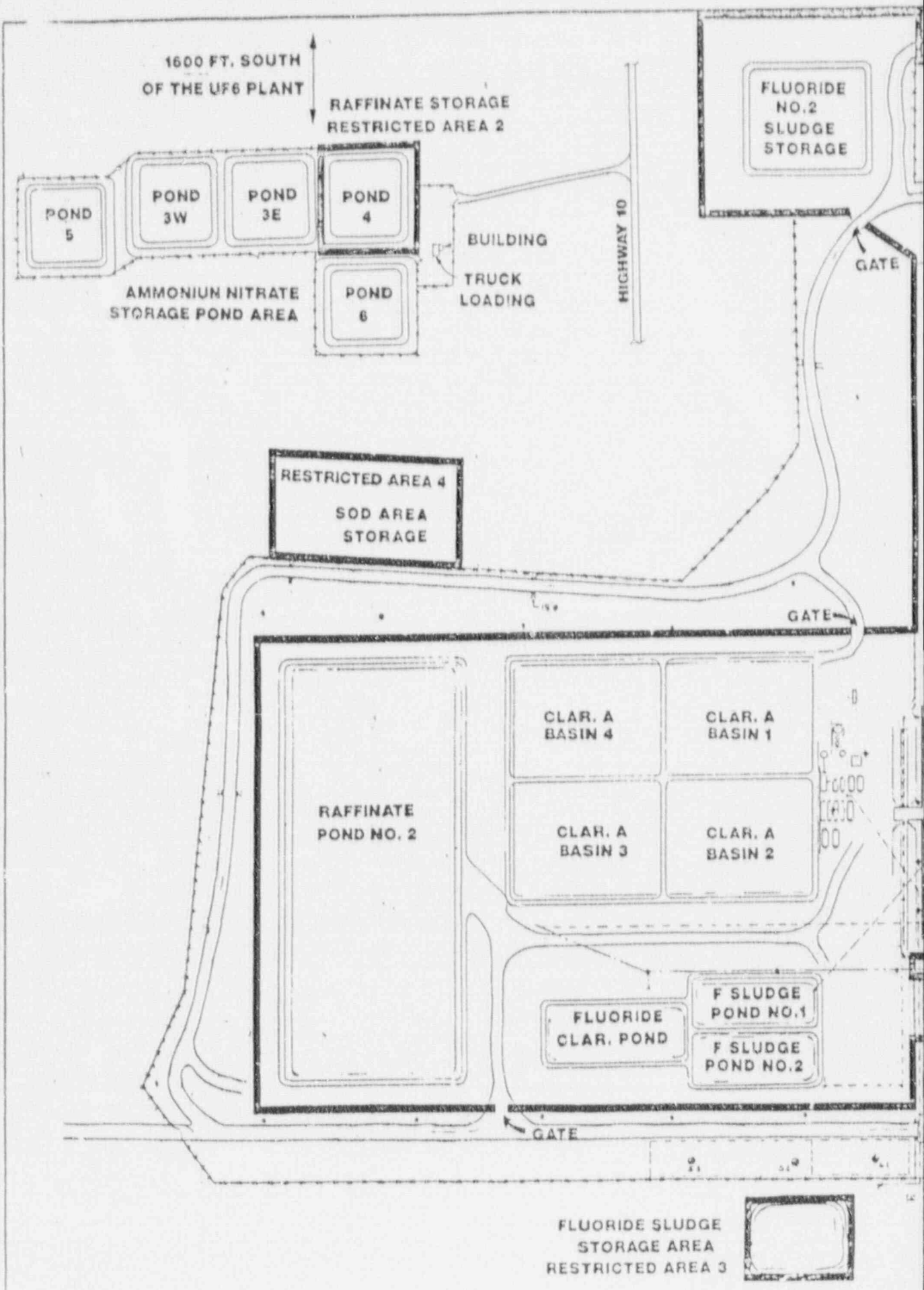
The Sequoyah Facility is protected by a physical barrier (8 foot fence) and an electronic security system. If the electronic security system is inoperable for more than 16 hours compensatory measures shall be implemented in accordance with established security instructions to provide increased surveillance of the Protected Area. Compensatory measures shall remain in effect until the electronic security system is returned to an operable status.

Access to all areas shall normally be through the South entrance which is provided with a Guard House. Where alternate access points are used, special security measures will be implemented to maintain access control. Employees shall be issued identification badges which are issued as they enter and returned as they leave the site. Visitors shall be issued badges by the watchman as they enter the facility and are normally escorted while on the premises.

3.3.1.2 Restricted Areas

Figure 3-1 identifies Restricted Areas 1, 2, 3, and 4 on a plan view of the site. Restricted Areas are protected by a "physical barrier" (fence) with a gate(s) which is normally locked. The keys for these locks shall be under the control of the Manager, Health, Safety, and Environment or his designee (normally security personnel). The Senior Vice President can authorize the distribution of keys to the various Restricted Areas to other individuals based on operations needs. A second set of keys for all locks shall be kept by security personnel at the South Guard House.

Personnel access to Restricted Area 1 shall normally be through the change room. When exiting Restricted Area 1, each person shall again pass through the change room. Washing and showering facilities are provided. All employees who normally work within Restricted Area 1 and change clothing shall shower at the end of the work day or shift or when leaving the site. All individuals leaving the Restricted Area shall monitor exposed skin and personal


1600 FT. SOUTH
OF THE UF6 PLANT
RAFFINATE STORAGE
RESTRICTED AREA 2
POND 5
POND 3W
POND 3E
POND 4
POND 6
AMMONIUN NITRATE
STORAGE POND AREA
BUILDING
TRUCK
LOADING
HIGHWAY 10
FLUORIDE
NO.2
SLUDGE
STORAGE
GATE
RESTRICTED AREA 4
SOD AREA
STORAGE
GATE
RAFFINATE
POND NO. 2
CLAR. A
BASIN 4
CLAR. A
BASIN 1
CLAR. A
BASIN 3
CLAR. A
BASIN 2
FLUORIDE
CLAR. POND
F SLUDGE
POND NO.1
F SLUDGE
POND NO.2
GATE
FLUORIDE SLUDGE
STORAGE AREA
RESTRICTED AREA 3

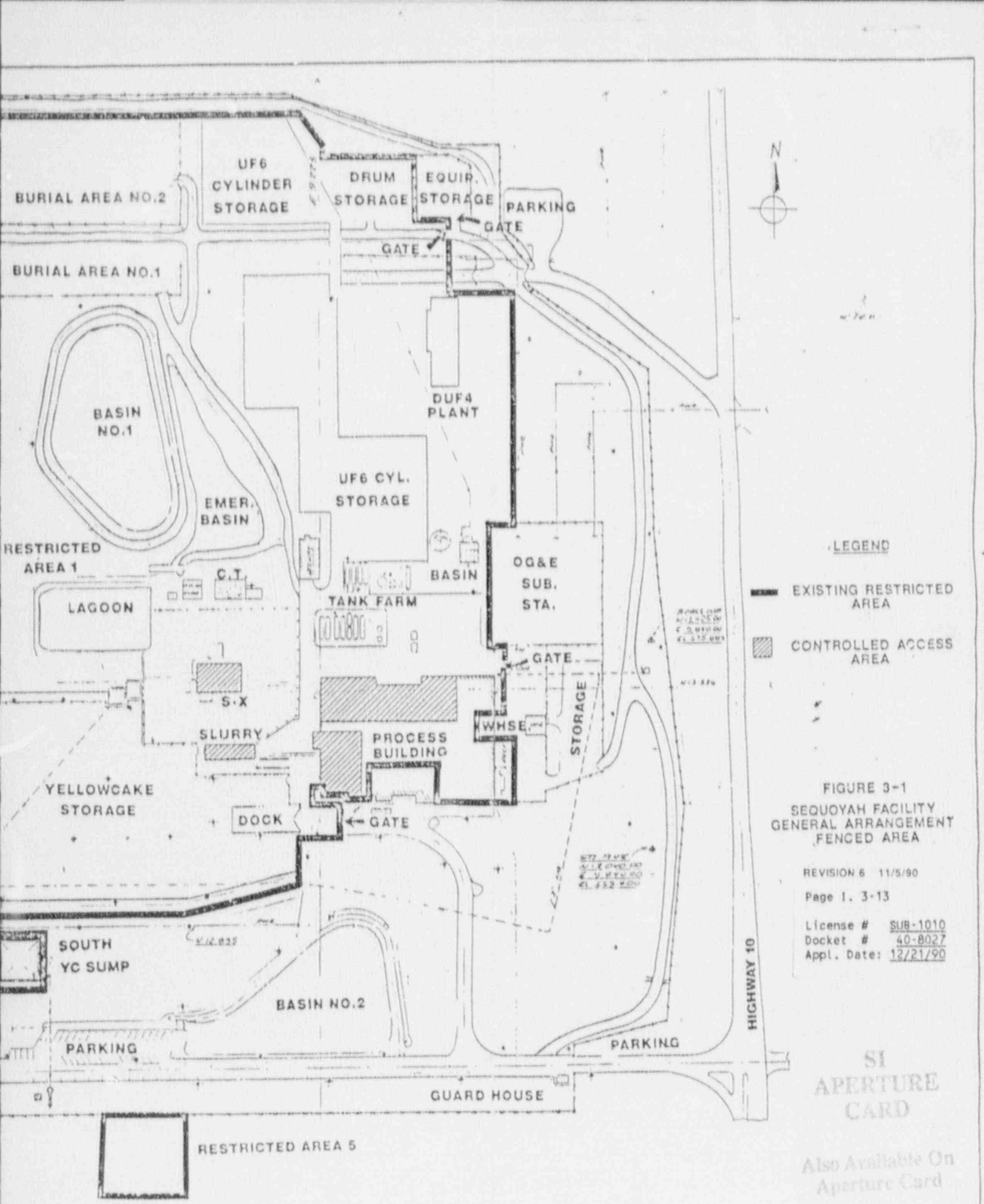


FIGURE 3-1
SEQUOYAH FACILITY
GENERAL ARRANGEMENT
FENCED AREA

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Docket # 40-8027
Appl. Date: 12/21/90

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CHAPTER 11. ORGANIZATION AND PERSONNEL

11.1 Unit Functions

The President, Sequoyah Fuels Corporation shall have overall responsibility for the safe operation of the Sequoyah Facility. Additional responsibility has been assigned to the Senior Vice President; the Vice President, Business Development; the Vice President, Regulatory Affairs; the Controller; and the Manager, Health, Safety, and Environment for various functions as described in Chapter 2.0 of the license.

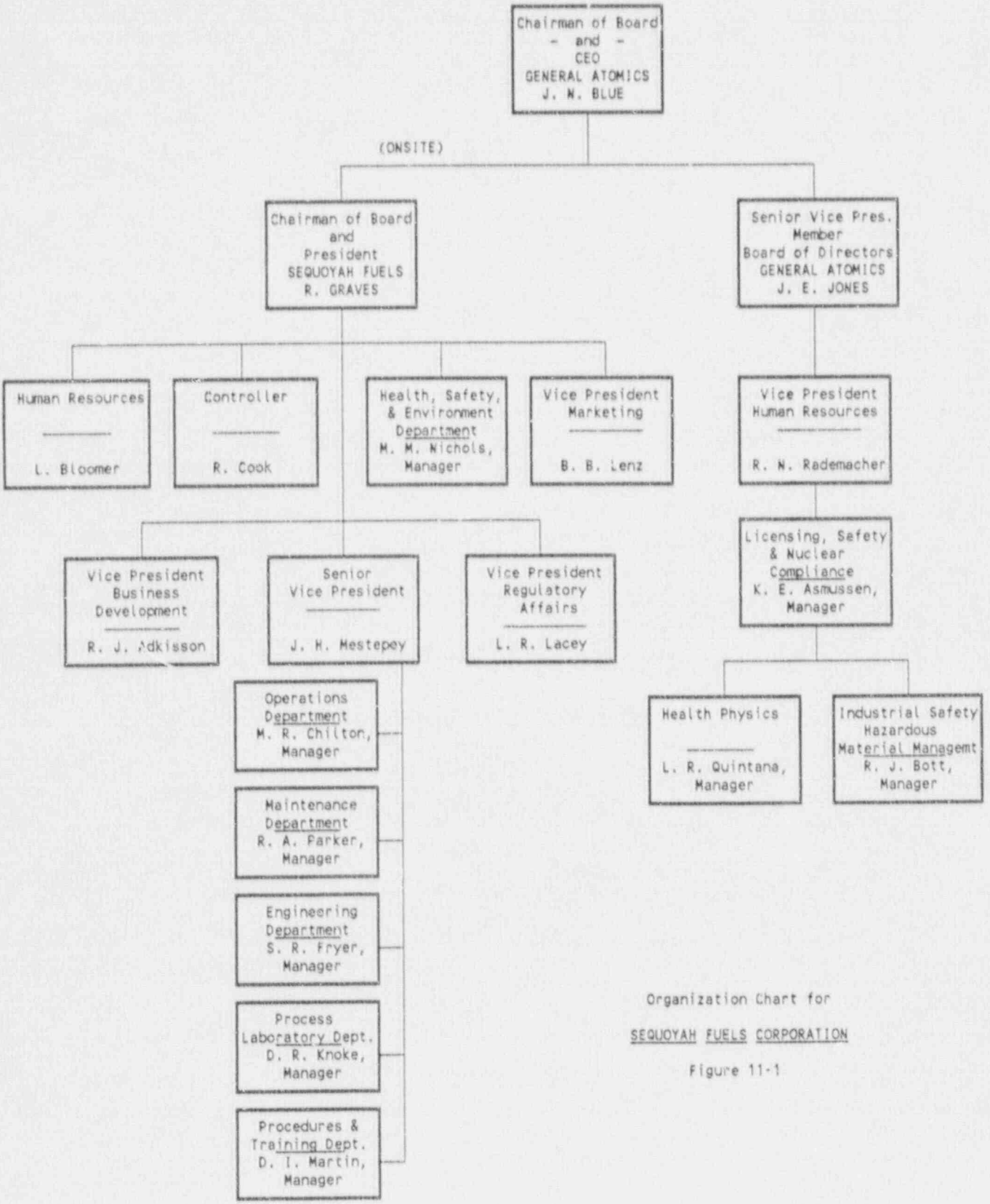
The facility organization consists of a number of departments, each headed up by a Manager who reports to a Vice President, Senior Vice President or the President, SFC, as shown in Figure 11-1. The functional responsibilities of the various departments are described in Chapter 2.0.

11.2 Organizational Procedures

In view of the company's basic concern for the well-being and protection of its employees and for the health and safety of the public, and in the discharge of its responsibilities under public laws and regulations, a stringent and effective program is maintained for the control of radiation and contamination hazards. To conduct the program, organizational components are established to provide not only for strong facility management in radiation safety but also for independent development of process and equipment criteria and health and safety standards, and audit thereof, under conditions which minimize the length of reporting lines and maximize the effectiveness of management control.

A basic premise of Sequoyah Fuels Corporation and General Atomics is that every individual has a personal responsibility for carrying out his assigned task in a manner which will not only achieve its operational objectives, but will do so without endangering the health and safety of that individual, his co-workers, or the public. It follows that every person in the chain of operational command has responsibility for health and safety matters for all operations under his control.

It is also a basic premise of Sequoyah Fuels Corporation and General Atomics that there be a strong independent overview of the activities of the line operations to assure, through a check and balance system, that health and safety matters have been adequately considered in the process selection and equipment design; that adequate procedures have been established to assure that the process and equipment are operating in a safe manner; and that personnel are adequately protected against radioactivity and radiation hazards.



Organization Chart for

SEQUOYAH FUELS CORPORATION

Figure 11-1

Lee R. Lacey, Vice President, Regulatory Affairs, Sequoyah Fuels Corporation

Education

MS Human Resources Development, Oklahoma State University.
BS Engineering Technology, Oklahoma State University.
U.S. Navy:
Electronics Technician Class "A" School.
Basic Nuclear Power School.
Nuclear Power Training Unit (Prototype Training).
Submarine School.

Experience

9/90-	Vice President, Regulatory Affairs, Sequoyah Fuels Corporation.
4/90-9/90	Manager, Regulatory Compliance and Quality Assurance, Sequoyah Fuels Corporation.
1989-1990	Manager, Nuclear Licensing and Environmental Compliance, Sequoyah Fuels Corporation.
1986-1989	Manager, Health, Safety, and Environment, Sequoyah Fuels Corporation, Department Manager for the Health, Safety and Environment Department at the Sequoyah Facility. Responsible for the following programs: health physics, industrial safety, environmental monitoring, industrial hygiene, physical security, occupational health and emergency preparedness. Served as the Facility Contingency Plan Coordinator. Directly supervised the Facility Radiation Safety Officer.
1985-1986	Manager, Training Services, Quadrex Corporation, Tulsa, Oklahoma. Managed Quadrex's training services business. Served as a consultant in the areas of nuclear training, health physics, emergency preparedness, and regulatory compliance.
1983-1985	Manager of Projects, Quadrex Corporation, Tulsa, Oklahoma. Managed large consulting projects and directed the business activities of the Projects Department. Technical involvement included development and implementation of training programs, conduct of audits, development of training administrative controls, and support of INPO accreditation programs. Consulted in health physics and emergency preparedness.
1981-1983	Manager of Radiological Training and Services, Quadrex Corporation, Tulsa, Oklahoma. Directed the business

activities of the Radiological Training and Services Section. Developed emergency plan procedures, developed drill scenarios, and managed emergency exercises. Developed radiological training programs and materials. Wrote a nuclear facility Radiation Protection Plan manual.

1980-1981 Senior Health Physics Consultant, Quadrex Corporation, Tulsa, Oklahoma. Supervised health physics, training, and emergency preparedness projects for utility clients. Assigned as Radiation Safety Officer for a radiological facility decontamination project. Revised emergency plans and developed implementing procedures. Developed a comprehensive health physics technician training program.

1980 Reactor Health Physics Inspector, U.S. Nuclear Regulatory Commission, Atlanta, Georgia. Conducted inspections of power reactor health physics programs. Performed as a member of the Health Physics Appraisal Team.

1977-1980 Health Physicist, Duke Power Company, Charlotte, North Carolina. Assignment to the corporate health physics staff. Responsibilities included training, exposure control, respiratory protection, and procedure development. Performed technical audits and ALARA design reviews.

1974-1977 Administrator/Recruiter, U.S. Naval Reserve, Stillwater, Oklahoma. Provided administrative and recruiting support for units of the Naval Reserve.

1966-1972 Reactor Operator/Electronics Technician, U.S. Navy. Nuclear Reactor Operator on S1W and S5W submarine reactor plants.

Professional Recognition

- Certified Hazardous Materials Manager
- Registered Environmental Professional
- American Industrial Hygiene Association
- Health Physics Society
- USNRC Certificate of Appreciation - Three Mile Island Response
- Health Physics Society Continuing and General Education Committee (1986-Present)
- American Industrial Hygiene Association Committee on Continuing Education (1987-Present)
- Atomic Industrial Forum Committee on Radiation Protection (1982-84)
- Atomic Industrial Forum Ad Hoc Committee on Engineering Techniques to Reduce Occupational Exposures (1978-79)
- American Board of Health Physics Certification, Part 1

Michael M. Nichols, Manager, Health, Safety, and Environment, Sequoyah Fuels Corporation

Education

BS Engineering Technology (Health Physics), Oklahoma State University.
Certification - Hazards Control Manager, Master Level.

Experience

4/90-	Manager, Health, Safety, and Environment, Sequoyah Fuels Corporation.
1/89-4/90	Manager, Health and Safety (RSO), Sequoyah Fuels Corporation.
1988-1989	Manager, Health Physics and Industrial Hygiene (RSO), Sequoyah Fuels Corporation.
1985-1988	Superintendent of Plant Support, (Radiation Protection Manager) Wolf Creek Power Station, Wolf Creek Nuclear Operating Corporation. Responsible for Fire Protection, Radiation Protection and Emergency Planning. Responsible for the management, direction, and supervision of a department of 175 personnel. Interfaced with FEMA, NRC, EPA and other State and Local Regulatory agencies in areas of compliance, inspection and joint training. During plant start-up: responsible for installation, testing and modification of radioactive and chemical systems.
1979-1985	Radiation Protection Manager, Wolf Creek Nuclear Operating Corporation. Responsible for development of programs and procedures to assure compliance with regulatory requirements, Radiation Protection, Emergency Planning, internal and external dosimetry, nuclear plant start-up and power ascension and industrial and chemical safety. Developed site specific Health Physics Program description for Wolf Creek final Safety Analysis Report. Responsible for the development and implementation of the Emergency Plan. Directed development of Technician and Engineer Training Program as well as plan wide radiation worker, GET, safety/chemical safety and respiratory protection and Emergency Plan Training.
1973-1979	Supervisor, Radiological and Industrial Hygiene Program Development, Arkansas Nuclear One, Arkansas Power and Light Company. Responsible for Radiological and

Industrial Hygiene Program development and implementation including regulatory interface, equipment calibration for fixed and portable instrumentation and associated training. Developed procedures for analyses of secondary and primary chemistry samples; performed chemical and radiochemical analyses of various samples; developed and implemented various procedures including instrument calibration, system start-up and repair.

1972-1973 Technician, Enrico Fermi Nuclear Power Plant, Detroit Edison Company. Supervision of personnel during start-up efforts, defueling, and decommissioning Fermi I-LMFBR; supervised activities during fuel and major component removal.

1971-1972 Laboratory Technician, Enrico Fermi Nuclear Power Plant, Detroit Edison Company. Part-time chemistry and radiological technician activities and analyses while attending Oklahoma State University.

Carolyn L. Couch, Manager, Environmental, Sequoyah Fuels Corporation

Education

BS Biology (Minor in Chemistry), East Central University, Ada, Oklahoma.

Experience

4/90- Manager, Environmental, Sequoyah Fuels Corporation.

1989-1990 Senior Environmental Engineer, Sequoyah Fuels Corporation.

1985-1989 Environmental Engineer, Sequoyah Fuels Corporation.

1979-1985 Associate Engineer, Sequoyah Facility, Kerr-McGee Corporation.

Kenneth G. Simeroth, Supervisor-Health Physics, Sequoyah Fuels Corporation

Education

BS Industrial Technology, Northeastern State University.
AA Northeastern State, Tahlequah, Oklahoma (Major: Arts and Physics).
Certificate, Chemical Operator School, Gore, Oklahoma.

Radiological Technologist Course, Rockwell International.

Experience

1/89-	Supervisor-Health Physics, Sequoyah Facility, Sequoyah Fuels Corporation.
1970-1988	Senior Health and Safety Technician, [Sequoyah Facility], Sequoyah Fuels Corporation, [Kerr-McGee Corporation].
1970	Chemical Operator, Sequoya Facility, Kerr-McGee Corporation.

Ricky L. Callahan, Supervisor-Health Physics, Sequoyah Fuels Corporation

Education

Diploma, Sallisaw High School, Sallisaw, Oklahoma.
Radiological Technologist Course, Rockwell International.
Radiation Technologist Training, Sparks Hospital, Fort Smith, Arkansas.

Experience

9/90-	Supervisor-Health Physics, Sequoyah Fuels Corporation.
6/87-9/90	Senior Health and Safety Technician, Sequoyah Fuels Corporation.
1/83-6/87	Health and Safety Technician, Sequoyah Facility, Sequoyah Fuels Corporation [Kerr-McGee Corporation].
1982-1983	Parts Manager, Sallisaw Ford Company, Sallisaw, Oklahoma.
1978-1982	Parts Salesman, Sallisaw Auto Parts, Sallisaw, Oklahoma.
1975-1978	X-Ray Technician, Sparks Medical Center, Fort Smith, Arkansas.

James H. Mestepey, Senior Vice President, Sequoyah Fuels Corporation

Education

BS General Science (Chemistry, Physics & Mathematics), Louisiana State University.

Experience

1/90-	Senior Vice President, Sequoyah Fuels Corporation.
11/88-1/90	Vice President, Operations, Sequoyah Fuels Corporation.
7/87-10/88	Manager of Operations, Sequoyah Fuels Corporation.
4/87-7/87	Manager, Special Projects and Process Technology, Sequoyah Facility, Sequoyah Fuels Corporation.
1985-1987	Senior Project Manager, New York State Energy Research and Development Authority, West Valley, New York.
1984-1985	Manager, Special Nuclear Studies, Allied Corporation, Barnwell, South Carolina.
1979-1983	Manager, Plant Engineering and Maintenance, Allied-General Nuclear Services, Barnwell, South Carolina.
1977-1979	Manager, Design Engineering, Allied-General Nuclear Services, Barnwell, South Carolina.
1973-1977	Superintendent, UF_6 Facility, Allied-General Nuclear Services, Barnwell, South Carolina.
1971-1973	Technical Superintendent, Metropolis Works, Allied Corporation, Metropolis, Illinois.

R. A. Parker, Manager, Maintenance, Sequoyah Fuels Corporation

Education

BS Electrical Engineering, Western Michigan University.

Experience

6/86-	Manager, Facility Maintenance, Sequoyah Fuels Corporation.
1982-1986	Superintendent Prep Plant, Kerr-McGee Coal Corporation, Clovis Point Mine.
1980-1982	Senior Construction Engineer, Kerr-McGee Coal Corporation, Jacobs Ranch and Clovis Point Mines.
1979-1980	Construction Engineer, Kerr-McGee Coal Corporation, Jacobs Ranch and Clovis Point Mines.

1978-1979	Development and Implementation of Prevent Maintenance Program, Atlantic Richfield Company, Black Thunder Mine.
1976-1978	Development and Implementation of Preventive Maintenance Programs, Eveleth Mines, Thunderbird Mines.
1975-1976	Electrical Engineer, Hibbing Taconite Company, Hibbing, Minnesota.
1972-1975	Instructor, Michigan Technological University, Houghton, Michigan.
1969-1972	Electrical Engineer, Consumers Power Company, Jackson, Michigan.

Sam R. Fryer, Manager, Engineering, Sequoyah Fuels Corporation

Education

BS Chemical Engineering, Massachusetts Institute of Technology.
MBA Marketing Concentrate, Harvard Business School.
Registered Professional Engineer in Oklahoma.

Experience

8/86-	Manager, Engineering, Sequoyah Fuels Corporation.
1985-1986	Director, Technology and Engineering, Sequoyah Fuels Corporation.
1980-1985	Manager, Planning and Analysis, Roy M. Huffington, Inc., Houston, Texas.
1977-1980	Manager, Planning, Cities Service Company, Tulsa, Oklahoma.
1966-1977	Manager of Chemicals Getty/Skelly Oil Company. Other positions during this period included Development Engineer, Vice President and Director Chemland Corporation (subsidiary), Vice President and Director Hawkeye Chemical Company (subsidiary), Director Yong-Nam Chemical Company (subsidiary).
1964-1966	Attended Harvard MBA Program.
1960-1964	Development Engineer, Dow Chemical Company.

Michael R. Chilton, Manager, Operations, Sequoyah Fuels Corporation

Education

BS Chemical Engineering, University of Missouri.
MBA, University of Arkansas.

Experience

10/90-	Manager, Operations, Sequoyah Fuels Corporation.
5/89-10/90	Area Manager, UF_6, Sequoyah Fuels Corporation.
1/89-5/89	Area Manager, UF_6 & DUF_4, Sequoyah Fuels Corporation.
1/88-1/89	Manager, DUF_4 and Process Engineering, Sequoyah Fuels Corporation.
1986-1988	Manager, DUF_4, Sequoyah Facility, Sequoyah Fuels Corporation.
1985-1986	Operations Liaison, DUF_4 Construction Project, Sequoyah Fuels Corporation.
1981-1985	Process Engineer, Sequoyah Fuels Corporation.

Larry A. Tharp, Area Manager, UF_6, Sequoyah Fuels Corporation

Education

BSCHE Chemical Engineering, University of Tulsa.

Experience

10/90-	Area Manager, UF_6, Sequoyah Fuels Corporation.
1/89-10/90	Manager, Process Engineering, Sequoyah Fuels Corporation.
1986-1988	Area Manager, Sequoyah Facility, Sequoyah Fuels Corporation.
1979-1986	Senior Process Engineer, Sequoyah Facility, Kerr-McGee Corporation.
1970-1978	Area Supervisor, Sequoyah Facility, Kerr-McGee Corporation.
1969-1970	Senior Engineer, Sequoyah Facility, Kerr-McGee Corporation.

1963-1969 Technical Assistant to the Superintendent, International Paper Company, Pine Bluff, Arkansas.

Tom L. Johns, Area Manager, UO_3, Sequoyah Fuels Corporation

Education

BS Chemical Engineering, University of Arkansas.

Experience

5/89- Area Manager, UO_3, Sequoyah Fuels Corporation.

9/88-5/89 Senior Process Engineer, Sequoyah Fuels Corporation.

1985-9/88 Instrumentation Engineer, Power Specialties, Inc.

Don R. Knoke, Manager, Process Laboratory, Sequoyah Fuels Corporation

Education

BS Chemistry, West Virginia University.

Experience

2/90- Manager, Process Laboratory, Sequoyah Fuels Corporation.

5/86-1/90 Manager, Facility Laboratory, Sequoyah Fuels Corporation.

1986 Senior Analytical Chemist, Sequoyah Facility, Sequoyah Fuels Corporation.

1969-1986 Supervisor, Laboratory Instruments, Sequoyah Facility, Kerr-McGee Corporation.

1968-1969 Chemist, Method Development, Sequoyah Facility, Kerr-McGee Corporation.

1966-1968 Chemist, Method Development, Amceel Plant, Celenase Fibers Company.

1957-1966 Chemist, Mallinckrodt Chemical Works, Uranium Division, Weldon Springs, Missouri.

Derrell I. Martin, Manager, Procedures and Training, Sequoyah Fuels Corporation

Education

BS Secondary Education, Mathematics Major. Northeastern State University, Tahlequah, Oklahoma.

Experience

5/90-	Manager, Procedures and Training, Sequoyah Fuels Corporation.
1/88-5/90	Training Coordinator and Manager, Community Relations, Sequoyah Fuels Corporation.
1979-1987	Manager, Industrial Relations/Community Relations, Sequoyah Fuels Corporation.
1969-1979	Administrative Analyst, Sequoyah Facility, Sequoyah Fuels Corporation/Kerr-McGee Nuclear Corporation.
1968-1969	Sales Representative, Liberty Investors Life, Tulsa, Oklahoma.
1965-1968	Manager, Farmers Co-Op of Arkansas and Oklahoma, Sallisaw, Oklahoma.
1964-1965	Mathematics Instructor, Sallisaw City Schools, Sallisaw, Oklahoma.

Jerry Sam Gilbreath, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Vian High School, Vian, Oklahoma.

Experience

11/86-	Shift Supervisor, Sequoyah Fuels Corporation, Kerr-McGee Corporation.
6/78-11/86	Assistant Control Room Operator, Sequoyah Facility, Sequoyah Fuels Corporation.
11/71-6/78	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.
6/71-11/71	Chemical Operator Trainee, Sequoyah Facility, Sequoyah Fuels Corporation.

10/70-6/71 Laborer/Sampler, Sequoyah Facility, Sequoyah Fuels Corporation.

Sammie N. Moore, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, High School Graduate, Ft. Gibson, Oklahoma.

Experience

1/71- Shift Supervisor, Sequoyah Fuels Corporation, Kerr-McGee Corporation.

1969-1971 Control Room Operator, Sequoyah Facility, Kerr-McGee Corporation.

J. C. Brewer, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Bokoshe High School.

Experience

1/72- Shift Supervisor, Sequoyah Fuels Corporation, Kerr-McGee Corporation.

1969-1972 Control Room Operator, Sequoyah Facility, Kerr-McGee Corporation.

Richard Hughes, Jr., Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Okay High School, Okay, Oklahoma.

Experience

4/86- Shift Supervisor, Sequoyah Facility, Sequoyah Fuels Corporation.

2/78-4/86 Assistant Shift Supervisor, Sequoyah Facility, Kerr-McGee Corporation.

1975-1978 Assistant Control Room Operator, Sequoyah Facility, Kerr-McGee Corporation.

1969-1975 Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.

Jimmy D. Hummingbird, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Stilwell High School, Stilwell, Oklahoma.

Experience

4/86- Shift Supervisor, Sequoyah Fuels Corporation.

1/79-4/86 Assistant Shift Supervisor, Sequoyah Facility, Kerr-McGee Corporation.

1970-1979 Control Room Operator, Sequoyah Facility, Kerr-McGee Corporation.

1969-1970 Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.

Jerry D. Clapp, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Hobbs High School, Hobbs, New Mexico.
Bailey Computer Training.

Experience

11/86- Shift Supervisor, Sequoyah Fuels Corporation.

1976-1986 Control Room Operator, Sequoyah Facility, Sequoyah Fuels Corporation.

1969-1976 Chemical Operator, Sequoyah Facility, Sequoyah Fuels Corporation.

Barbara Sue Smith, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Braggs High School, Braggs, Oklahoma.
College Training - 3 years - John F. Kennedy College.

Experience

11/86-	Shift Supervisor, Sequoyah Fuels Corporation.
1977-1986	Chemical and Relief Operator, Sequoyah Facility, Sequoyah Fuels Corporation.
1977	Labor, Sequoyah Facility, Sequoyah Fuels Corporation.

Deborah Ann Emerson, Shift Supervisor, Sequoyah Fuels Corporation.

Education

GED American Schools, Chicago, Illinois.

Experience

7/87-	Shift Supervisor, Sequoyah Fuels Corporation.
1977-1987	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.
1976-1977	Chemical Operator Trainee, Sequoyah Facility, Kerr-McGee Corporation.
1976	Laborer, Sequoyah Facility, Kerr-McGee Corporation.

Lloyd Macarty, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Northeast High School, Oklahoma City, Oklahoma.

Experience

6/89-	Shift Supervisor, Sequoyah Fuels Corporation.
3/88-6/89	Control Room Operator II, Sequoyah Facility, Sequoyah Fuels Corporation.
1/79-3/88	Assistant Control Room Operator, Sequoyah Facility, Sequoyah Fuels Corporation
2/78-1/79	Relief Operator, Sequoyah Facility, Kerr-McGee Corporation.
5/71-2/78	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.

8/70-5/71	Chemical Operator Trainee, Kerr-McGee Corporation.
6/68-7/70	Salesman, Standard Life Insurance Company, Oklahoma City, Oklahoma.
1/68-6/68	Salesman, B.M.A. Insurance Company, Oklahoma City, Oklahoma.
9/67-12/67	Assistant Service Manager, City Chevrolet, Muskogee, Oklahoma.
12/65-8/67	Chemical Operator, Fansteel Metallurgical, Muskogee, Oklahoma.
8/60-9/65	Route Salesman, Carnation, Phoenix, Arizona.
5/54-7/60	Packing/Shipping Clerk, Macklanburg, Oklahoma City, Oklahoma.

Leroy M. Reid, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Sallisaw High School, Sallisaw, Oklahoma.

Experience

1/89-	Shift Supervisor, Sequoyah Fuels Corporation.
1988-1989	Relief and Project Supervisor, Sequoyah Facility, Sequoyah Fuels Corporation.
1986-1988	Area Superintendent, Sequoyah Facility, Sequoyah Fuels Corporation.
1979-1986	Shift Supervisor, Sequoyah Facility, Sequoyah Fuels Corporation.
1978-1979	Assistant Shift Supervisor, Sequoyah Facility, Sequoyah Fuels Corporation.
1972-1978	Control Room Operator, Sequoyah Facility, Kerr-McGee Nuclear Corporation.
1969-1972	Assistant Control Room Operator and Chemical Operator, Sequoyah Facility, Kerr-McGee Nuclear Corporation.

Bill F. Bradley, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Sallisaw High School, Sallisaw, Oklahoma.
Connors State College (one year).

Experience

9/87-	Shift Supervisor, Sequoyah Fuels Corporation.
1978-1987	Assistant Shift Supervisor, Sequoyah Facility, Kerr-McGee Corporation.
1977-1978	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.
1973-1977	Laboratory Technician, Sequoyah Facility, Kerr-McGee Corporation.
1970-1973	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.

Billy Jo McAffrey, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Welch High School, Welch, Oklahoma.
N.E.O.A.M., Miami, Oklahoma.
Oklahoma State University (3-1/2 years), Stillwater, Oklahoma.

Experience

5/89-	Shift Supervisor, Sequoyah Fuels Corporation.
10/88-5/89	Chemical Operator IV, Sequoyah Fuels Corporation.
11/87-10/88	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.
7/87-11/87	Shift Supervisor, UF_4 Area (temporary assignment), Sequoyah Facility, Kerr-McGee Corporation.
5/78-7/87	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.
3/78-5/78	Chemical Operator Trainee, Sequoyah Facility, Kerr-McGee Corporation.
11/77-3/78	Laborer, Sequoyah Facility, Kerr-McGee Corporation.

5/76-5/77	Self-Employed (Farming), Welch, Oklahoma.
9/75-5/76	Oklahoma State University Meat Laboratory, Stillwater, Oklahoma.
5/75-9/75	Self-Employed (Farming), Welch, Oklahoma.

Louie G. Wells, Shift Supervisor, Sequoyah Fuels Corporation

Education

Connors State College - Sociology.
Northeastern State University (95 college credit hours).

Experience

5/89-	Shift Supervisor, Sequoyah Fuels Corporation.
10/88-5/89	Control Room Operator II, Sequoyah Fuels Corporation.
3/88-10/88	Control Room Operator I, Sequoyah Fuels Corporation.
8/83-3/88	Assistant Control Room Operator, Sequoyah Facility, Sequoyah Fuels Corporation.
1/79-8/83	Relief Operator, Sequoyah Facility, Kerr-McGee Corporation.
7/73-1/79	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.
7/72-7/73	Chemical Operator Trainee, Sequoyah Facility, Kerr-McGee Corporation.
5/72-7/72	Laborer, Sequoyah Facility, Kerr-McGee Corporation.
7/71-5/72	Stilwell Canning Company, Stilwell, Oklahoma.
1/71-5/71	Central Mill, Tulsa, Oklahoma.
6/70-9/71	DuPont Plastics, Tulsa, Oklahoma.

Eulous Youngblood, Shift Supervisor, Sequoyah Fuels Corporation.

Education

Diploma, Gans High School, Gans, Oklahoma.

Experience

5/89-	Shift Supervisor, Sequoyah Fuels Corporation.
10/88-5/89	Control Room Operator II, Sequoyah Fuels Corporation.
12/80-10/88	Assistant Control Room Operator, Sequoyah Facility, Kerr-McGee Corporation.
6/78-12/80	Relief Operator, Sequoyah Facility, Kerr-McGee Corporation.
7/73-6/78	Chemical Operator, Sequoyah Facility, Kerr-McGee Corporation.
7/72-7/73	Chemical Operator Trainee, Sequoyah Facility, Kerr-McGee Corporation.
5/72-7/72	Laborer, Sequoyah Facility, Kerr-McGee Corporation.
9/68-1/72	Wards Manufacturing, Fort Smith, Arkansas.

D. K. Isham, Shift Supervisor, Sequoyah Fuels Corporation

Education

Diploma, Vian High School, Vian, Oklahoma.
Associate Degree, Connors State College, Warner, Oklahoma.
Additional College Courses - Westark Community College, Tulsa University.
Bailey Computer Training.

Experience

1/90-	Shift Supervisor, Sequoyah Fuels Corporation.
11/86-1/90	Supervisor, Waste Treatment and Disposal Operations, Sequoyah Fuels Corporation.
1971-1986	Chemical and Relief Operator, Sequoyah Facility, Sequoyah Fuels Corporation.
1970-1971	Assistant Control Room Operator, Sequoyah Facility, Sequoyah Fuels Corporation.
1969-1970	Operator, Sequoyah Facility, Sequoyah Fuels Corporation.

Ronald J. Adkisson, Vice President, Business Development, Sequoyah Fuels Corporation

Education

BBA Marketing/Management, Central State University.

Experience

12/88-	Vice President, Business Development, Sequoyah Fuels Corporation.
8/83-11/88	Director, Contract Management and Cimarron Operations.
1981-1983	Director, Uranium Sales, Kerr-McGee Nuclear Corporation.
1979-1981	Manager, Technical Sales, Kerr-McGee Nuclear Corporation.
1978-1979	Manager, Regulatory Claims, Kerr-McGee Nuclear Corporation.
1976-1978	Sr. Planning Analyst - Market Planning, Kerr-McGee Nuclear Corporation.
1975-1976	Claims Representative, Kerr-McGee Corporation.
1973-1975	Accountability & Security Supervisor, Kerr-McGee Nuclear Corporation.
1972-1973	Nuclear Technician, Kerr-McGee Nuclear Corporation.

Reggie Cook, Controller, Sequoyah Fuels Corporation

Education

BBA, Accounting Major, University of Oklahoma.

Experience

11/88-	Controller, Sequoyah Fuels Corporation.
1986-1988	Group Supervisor, Coal/Uranium Accounting, Kerr-McGee Corporation.
1981-1986	Supervisor, Coal/Uranium Accounting, Kerr-McGee Corporation. Joint Venture Coordinator, Nuclear Accounting, Kerr-McGee Nuclear Corporation. (March-August 1981).

1979-1981	Assistant Supervisor, Retail Accounting, Kerr-McGee Corporation.
1978-1979	Refinery Accountant, Refining Accounting, Kerr-McGee Corporation.
1976-1978	TBA Inventory Control, Refining Accounting, Kerr-McGee Corporation.

pigtail is purged with nitrogen back into the UF_6 cylinder several times. As the cylinder cools, any residual UF_6 vapor condenses and the pressure in the cylinder drops below atmospheric pressure. The cylinder valve is closed using the remote operated motorized closer, the autoclave is opened, and the pigtail and extension handle on the cylinder valve is disconnected from the empty cylinder.

The empty UF_6 cylinder is removed from the autoclave using the bridge crane and placed on the cylinder weight cart on the cylinder scale. The same procedure is used for weighing the cylinder out as was used for weighing the cylinder in, except for the comparison with the D.O.E. shipping information and checking for overfilling.

The condensate from each autoclave is combined and collected in a condensate receiver and pumped alternately to one of the condensate holding tanks. Each holding tank is sized to hold about 24 hours of condensate production. When one tank is full, condensate flow is shifted to the empty tank and the full tank is agitated and sampled. The sample is analyzed for uranium and fluoride content. If uranium and fluoride are not present, the condensate is drained to the calcium fluoride settling and storage basin #2. If uranium and fluoride are present, the condensate is treated with lime as it enters the above mentioned settling basin. Discharge from the settling basin is pumped to the existing fluoride clarifier basins and subsequently to the Combination Stream (Outfall 001). Since uranium or fluoride is not expected in this condensate stream, the amount of calcium fluoride sludge waste from the plant will not be increased.

16.4.4 UF_4 Chemical Reactor

The chemical reactor consists of a small cyclonic type of UF_6-H_2 mixer mounted on the top of the reaction chamber. The reaction chamber consists of a vertical conical-shaped tube. The reaction chamber is tapered, and the bottom is welded to a cooling screw conveyor.

The chemical reaction chamber is enclosed in four clam shell vertical cylindrical 45 KW electric heaters. Each heater output is independently controlled using temperature sensors attached to the outside shell of the reactor tube. Room air is compressed by blower and introduced between each heater section and the reactor tube for cooling as required. Pneumatic vibrators are used to shake UF_4 off the reactor walls.

The UF_6 vapor is superheated from about 220°F as it leaves the autoclave to 350° by use of electric heat tapes on the UF_6 piping headers. The setpoint temperature is controlled by the DCS. Heat sensors are used to detect possible H_2 leaks and interlocks automatically shut off the H_2 flow upon the detection of a sudden rise in temperature.

The UF_6 flow rate from the UF_6 cylinders is regulated by a flow controller. The H_2 flow rate is regulated by another controller and is approximately 1.2 times the theoretical quantity required for complete chemical reaction. The two streams enter the cyclonic mixer and discharge into the top of the chemical reactor tube where the reaction takes place.

The temperature of the reactor is controlled at about 1,200°F at the top and about 850°F at the bottom, using the electric heater and cooling air as required. The majority of the reaction occurs at the top of the reactor. The UF_4 formed is a powdery solid. The UF_4 and the remaining gaseous reaction products pass from the bottom of the reactor to the cooling screw conveyor.

16.4.5 Cooling Screw Conveyor

The cooling screw conveyor is mounted horizontally under the reactor. The conveyor is provided with cooling water by the cooling jacket attached to the outside of the shell. The single shaft penetration on the drive end of the conveyor is sealed with a stuffing box which is purged with nitrogen gas to prevent release of UF_4 powder, H_2, or HF. The stuffing box is enclosed in a hood under negative pressure so that any release due to an upset is captured and filtered through a high efficiency baghouse. (This same design feature is used on all rotating stuffing box shaft seals on equipment under pressure in which radioactive or hazardous chemicals are contained.)

The powder is cooled to about 300°F and conveyed to a chute between the cooling screw and product transfer screw. A bed of UF_4 powder (seal leg) is maintained in the chute to prevent downward flow of gases with the powder. The off gases are cooled to about 300°F and exit from the top of the discharge end of the conveyor.

16.4.6 UF_4 Product Handling and Packaging

The UF_4 product discharges from the cooling screw, through a level controlled chute, into the product transfer screw and is conveyed to a bucket elevator which elevates the product and drops it through a screen to the blending system feed screw, which conveys the UF_4 to one of two identical product storage bins. The other bin, normally containing a full load of UF_4 from a previous cycle, is isolated from the solids feeding system. Compressed nitrogen is pulsed into a blending cone on the bottom of the off-line bin to fluidize the UF_4 powder, homogenizing the bin contents. Each bin alternates between receiving UF_4 as produced and blending stored UF_4. Each product storage bin may also be fed from: (1) a refeed system which dumps powder from individual drums into the boot section of the bucket elevator, or (2) a pneumatic conveying system which vacuums powder from an individual drums through a collection system which discharges to one of the two product bins.

After the powder in the off-line bin has been thoroughly blended, UF_4 is discharged through a screw conveyor and through the packaging system into 55-gallon product drums which are filled to a net weight of approximately 1,400 pounds. The product is added to the drum through a ventilated hood resting on the drum. The hood, drum, and scale are contained in a drumming station enclosure. Room air is drawn into the enclosure through any openings in the enclosure to prevent escape of dust to the room. The air leaving the hood and enclosure is filtered through a high efficiency baghouse which discharges to the atmosphere from a stack above the building.

16.4.7 Off-Gas Treatment

The off-gases from the cooling screw conveyor pass through a combination cyclone-filter where entrained dust is removed. The entrained dust drops into a chute forming a seal leg just above a rotary valve which discharges to the discharge end of the cooling screw conveyor, thus combining the dust with the main product stream. The estimated efficiency of the combination cyclone-filter assembly is about 99.97 percent. The off-gases then pass through a backup filter where any small amount of remaining dust is removed. The collected dust drops into a small dust can below the filter. This dust is removed from the collection can via the vacuum cleaning system. Two chemical traps in series are provided downstream of the filters to adsorb any traces of unreacted UF_6 in the off-gas stream. The traps contain beds of granular activated carbon.

16.4.8 HF Recovery, H_2 Burning, and HF Scrubbing

After off-gas treatment, the gases pass through the partial HF condenser and are cooled to approximately minus 10°F. About two-thirds of the contained HF is condensed to a liquid and drained to one of the two AHF rundown tanks. The partial HF condenser is the shell and tube type, with approximately minus 15°F refrigerant on the shell side. The remaining approximately minus 10°F off-gas stream then passes through a final shell and tube HF condenser and is cooled to approximately minus 95°F. Most of the remaining HF is condensed to a liquid and drained to one of the AHF rundown tanks.

The approximately minus 95°F off-gases are then piped to the UF_6 Conversion Plant, fed into its own H_2 burner to burn excess H_2, and then through the existing waste gas HF scrubber to remove any HF remaining. The amount of H_2 and total gases feeding to this existing scrubber adds only a few percent to the load. The recovered anhydrous HF in the AHF rundown tanks is analyzed for purity before being transferred to the UF_6 Conversion Plant AHF storage tanks. The refrigeration system that provides coolant to the HF condensers for heat removal uses cooling tower water from the UF_6 Conversion Plant.

16.4.9 Vacuum Cleaning System

Two separate piping and dust collecting units are provided. One unit, the Process Vacuum System, is used for cleaning product quality UF_4 powder from equipment in preparation for maintenance work. The second unit, the Waste Vacuum System, is for all other uses. Each of the two dust collecting units are combination cyclone filters with polyester felt filter fabric. The clean air streams from both dust collectors are combined and flow to a centrifugal vacuum compressor which discharges through the high efficiency dust collector on the plant dust collection system, when the dust collector is operating. The solids collected in the dust collecting units are discharged to drums for either recycle or disposal.

16.4.10 Dust Collection System (Dwg. No. 800-M-6503)

The dust collection system consists of a baghouse with bag filters of high efficiency medium, a dust collection fan and a rotary air lock on the baghouse which discharges the collected UF_4 dust to the drumming station via a screw conveyor, a ductwork system to the various dust control points, and a duct to route the discharged air to an exhaust stack. Dust control points include the product drumming station hood, the product drumming station enclosure, refeed system, refeed system enclosure, and the hoods around stuffing boxes and mechanical seals.

16.4.11 Breathing Air System

Breathing air for use with full face masks is Grade D quality and is piped to each level of the process area.

16.4.12 Air Monitoring System

The air monitoring system is equivalent to that used in the UF_6 Conversion Plant. Filter heads are provided in all areas of the plant as appropriate, with these heads being piped to a vacuum compressor which discharges to the atmosphere.

16.4.13 Water Supply

Process cooling water (CWS) is provided by a pipeline from the existing water cooling tower system to the UF_6 Reduction Building and returned by pipeline to the cooling tower. This water is used for cooling water on the cooling screw, cooling water on refrigeration units, and cooling water on the air compressor.

Potable water is piped from the main building to the toilet, wash basin, drinking fountain, and the safety showers.

16.4.14 Waste Solids

Waste solids are discussed in the Comprehensive Solid Waste Management Plan which is incorporated by reference into this license.

16.4.15 Off-Gases

Process off-gases have previously been described under 16.4.5, 16.4.7 and 16.4.8. Before releas, these gases are cycloned, double filtered, passed through chemical traps to remove traces of UF_6, cooled to condense HF, burned to destroy hydrogen, and scrubbed to remove HF.

16.4.16 Power Failure

In the event of a power failure, the DCS automatically shuts off the flow of UF_6 and H_2 to the reactor and closes the four containment valves. The burner and scrubber continue to operate on the main plant emergency power system in the event of a general power failure. The nitrogen supply system requires no power and continues to operate in the event of a general power failure.

16.4.17 Process Controls

The UF_6 Reduction process is operated by a chemical operator from the control room in the UF_6 Conversion Plant using a Distributed Control System (DCS). The DCS is a microprocessor based system with integrated analog and digital control including electric motor and remotely operated valve control as well as sequential controls on automatic shutdown systems. The control room is equipped with redundant operators' interface consoles with viewing screens which allow the operator to set control points on operating parameters, operate remotely operable valves, motors, and other devices, monitor operating parameters and variables, receive alarm signals, and read the reason for alarms on the screens.

In the electric room at the UF_6 Reduction Building, besides the regular power supply and motor control centers, there are redundant multifunctional controllers and several hundred input-output (I/O) devices, which interface with the instrumentation at the process equipment and with the control room consoles. The entire DCS is powered by an uninterruptible power supply. In case of power failure, all electric motors turn off and all electrically actuated valves and other control devices position themselves to the fail safe position.

16.4.18 Process Streams Descriptions and Activities

Quantities of materials in each process stream are shown on the process flow sheet, Drawing 800-M-1401. Table I is presented as an aid in visualizing each stream's physical nature and activity.

16.4.19 Refeed System

(1) Drum Dumper System

Provisions are made to allow recycle of off-specification product by a refeed system. A 55-gallon drum is positioned on the lifting platform of a drum dumper via roller conveyors. After removal of the drum locking ring and lid, the dumper lowers and secures to the drum top a conical pouring spout equipped with a butterfly discharge valve.

The dumper raises and inverts the drum and secures it by pressure against a feed spout on a manually controlled feed valve which feeds to the discharge end of the product transfer screw, which in turn discharges to the feed boot of the bucket elevator. After opening the butterfly valve and opening the feed valve, the contents of the drum are fed into the main stream product line.

The above system is enclosed in a containment housing. Dust is controlled by the use of proximity hoods within the enclosure which are ventilated and under negative pressure relative to the building pressure. All ventilation air is discharged through the main dust collection system.

(2) Pneumatic Conveying System

Off-specification product may also be refed with a pneumatic conveying system. A drum of powder is placed inside an enclosure, and the lid is removed. The enclosure is sealed, and a vacuum wand is lowered into the powder by an operator. The powder is conveyed to a cyclone separator-receiver, which discharges powder via a rotary feeder to one of the two product bins. The off-gas from the cyclone passes through a dust collector to remove residual powder and then to the suction of a vacuum blower which pulls a vacuum on the pneumatic conveying system. The blower discharges to the facility's dust collection system.

16.4.20 Screen Oversize System

The screen oversize material discharges from the product through a chute into a 55-gallon drum. Past experience has proven the oversize material to be a very small amount, therefore the level in the drum is monitored by the operator and the drum changed accordingly.

16.5 UF_6 Reduction Plant - Safety Analysis of Each Step

There are no fissile materials involved; thus there is no need to discuss criticality safety. The system consists of well known standard unit processes and unit operations--in full conformance with applicable federal and local laws, codes, and regulations. Additional safety analysis of each step beyond that already described is not required.

16.5.1 Special Provisions

Provisions have been made to achieve the objective of preventing exposures to radiation or chemicals. The safety features installed in the processing equipment provide for a safe working environment.

1. Removal of UF_4 from the reactor off-gases by cycloning, double filtration through sintered metal filters, filtration and adsorption (for UF_6), burning of the excess hydrogen, and finally water scrubbing before release to the main plant stack.

2. Vacuum cleaning systems to remove UF_4 powder spills to clean out equipment before inspection and maintenance.

3. A pressurized nitrogen (or air where there is no H_2 in the equipment) seal system on mechanical seals and stuffing boxes on equipment under pressure containing UF_4, HF or H_2.

4. Equipment has been used in the processing system with proven capability and reliability and of such construction as to be closed and leak tight.

5. All piping and equipment through which H_2 flows is initially purged with nitrogen to displace air. This procedure is followed before a re-start whenever equipment is replaced or opened for any reason which could allow air to enter the system.

6. Unless one of the roof ventilators in the high bay area is operating, the H_2 supply valve will not open by virtue of an electrical interlock. This will insure considerable dilution air to dilute any hydrogen leakage to below the explosive limit of 4 volume percent hydrogen in air.

7. There are a number of strategically placed hydrogen detectors in the building. Detection of one volume percent hydrogen will signal an alarm in the control room, and detection of 2 volume percent will automatically shut off the flow of dissociated ammonia and UF_6 and open the nitrogen purge valve to the chemical reactor. Heat-sensors at the H_2 pre-heater and piping to the reactor will also shut off the flow of H_2 if sudden rise in temperature is detected.

TABLE I

ESTIMATED PROCESS STREAM ACTIVITIES

UF_6 REDUCTION PLANT

SEQUOYAH FUELS CORPORATION SEQUOYAH FACILITY

Stream Name	Physical Nature	Activity uCi/g	Activity uCi/ml
Hydrogen	Gas (H_2)	Nil	Nil
UF_6 to Premixer	Gas (UF_6)	3.22×10^{-1}	6.2×10^{-3}
Reactor Feed (1200°F)	Gas (UF_6, N_2, H_2)	3.10×10^{-1}	7.0×10^{-4}
Reactor Discharge	Gas with entrained UF_4 HF	3.10×10^{-1}	9.0×10^{-4}
UF_4 Product Streams	Solid Powder	3.61×10^{-1}	1.11
Off-Gas from Sintered Filters	Gas (trace of UF_4, HF)	8.0×10^{-7}	7.8×10^{-10}
Off-Gases to HF Recovery	Gases with HF	8.0×10^{-7}	6.4×10^{-10}
Recovered Anhydrous HF	Liquid	1.4×10^{-9}	1.5×10^{-9}
Off-Gases to Burner & Scrubber	Gas	5.5×10^{-8}	5.4×10^{-11}
Spent Cooling Water (CWSD)	Water	Nil	Nil
Stream Condensate to Out Fall	Hot Water	Nil	Nil
Autoclave Condensate to Out Fall	Water	Nil	Nil
Dust Collector Discharge	Air	5.4×10^{-8}	5.4×10^{-11}

Reference is made to Drawing 800-M-1401, "Depleted UF_4 Flow Sheet." The above listed activities are calculated for the expected nitrogen purges of 15 pounds per hour.

8. There is a powder seal in the chute between the cooling screw and product transfer screw. The seal prevents hydrogen flow downward along with the UF_4 powder. The seal is equipped with level detectors. The higher level controls the level of seal by controlling the rate of removal of powder from the bottom of the seal. The lower detector alarms in the control room and indicates a safe shutdown of the reactor through an interlock programmed into the DCS if the powder level drops below a pre-set level.

9. Because a failure of the chemical reactor wall could allow HF and H_2 (and possibly UF_6) to escape and enter the cooling air between the reactor wall and chemical reactor furnaces, an HF detector is installed in the cooling air exhaust from the reactor. The instrument will alarm at 4 ppm HF with corrective action to be taken as appropriate. In addition, there are temperature sensors in each of the cooling air discharge ducts before the ducts are combined for venting. An abnormal increase in the temperature due to hydrogen burning will cause an alarm in the control room.

10. There are HF detectors inside the building near equipment containing HF. Detection of HF by any of the detectors will alarm in the control room.

11. Each pipe carrying UF_6 gas from an autoclave to the UF_6 Feed Surge Tank is monitored for UF_6 leaks by ionization type leak detectors. Indication of a leak by any of the smoke detector stations alarms in the control room through the DCS and appropriate action taken.

12. The building air and exhaust from the dust collector are monitored for radioactive material in conformance with the requirements set forth in Chapter 3.0 of this license.