



OCT 23 2006

NEF-06-00047-NRC

ATTN: Document Control Desk  
Director  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

Louisiana Energy Services, L. P.  
National Enrichment Facility  
NRC Docket No. 70-3103

Subject: Revisions to Licensing Basis Documents

Louisiana Energy Services (LES) has made organizational changes that affect position titles and reporting responsibilities as described in several of the Licensing Basis Documents that were included in the application for the National Enrichment Facility license.

Documents affected by these changes are the Emergency Plan, the Fundamental Nuclear Material Control Plan (FNMCP), the Environmental Report, the Safety Analysis Report (SAR), and the Quality Assurance Program Description (QAPD), which was included as Appendix A to the SAR.

In accordance with 10 CFR 30.34(f), 10 CFR 70.32(c)(2)(ii), 10 CFR 70.32(i), and Section 19 of the QAPD, the revisions to the Emergency Plan, FNMCP, and QAPD are being submitted.

These organizational changes do not decrease the effectiveness of the Emergency Plan, QAPD or FNMCP, and do not affect commitments that address the safety program, integrated safety analysis regulatory requirements, or QA Level requirements.

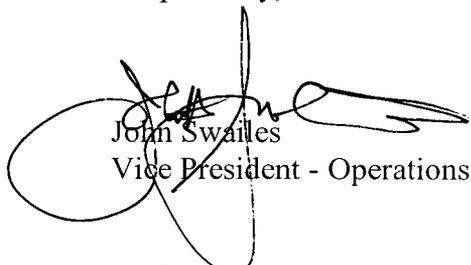
Enclosed with this submittal are markups of the affected pages as well as replacement pages for the documents along with page removal and insertion instructions. In addition, a revised copy of Safety Analysis Report Chapter 2 describing the organizational changes is enclosed for information only.

NMSS01  
AX45  
Q004

Revision 5 to the FNMCP is considered proprietary in accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding," paragraph (d)(1). Accordingly, we request that Revision 5 to the FNMCP be withheld from public disclosure.

If you have any questions, please contact me at 505.394.4646.

Respectfully,



John Swailles  
Vice President - Operations and Chief Nuclear Officer

Enclosures:

1. Emergency Plan, Annotated Pages
2. Emergency Plan, Replacement Pages
3. Fundamental Nuclear Material Control Plan, Annotated Pages
4. Fundamental Nuclear Material Control Plan, Replacement Pages
5. Quality Assurance Program Description, Annotated Pages
6. Quality Assurance Program Description, Replacement Pages
7. Safety Analysis Report Chapter 2, Information Copy

cc:

Director  
Division of Nuclear Security  
Office of Nuclear Security and Incident Response  
Washington, DC 20555-0001

T.C. Johnson, NRC Project Manager  
Two White Flint North  
Mail Stop T-8A33  
11545 Rockville Pike  
Rockville, MD 20852-2738

Deborah Seymour, Senior Nuclear Fuel Inspector  
Sam Nunn Atlanta Federal Center, 23 T85  
61 Forsyth Street, SW  
Atlanta, GA 30303-8931

USNRC, Region 2  
Sam Nunn, Atlanta Federal Center, 23 T85  
61 Forsyth Street, SW  
Atlanta, GA 30303-8931

ENCLOSURE 1

Emergency Plan, Annotated Pages

## LIST OF FIGURES

Figure 1.2-1	Facility Layout Map
Figure 1.3-1	Site Topography 1-Mile Radius Map
Figure 1.3-2	Facility Location Map 10-Mile Radius
Figure 3.3-1	Emergency Response Notification and Coordination with Participating Government Agencies
Figure 4.1-1	<u>Deleted</u>
Figure 4.2-1	LES National Enrichment Facility Emergency Organization
Figure 5.8-1	Sample News Release

## Abbreviations and Acronyms

ALARA	As Low As Reasonably Achievable
CA	Controlled Area
CAAS	Criticality Accident Alarm System
CAB	Centrifuge Assembly Building
cm <sup>3</sup>	cubic centimeter
cfm	cubic feet per minute
CFR	Code of Federal Regulations
cm	centimeter
COO	Chief Operating Officer
CRDB	Cylinder Receipt and Dispatch Building
CUB	Central Utilities Building
EAL	Emergency Action Level
EIPs	Emergency Plan Implementing Procedures
EMS	Emergency Medical Service
EO	Emergency Organization
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHA	Fire Hazards Analysis
FR	Federal Register
ft	feet
FNMC	Fundamental Nuclear Material Control
GET	General Employee Training
GEVS	Gaseous Effluent Vent System
gpm	gallons per minute
HEPA	High Efficiency Particulate Air
HF	hydrogen fluoride
hr	hour
HS&E	Health, Safety, and Environment
HVAC	Heating, Ventilating, and Air Conditioning
ISA	Integrated Safety Analysis
LES	Louisiana Energy Services
m <sup>3</sup> /hr	cubic meters per hour
MOU	Memorandum of Understanding
mph	miles per hour
mrem	millirem
mSv	milliSievert
NEF	National Enrichment Facility
NOAA	National Oceanic and Atmospheric Administration
NM	New Mexico
NMEOC	New Mexico Emergency Operations Center
NRC	U.S. Nuclear Regulatory Commission
OEM	Office of Emergency Management
OSHA	Occupational Safety and Health Administration

**Pages removed under 10 CFR 2.390.**

ENCLOSURE 5

Quality Assurance Program Description, Annotated Pages

# **APPENDIX A**

## **Louisiana Energy Services Quality Assurance Program Description Design, Construction, Operations and Decommissioning Phases**

### **MARKUPS**

## SECTION 1 ORGANIZATION

The elements of the LES QA Program described in this section and associated QA procedures implement the requirements of Criterion 1, Organization, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 1 and Supplement 1S-1 of NQA-1-1994.

LES employees and contractor employees representing LES have full responsibility to ensure that the facility is designed, constructed, operated, and decommissioned in a manner to protect the health and safety of the public. This responsibility begins with initial design and continues throughout the life of the facility. The LES QA Program is designed to ensure that the necessary quality requirements for structures, systems, components and work activities are met. This objective is attained by ensuring that the organizational structure and the responsibility assignments are such that (a) quality is achieved and maintained by those who have been assigned responsibility for performing work and, (b) quality achievement is verified by persons or organizations not directly responsible for performing the work.

### CORPORATE ORGANIZATION AND FUNCTIONS

LES is the owner and operator of the enrichment facility. LES is a registered limited partnership formed to provide uranium enrichment services for commercial nuclear power plants. LES is responsible for the design, construction, operation and decommissioning of the enrichment facility in accordance with its QA Program. The President of LES reports to the LES Management Committee. The committee is composed of representatives from the general partners of LES.

The LES President establishes the basic policies of the QA Program. These policies are described in this QA Program, are transmitted to all levels of management, and are implemented through approved procedures. The LES QA Director has overall responsibility for development, management and implementation of the LES QA Program during all phases of the enrichment facility. As part of this responsibility, the QA Director is responsible for ensuring that contractor QA Programs meet all applicable requirements of the LES QA Program. LES management is continually involved in activities affecting quality and QA requirements.

Reporting to the President are the ~~Engineering and Contracts Manager~~ Vice President - Project Management, ~~Corporate Communications Manager~~ Vice President - Communications and Government Affairs, Chief Financial Officer (CFO), Quality Assurance Director, ~~Chief Operating Officer (COO)~~ Vice President - Operations, General Counsel, and Licensing Manager. ~~and The~~ the Health, Safety and Environment Manager Director reports to the Vice President - Operations, but has a direct reporting relationship to the President for all matters concerning safety during design and construction. Figure A1, LES Corporate, Design and Construction Organization, shows the levels of authority and lines of communications for activities affecting quality.

### DESIGN AND CONSTRUCTION ORGANIZATION AND FUNCTIONS

~~The LES Engineering and Contracts Manager or the LES President acting in the capacity of the Engineering and Contracts Manager, has contracted Urenco, the owner of the enrichment technology and operator of enrichment facilities in Europe, to prepare the reference design for the facility. An architect/engineering (A/E) firm has been~~ was contracted and is under the responsibility of the ~~Engineering and Contracts Manager~~ Vice President - Project Management or President to further specify structures and systems of the facility, and ensure the reference

design meets all applicable U.S. codes and standards. A contractor specializing in site evaluations ~~has been~~was contracted and ~~is under the responsibility of the Engineering and Contracts Manager or President~~ to perform the site selection evaluation. A nuclear consulting company ~~has been~~was contracted and ~~is under the responsibility of the Engineering and Contracts Manager or President~~ to conduct the site characterization, perform the Integrated Safety Analysis and to support development of the license application including the Environmental Report.

During the design and construction phases, preparation of design and construction documents and construction itself are contracted to qualified contractors. The ~~Engineering and Contracts Manager~~Vice President - Project Management is responsible for managing the design, construction and construction inspection activities, startup, including pre-operational testing and procurement activities during these phases. Contractor QA Programs will be reviewed by the LES QA organization and must be approved by the LES QA Director before work can start as described in Section 4, Procurement Document Control, and Section 7, Control of Purchased Material, Equipment and Services. Urenco will design, manufacture and deliver to the site the centrifuges necessary for the facility under a QA Program approved by the LES QA Director or under the LES QA Program. In addition, Urenco is supplying the technical assistance and consultation for the facility in accordance with the applicable requirements of the LES QA Program. As shown in Figure A1, the ~~Engineering and Contracts Manager~~Vice President - Project Management is responsible for managing the work and contracts with the Technology Supplier (i.e., Urenco), ~~Design Manager, Construction Manager, and other~~ and a select group of Project Managers. ~~These Project Managers will be responsible for the areas of Procurement, Construction, Engineering, Project Engineering, Project Controls and Start-up.~~

QA Procedures will be developed by the ~~Engineering and Contracts~~Project Management organization to implement this QAPD in the ~~Engineering and Contracts~~Project Management area.

## **OPERATING ORGANIZATION AND FUNCTIONS**

The operating organization is shown in Figure A2, LES National Enrichment Facility Operating Organization. The Vice President - Operations serves as the Plant Manager, and reports to the COO President. The Plant Manager and is responsible for the overall operation and administration of the enrichment facility. The Plant Manager is also responsible for ensuring the facility complies with all applicable regulatory requirements including the requirements of this QAPD. In the discharge of these responsibilities, the Plant Manager directs the activities of the following groups.

- Health, Safety and Environment
- Operations/Production (which includes Operations and Uranium Management)Uranium Management
- Technical Services
- Human Resources/Support Services/Quality Assurance
- Construction Projects
- Performance Assessment and Feedback

Procedures will be developed by the respective operations organizations to implement the requirements of this QAPD. Specific details of organizational responsibilities and job

descriptions are provided in the National Enrichment Facility (NEF) Safety Analysis Report.

## QA ORGANIZATION AND FUNCTIONS

The LES QA organization during the design, ~~and construction, operations, and decommissioning~~ phases will be headed by the LES QA Director. The LES QA Director reports directly to the LES President and is vested with the authority, access to work areas, and organizational independence to ensure that the requirements of this QAPD are properly implemented.

The LES QA Director is responsible for managing the LES QA Program that includes the following activities:

- QA Technical Support
  - Maintain the LES QAPD
  - Maintain QA procedures
  - QA technical reviews of procurement documents
  - Review and concurrence of changes to the identified IROFS, items that could affect the functions of IROFS, and items required to satisfy regulatory requirements for which QA Level 1 requirements are applied
  - ~~Administer the Corrective Action and Nonconformance Processes~~
  - Oversight of the Corrective Action and Nonconformance Processes
  - Maintain the LES Approved Suppliers List (ASL)
  - Administer the Auditor and Lead Auditor Certification Process
  - QA reviews of project documents
  - Approval of contractor QA Programs
  - Oversight of contractor QA Programs Implementation
  - Oversight of the quality of design and construction, including but not limited to the ISA process and the resultant selection of IROFS
  - Oversight of document and records control
- QA Verification
  - Audits, surveillances and assessments
  - Contractor/supplier evaluations
  - Contractor nonconformances
  - Equipment/Vendor Shop Inspections
  - Witness vendor acceptance testing

~~During the transition from construction to operations, when startup testing and plant operations may be concurrent as the facility is completed in phases, a plant QA Manager will be added to the LES QA Organization. During this transition period as well as during operations, the plant QA Manager will report to the Plant Manager. However, the plant QA Manager has the authority and responsibility to contact the LES President, through the QA Director, with any QA concerns during startup and plant operations. After construction has been completed on the~~

~~facility the corporate functions reporting the LES QA Director, i.e., QA Technical Support and QA Verification; will transition to the plant QA Manager. During the operations and decommissioning phases, the LES QA Director will advise the LES President on quality-related matters and continue to have governance and oversight responsibilities with respect to the QA organization headed by the plant QA Manager. The following additional QA Manager~~Director responsibilities are included for start up testing and operations:

- QA Technical Support
  - Quality Engineering support of startup organization
  - Oversight of startup activities
  
  - QA selected reviews and oversight of programs developed for operations, including but not limited to the ISA process, the identification of IROFS and items that affect the performance of IROFS and any changes thereto, the controls for assuring IROFS performance and verifying and maintaining the facility design basis.
  - QA selected reviews and oversight of operations including maintenance and testing and modification procedures
  - Review and concurrence of changes to the identified IROFS, items that could affect the functions of IROFS, and items required to satisfy regulatory requirements for which QA Level 1 requirements are applied
  - QA Oversight of operations procedure implementation
  - Quality Control (QC) Inspection certification process
- QC Inspections
  - Receipt Inspections of QA Level 1 items
  - Applicable discipline inspections of modifications to QA Level 1 components

Accordingly, during the transition from construction to operations, the operations phase, and the decommissioning phase, the management of the QA organization and the QA staff have the responsibility to make quality assurance decisions and have sufficient authority, access to work areas, and organizational freedom to:

- Identify quality problems
- Initiate and recommend solutions to quality problems through designated channels
- Verify implementation of solutions
- Assure that further processing, delivery, installation, or use of items is controlled until proper disposition of nonconformances, deficiencies or unsatisfactory conditions has occurred
- Have direct access to highest levels of management
- Be sufficiently independent from cost and schedule considerations and have stop-work authority.

## **ORGANIZATIONAL INTERFACES**

The organizational interfaces between LES, contractors, and project applicable regulatory agencies are identified in the appropriate plans, contracts and implementing procedures. These documents contain the appropriate protocols, applicable roles, responsibilities and approval

## **SECTION 2            QUALITY ASSURANCE PROGRAM**

The elements of the LES QA Program described in this section and associated QA procedures implement the requirements of Criterion 2, Quality Assurance Program, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 2 and Supplements 2S-1, 2S-2, 2S-3 and 2S-4 of NQA-1-1994 Part I as revised by NQA-1a-1995 Addenda of NQA-1-1994.

### **PROGRAM BASIS**

The LES Quality Assurance Program complies with 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants, and applies to all levels of the organization, including contractors, who perform QA Level 1 activities. Part I and selected sections of Part II of ASME NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Applications, as revised by NQA-1a-1995 Addenda are used in conjunction with 10 CFR 50, Appendix B and provide additional detailed quality assurance guidelines which are committed to in this QAPD. The LES QAPD describes LES's overall compliance with 10 CFR 50, Appendix B and commitments to ASME NQA-1. This document states LES policies, assigns responsibilities and specifies requirements governing implementation of the QA Program to the design, construction, operation and decommissioning of the LES enrichment facility. All 18 criteria of 10 CFR 50, Appendix B have been addressed to identify the scope of QA Program applied to the LES enrichment facility. QA requirements will also apply to contractors as delineated in procurement documents controlled under Section 4, Procurement Document Control, of this QAPD. The necessary management measures to control the quality of subcontracted activities for the LES design, procurement, and installation and testing of QA Level 1 components and activities have been established in this QAPD. The QAPD will be reviewed for needed revisions as described in Section 19, Provisions For Change.

Specific processes and controls, which implement the provisions of 10 CFR 50, Appendix B and the commitment to ASME NQA-1-1994, as specified in this QAPD are delineated in procedures. Development, review, approval and training on procedures shall be performed prior to performance of the activities controlled by the procedures.

The QA Program provides for the planning and accomplishment of activities affecting quality under suitably controlled conditions. Controlled conditions include the use of appropriate equipment, suitable environmental conditions for accomplishing the activity, and assurance that prerequisites for the given activity have been satisfied. The LES QA Program provides for special controls, processes, test equipment, tools and skills to attain the required quality and verification of quality. QA requirements contained in this QAPD are also invoked on LES contractors for their contracted scope of work.

When work cannot be accomplished as specified in implementing QA procedures, or accomplishment of such work would result in an adverse condition, work is stopped until proper corrective action is taken. If procedures cannot be used as written, then work is stopped until the procedures are changed. Requirements for stop work are further discussed in Section 16, Corrective Action.

### **Flowdown of QA Requirements to Contractors and Suppliers**

QA requirements for QA Level 1 activities are imposed on LES contractors and suppliers through the respective procurement documents for the particular scope of work being

contracted. Determination of the specific QA requirements, supplier evaluations, and proposal/bid evaluations are in accordance with the requirements of Section 4, Procurement Document Control, and Section 7, Control of Purchased Material, Equipment and Services, of this document. Applicable QA Program elements required for the particular scope of work are identified in procurement documents. Potential contractors/suppliers are required to submit their QA Programs to the LES QA organization for review in accordance with the request for proposal/procurement specification. The LES QA organization performs an audit at the contractor's/supplier's facility of their QA program and its implementation verifying that the contractor's/supplier's QA program meets the requirements established in the request for proposal/procurement specification. If the audit is acceptable then the contractor/supplier is added to the LES ASL and a contract between LES and the contractor/supplier may be issued. For procured items, LES may also require that the LES QA organization perform source inspections or witness tests at the supplier's facility prior to shipment if the equipment/component warrants inspection due to its safety significance and/or complexity. Such requirements are also identified in the procurement documents and/or contract.

Construction contractors for LES QA Program controlled construction activities are required to be placed on the ASL prior to contract award. Construction contractors are required to perform the QA activities required by their QA program including audits of their own activities as well as any required quality control (QC) inspections. The LES QA organization will provide oversight of these contractors in the form of audits and surveillances verifying that each contractor is properly implementing its QA program as approved by LES QA. Contractually contractors will be required to promptly correct LES identified deficiencies and nonconformances.

## **IDENTIFICATION AND APPLICATION OF QA CONTROLS**

QA Level 1 is applied exclusively to IROFS, any items which are determined to affect the function of the IROFS, and, in general, to items required to satisfy regulatory requirements. Since the development of the IROFS list is a product of the ISA process, the applicable QA Level 1 requirements are also applied to this process. The Integrated Safety Analysis provides the methodology utilized to establish the IROFS list. IROFS are comprised of specific structures, systems and components (SSC) and administrative controls. All applicable sections of this QAPD are applied to IROFS, any SSC and administrative controls which are determined to affect the functions of the IROFS and items required to satisfy regulatory requirements for which QA Level 1 requirements are applied. Application of the QAPD requirements is part of the configuration management program used to verify and maintain the facility design basis and will be performed in accordance with documented procedures. Accordingly, as described in Section 1, Organization, the QA organization is responsible for selected reviews and oversight of these processes and programs. In particular, the LES QA organization reviews and concurs with the selection of the IROFS and the application of QA requirements to the IROFS, any items which are determined to affect the functions of the IROFS and items required to satisfy regulatory requirements for which QA Level 1 requirements are applied.

The QA Level 2 program description is provided in Section 20, Quality Assurance Program for QA Level 2 Activities of this QAPD. These requirements are implemented by LES and LES contractors through the use of approved QA programs and procedures. The Owner defined QA Level 2 SSCs and their associated activities i.e., those SSCs that are not IROFS, provide support of normal operations of the facility, and do not affect the functions of the IROFS (e.g., occupational exposure, radioactive waste management) and SSCs that minimize public, worker,

and environmental risks (e.g., physical interaction protection, certain radiation monitors and criticality alarms) are evaluated against the requirements in Section 20, of this QAPD. This evaluation identifies which QA controls are needed to ensure these SSCs meet their intended functions and do not affect the functions of the IROFS. This evaluation may also include nuclear industry precedent in the application of augmented QA requirements.

Three QA Levels have been established and apply throughout the life of the facility from licensing and siting through design, construction, testing, startup, operation, maintenance, modification, and decommissioning. The three levels are defined as follows.

#### QA LEVEL 1 REQUIREMENTS

The QA Level 1 Program shall conform to the criteria established in 10 CFR 50, Appendix B. These criteria shall be met by commitments to follow the guidelines of ASME NQA-1-1994, including supplements as revised by the ASME NQA-1a-1995 Addenda. The QA Level 1 QA program shall be applied to those structures, systems, components, and administrative controls that have been determined to be IROFS, items that affect the functions of the IROFS, and, in general, to items required to satisfy regulatory requirements.

#### QA LEVEL 2 REQUIREMENTS

The QA Level 2 program is an owner-defined QA program that uses the ASME NQA-1 standard as guidance. General QA Level 2 requirements are described in Section 20, Quality Assurance Program for QA Level 2 Activities. For contractors, the QA Level 2 program shall be described in documents that must be approved by LES. The QA Level 2 program shall be applied to Owner designated structures, systems, components, and activities. An International Organization for Standardization (ISO) 9000 series QA program may be acceptable for QA Level 2 applications provided it complies with LES QAPD requirements and the QAPD is reviewed and accepted by the LES QA Director.

#### QA LEVEL 3 REQUIREMENTS

The QA Level 3 program is defined as standard commercial practice. A documented QA Level 3 program is not required. QA Level 3 governs all activities not designated as QA Level 1 or QA Level 2.

### **QUALITY ASSURANCE TRAINING**

LES employees who perform QA Level 1 activities receive LES QA Indoctrination Training. This training includes general criteria, including introduction to applicable codes, standards, QA Procedures, QA Program elements and job responsibilities and authorities. LES personnel assigned to perform QA Level 1 activities are also required to complete training in the specific LES QA procedures needed to perform their job roles and responsibilities as assigned by their supervisor. Detailed QA training is provided on the LES QA Program and job specific QA procedures prior to an employee beginning QA Level 1 work. Supervision is responsible for ensuring that personnel performing work under their supervision are appropriately trained. LES will also include a version of QA Indoctrination Training as part of the general employee training given to all full-time employees.

The Human-Resources Training Manager is responsible for coordinating QA training activities for LES. Human-Resources Support Services serves as a centralized training support service for supervision in coordinating training and maintaining QA training records. This responsibility is carried out as support for line management. LES supervisory personnel are responsible for

## SECTION 3 DESIGN CONTROL

The elements of the LES QA Program described in this section and associated procedures implement the requirements of Criterion 3, Design Control, of 10 CFR 50, Appendix B, and the commitment to Basic Requirements 3 and Supplement 3S-1 of NQA-1-1994 Part I as revised by NQA-1a-1995 Addenda of NQA-1-1994. The LES QA Program also implements the commitment to Part II of NQA-1-1994 Subpart Part 2.7, *Quality Assurance Requirements of Computer Software for Nuclear Facility Applications*, as revised by NQA-1a-1995 Addenda of NQA-1-1994. These commitments also apply to computer software that is used to produce or manipulate data that is used directly in the design, analysis and operation of structures, systems and components relied on for safety. Part I, Supplement 11S-2, *Supplementary Requirements for Computer Program Testing*, requirements for computer software qualification and use are also implemented by the LES QA Program.

Measures are established in procedures to assure that applicable requirements are correctly translated into design documents. Design inputs are specified on a timely basis to support LES milestones. Controls are established for the selection and suitability of application of materials, parts, equipment and processes that are essential to the functions of structures, systems and components. Design interfaces to ensure completeness and efficiency of design are established in applicable procedures. Procedures detail the controls for design input, design process, design verification, design changes and approval. These procedures include appropriate quantitative and/or qualitative acceptance criteria for determining that activities have been satisfactorily accomplished. LES design documents are prepared, reviewed, and approved by qualified individuals. Design is verified by one or more of the following verification methods: design reviews, alternate calculations or qualification tests. Design changes are governed by control measures commensurate with those applied to the original design. The design process and design verification practices and procedures shall be reviewed and modified, as necessary, when a significant design change is required because of an incorrect design. These and any other design deficiencies discovered during the design process on subsequent design related activities that affect the design of SSC shall be entered into the Corrective Action Program (CAP) according to Section 16, Corrective Action. If these deficiencies cause constructed or partially constructed items (systems, structures or components) to be deficient, the affected items shall be controlled in accordance with Section 15, Nonconforming Items. Configuration management is maintained in accordance with the applicable procedure and the applicable procedures controlling changes to the various types of design documents.

### DESIGN INPUT CONTROL

Applicable design inputs (such as design basis, conceptual design reports, performance requirements, regulatory requirements, codes and standards) shall be controlled by the LES ~~Engineering and Contracts Manager~~ Vice President - Project Management according to the following requirements:

- Design inputs shall be identified and documented, and their selection reviewed and approved.
- Design inputs shall be specified and approved in a manner to support the schedule. Design inputs shall provide the necessary details to permit design to be carried out in a manner that

and evaluating design changes.

- Changes from approved design inputs and reasons for the changes shall be identified, approved, documented and controlled.
- Design inputs based on assumptions that require re-verification shall be identified and controlled by the appropriate procedures.

## **DESIGN PROCESS**

The LES design process shall be controlled by the ~~Engineering and Contracts Manager~~Vice President - Project Management according to the following requirements:

- LES design work shall be prescribed and documented on a timely basis and to the level of detail necessary to permit the design process to be carried out in a correct manner and to permit verification that the design meets requirements.
- Design documents shall be adequate to support design, construction and operation.
- Appropriate quality standards shall be identified and documented, and their selection reviewed and approved.
- Changes from specified standards, including the reasons for the change, shall be identified, approved, documented and controlled.
- Design methods, materials, parts, equipment and processes that are essential to the function of the structure, system, or component shall be selected and reviewed for and suitability of application.
- Applicable information derived from experience as set forth in reports or other documentation, shall be made available to cognizant design personnel.
- Final design documents (i.e., approved design output documents and approved changes thereto) shall be sufficiently detailed as to purpose, method, assumptions, design input, references and units such that a person technically qualified in the subject/engineering discipline can understand the documents and verify their adequacy without recourse to the originator of the design document.
- Procedural controls for identifying sub-assemblies or components on final design documents that are part of the item being designed shall be established. When a commercial grade item is modified and/or tested to new requirements that are different from the supplier's published product description, the component part shall be traceable to documentation noting that it is different from the originally approved commercial grade item.
- LES design drawings, specifications or other design output documents shall contain appropriate inspection, examination and testing acceptance criteria.

## **DESIGN ANALYSIS**

LES design analyses shall be planned, controlled and documented. Design analysis documents shall be legible, in a form suitable for reproduction, filing and retrieval, and under configuration management control. LES design calculations shall be identifiable by subject (including structure, system or component to which the calculation applies), originator, reviewer and date, or by other designators in order that approved calculations are retrievable.

Computer software used to perform design analyses shall be developed and/or qualified, and used according to the provisions of ASME NQA-1-1994, Part II, Subpart 2.7 as revised by NQA-

1a-1995 Addenda and Supplement 11S-2. Computer software developed and/or qualified under the LES or its contractor QA programs may also be used to perform design analyses for LES, provided that the LES QA organization confirms these contractor QA programs meet the provisions NQA-1-1994, Part I, Supplement 11S-2 and NQA-1-1994 Part II, Subpart 2.7 as revised by NQA-1a-1995 addenda.

Computer programs may be utilized for design analysis without individual verification of the program for each application provided:

- The computer program has been verified to show that it produces correct solutions for the encoded mathematical model within defined limits for each parameter employed; and
- The encoded mathematical model has been shown to produce a valid solution to the physical problem associated with the particular application.

Computer programs shall be controlled to assure that changes are documented and approved by authorized personnel. Where changes to previously verified computer programs are made, verification shall be required for the change, including evaluation of the effects of these changes on the above.

LES design analyses documentation shall include:

- Definition of the objective of the analyses,
- Definition of design inputs and their sources,
- Results of literature searches or other applicable background data,
- Identification of assumptions and designation of those that must be verified as the design proceeds,
- Identification of any computer calculation, including computer type, computer program (e.g., name), revision identification, inputs, outputs, evidence of reference to computer program verification and the bases (or reference thereto) supporting application of the computer program to the specific physical problem,
- Review and approval.

## **DESIGN VERIFICATION**

The following design control requirements shall be applied to verify the adequacy of LES design:

- LES design verification is required for design documents, and shall be performed using one or a combination of the design review, alternate calculations and/or qualification testing methods.
- The particular design verification method used shall be documented.
- Results of design verification shall be documented and shall include the identification of the verifier(s).
- Competent individuals or groups, other than those, who performed the original design (but may be from the same organization), shall perform design verification. If necessary, this verification may be performed by the originator's supervisor provided that the engineering supervisor did not specify a singular design approach or rule out certain design considerations and did not establish the design inputs used in the design; or the supervisor is the only individual in the organization competent to perform the verification.

LES design verification shall be performed in a timely manner at appropriate times during the design process. Verification shall be performed before release for procurement, manufacture or construction, or release to another organization for use in other design work. In some cases (such as when insufficient data exists) it may be necessary to release unverified designs to other engineering organizations or disciplines to support schedule requirements. Unverified portions of the design shall be clearly identified and procedurally controlled. In all cases, design verification shall be completed before relying on the item or computer program to perform its function. The extent of design verification required shall be a function of the importance to safety, complexity of design, degree of standardization, state of the art and similarity with previously proven designs.

LES use of previously standardized designs shall be controlled according to the following requirements:

- The applicability of standardized or previously proven designs shall be verified with respect to meeting pertinent design inputs for each application.
- Known problems affecting standard or previously proven designs and their effects on other features shall be considered.
- The “Americanization” of previously proven European designs shall be documented in accordance with the applicable QA procedure.
- The original design and associated verification measures shall be adequately documented and referenced in the files for subsequent application of the design.
- Changes in previously verified designs shall require re-verification. Such verifications shall include the evaluation of the effects of those changes on the overall previously verified design and on any design analyses upon which the design is based.

## **DESIGN VERIFICATION METHODS**

Acceptable verification methods include, but are not limited to, any one of the following or a combination of the following:

- Design Reviews
- Alternate Calculations
- Qualification Testing

## **DESIGN REVIEWS**

Design reviews are critical reviews to provide assurance that the final design is correct and satisfactory. The following items shall be addressed, as applicable during the review:

- Were the design inputs correctly selected and incorporated into the design?
- Are assumptions necessary to perform the design activity adequately described, reasonable and, where necessary, re-verified?
- Was an appropriate design method used?
- Is the design output reasonable compared to the applicable design inputs?
- Are the necessary design input and verification requirements for interfacing organizations specified in the design documents or in supporting procedures and instructions?

## ALTERNATE CALCULATIONS

The appropriateness of assumptions, input data, and the computer program or other calculation methods used, shall be evaluated and the results shall be checked through the use of alternate calculation methods to verify the correctness of the original calculations or analyses.

## QUALIFICATION TESTS

If design adequacy is to be verified by qualification testing, the tests shall be identified, procedurally controlled and documented according to the following:

- The test configuration shall be defined and documented.
- Testing shall demonstrate the adequacy of performance under conditions that simulate the most adverse design conditions. Operating modes and environmental conditions in which the item must perform satisfactorily shall be considered in determining the most adverse design conditions.
- If the tests verify only specific design features, then the other features of the design shall be verified by other means.
- Test results shall be documented and evaluated to ensure that test requirements have been met.
- If qualification testing indicates that a modification to an item is necessary to obtain acceptable performance, then the modification shall be documented and the item modified and re-tested or otherwise verified to ensure satisfactory performance.
- Scaling laws shall be established, verified and documented when tests are being performed on models or mockups.
- The results of model test work shall be subject to error analysis, where applicable, before using the results in final design work.

## **DESIGN CHANGE CONTROL**

Design changes during the initial design phase and the operational phase shall be controlled according to the following requirements:

- Changes to final designs, field changes, modifications to the operating facility and nonconforming items dispositioned as "use-as-is" or "repair," as described in Section 15, Nonconforming Items, and shall have documented justification for use and are subject to the same design control measures and reviews as those applied to the original design.
- Design control measures for changes shall include provisions to ensure that the design analyses for the item are still valid.
- Changes shall be reviewed and approved by the affected groups or organizations that reviewed and approved the original design documents, with the following clarifications:
  - If the organization that originally was responsible for approving a particular design document is no longer responsible, then a new responsible organization shall be designated.
  - The designated organization shall have demonstrated competence in the specific design area of interest and have an adequate understanding of the requirements and intent of the original design

- The interface between the design organization responsible for finalizing a design change and other organizations either involved in the review of the change, such as the QA and configuration management organizations, and those affected by the change, such as the operations and maintenance organizations, described in the next subsection, Design Interface Control, shall be maintained.
- The design process and design verification practices and procedures shall be reviewed and modified, as necessary, when a significant design change is required because of an incorrect design. These design deficiencies shall be documented according to Section 16.0, Corrective Actions. If these deficiencies cause constructed or partially constructed items (systems, structures or components) to be deficient, the affected items shall be controlled in accordance with Section 15, Nonconforming Items.
- When a design change is approved other than revision to the affected design documents, field changes shall be incorporated into affected design documents when such incorporation is appropriate.

### **DESIGN INTERFACE CONTROL**

LES design interfaces shall be identified and procedurally controlled. Design efforts shall be coordinated among interfacing organizations as detailed in LES procedures. Interface controls shall include the assignment of responsibility and the establishment of procedures among interfacing design organizations for the review, approval, release, distribution and revision of documents involving design interfaces. LES design information transmitted across interfaces shall be documented and procedurally controlled. LES transmittals of design information and/or documents shall reflect the status of the transmitted information and documents. Incomplete designs that require further evaluation, review or approval shall be identified. When it is necessary to initially transmit the design information orally or by other informal means, design information shall be promptly confirmed through a controlled document.

During the operational phase, the Plant Manager is responsible for ensuring the facility complies with all applicable regulatory requirements including the requirements of this QA Program. In the discharge of these responsibilities, the Plant Manager directs the activities of the Technical Services, which includes Engineering and Maintenance, and Operations Health, Safety & Environment, Production, Technical Services, Support Services, Performance Assessment and Feedback, and Construction Projects. Procedures for controlling the interfaces and configuration management ensure that changes and modifications are properly managed and disseminated to those responsible personnel or organizations whose duties may be affected by the design change or modification and do not adversely impact the safe operation of the plant.

### **COMPUTER SOFTWARE CONTROLS**

If LES uses software to produce or manipulate data that is used directly in the design, analysis and operation of structures, systems, and components relied on for safety, the provisions provided in Part II ASME NQA-1-1994 Subpart Part 2.7, *Quality Assurance Requirements of Computer Software for Nuclear Facility Applications*, as revised by NQA-1a-1995 Addenda of NQA-1-1994 and ASME NQA-1-1994, Part I, Supplement 11S-2, *Supplementary Requirements for Computer Program Testing* shall apply. Procedures will be developed to implement of these provisions as applicable.

## **SECTION 4            PROCUREMENT DOCUMENT CONTROL**

The elements of the LES QA Program described in this section and associated procedures implement the requirements of Criterion 4, Procurement Document Control, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 4 and Supplement 4S-1 of NQA-1-1994.

LES procurements shall be issued only to those suppliers that have been evaluated and qualified as acceptable for the particular scope of material, equipment and services to be procured. The material, equipment and services shall be procured from approved suppliers by procurement documents, approved by the LES President and QA Director or their qualified designees. Applicable design bases and other requirements necessary to assure adequate quality shall be included or referenced in documents for procurement of items and services. Procurement documents shall require suppliers to have a quality assurance program consistent with the applicable requirements of 10 CFR 50 Appendix B and this QAPD. The requirements of 10 CFR 21, Reporting of Defects and Noncompliance, are invoked during design, construction, testing and operations of QA Level 1 procurement or dedication of items and services including the dedication of items or services used to satisfy the requirements of 10 CFR 50, Appendix B or 10 CFR 70, Domestic Licensing of Special Nuclear Material. LES will also apply the requirements of 10 CFR 21 where appropriate, regardless of QA level.

### **Procurement Document Content**

LES procurement documents issued for QA Level 1 items or services shall include the following provisions, as applicable to the procured material, equipment or service:

- Statement of the scope of work to be performed by the supplier.
- Technical requirements including:
  - Design bases, identified or referenced in the procurement documents.
  - Specific documents (such as drawings, codes, standards, regulations, procedures or instructions) describing the technical requirements of the material, equipment or services to be furnished, shall be specified along with their revision level or change status.
  - Tests, inspections or acceptance requirements that LES will use to monitor and evaluate the performance of the supplier shall be specified.
- Quality Assurance Program requirements including:
  - A requirement for the supplier to have a documented quality assurance program that implements applicable requirements of 10 CFR 50, Appendix B and this QAPD in place before the initiation of work. The extent of the quality assurance program shall depend on the scope, nature or complexity of the material, equipment or service to be procured. The supplier shall also incorporate the appropriate requirements into any subtier supplier issued procurement documents.
  - A requirement invoking NRC reporting requirements of 10 CFR 21 for QA Level 1 procurements.
- Right of access to supplier, including subtier, facilities and records for inspection or audit by LES, or other designee authorized by LES.
- Provisions for establishing witness/inspection hold points beyond which work cannot

proceed by the supplier without LES QA Director authorization. The ~~LES Engineering and Contracts Manager~~Vice President - Project Management may also establish hold points indicating work that cannot proceed without authorization by the ~~Engineering and Contracts Manager~~Vice President - Project Management.

- Documentation required to be submitted to LES for information, review or acceptance shall be identified along with a document submittal schedule. Record retention times, disposition requirements and record maintenance responsibilities shall be identified for documentation that will become quality assurance records.
- Requirements for the supplier to report to LES in writing adverse quality conditions resulting in work stoppages and nonconformances. LES approval of partial and full work releases and disposition of nonconformances is required.
- Identification of any spare and replacement parts or assemblies and the appropriate delineation of technical and quality assurance data required for ordering these parts or assemblies. Commercial Grade procurements shall also be identified in procurement documents.

### **Procurement Document Review and Approval**

Procurement document reviews shall be performed and documented before issuing the procurement documents to the supplier. A review of the procurement documents and any changes thereto shall be made to verify that documents include all applicable requirements specified under Section 4, Procurement Document Content, above and contain appropriate provisions to ensure that material, equipment or services will meet the governing requirements. Reviews shall be performed and documented to provide objective evidence of satisfactory accomplishment of such review prior to contract award. Changes made as a result of the bid evaluation or precontract negotiations shall be incorporated into the procurement documents. The review of such changes and their effects shall be completed prior to contract award. This review shall include the following considerations: 1) appropriate requirements specified in Procurement Document Content above, 2) a determination of any additional or modified design criteria, and 3) an analysis of exceptions or changes requested by the supplier and a determination on the impacts such changes may have on the intent of the procurement documents or quality of the item or service to be provided shall be performed by the LES organization initiating the procurement. Personnel who have access to pertinent information and have an adequate understanding of the requirements and scope of the procurement shall perform reviews of the procurement documents. Reviewers shall include representatives from the ~~Engineering and Contracts~~Project Management and QA organizations. The QA review shall assure compliance to quality assurance requirements.

### **Procurement Document Change**

Changes to the scope of work, technical requirements, quality assurance program requirements, right of access, documentation requirements, work stoppage and nonconformance, hold points and lists of spare and replacement parts delineated in procurement documents, shall be subject to the same degree of control as used in the preparation of the original procurement document.

## **SECTION 5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS**

The elements of the LES QA Program described in this section and associated procedures implement the requirements of Criterion 5, Instructions, Procedures, and Drawings, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 5 of NQA-1-1994 Part I.

Activities affecting quality shall be prescribed by and conducted in accordance with approved procedures and other implementing documents (drawings, specifications, etc.) appropriate to the circumstances. Generally, four types of procedures are used by LES to ensure that activities are carried out in compliance with the requirements of this QAPD and in a safe manner. These include administrative, operating, maintenance and emergency procedures. Administrative procedures would include areas such as engineering procurement, etc. Administrative procedures are the higher level procedures that prescribe the implementation of the requirements provided in this QAPD. Operating and maintenance procedures are utilized to implement the QA program during the start up, operation, and testing of the facility. During the design and construction phases, procedures are reviewed and approved by the affected organizations with review and oversight by the QA organization. Those procedures that delineate the responsibilities and functions of the QA organization, the QA procedures, are approved by the LES QA Director to ensure compliance with QAPD. During operations, the LES QA Manager Director and Plant Manager have responsibility to review and approve the procedures that cover activities under their organizational purview that relate to the QAPD and the safe operation of the plant. Procedures approved by the Plant Manager will be subject to selected review and oversight by the QA organization.

### **TYPES OF DOCUMENTS**

The type of document to be used to perform work shall be appropriate to the nature and circumstances of the work being performed. Documents include procedures, drawings and specifications. Work controlling procedures may also utilize approved checklists, travelers or other means to assure process requirements are met including prerequisite requirements prior to starting work. Procedures provide a consistent method for process performance and documentation of completion as well as ensure specified safety and environmental conditions are maintained.

### **CONTENT OF DOCUMENTS**

Documents shall include or reference the following information as appropriate to the work to be performed:

- Responsibilities of the organizations affected by the document,
- Quality, technical and regulatory requirements,
- A sequential description of the work to be performed including controls for altering the sequence of required inspections, tests and other operations,
- Quantitative or qualitative acceptance criteria sufficient for determining that prescribed activities have been satisfactorily accomplished,
- Prerequisites, limits, precautions, process parameters and environmental conditions,
- Quality verification points and hold points

## **SECTION 7                    CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES**

The elements of the LES QA Program described in this section and associated procedures implement the requirements of Criterion 7, Control of Purchased Material, Equipment and Services, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 7 and Supplement 7S-1 of NQA-1-1994 Part I as revised by NQA-1a-1995 Addenda of NQA-1-1994.

LES procurement of material, equipment and services is controlled to assure conformance with specified requirements. These controls include requirements for pre-award evaluations of suppliers' QA programs, annual evaluations, periodic audits/source inspections and surveillance. Suppliers with a LES approved QA program are placed on the LES ASL prior to award of contract. Source inspections and surveillances, evaluation of objective evidence of quality furnished by the supplier, maintaining the ASL, as well as, examination of received items and services are the responsibility of LES QA organization and are performed, as necessary, upon delivery or completion to ensure requirements specified in procurement documents are met. Supplier evaluations, annual evaluations, audits, surveillances, source inspections and receipt inspections shall be documented.

### **PROCUREMENT PLANNING**

LES procurements shall be planned and documented to ensure a systematic approach to the procurement process exists and supports the schedule. Procurement planning shall:

- Identify procurement methods and organizational responsibilities, including what is to be accomplished, who is to accomplish it, how it is to be accomplished, and when it is to be accomplished.
- Identify and document the sequence of actions and milestones needed to effectively complete the procurement.
- Provide for the integration of the following activities:
  - Procurement document preparation, review and change control according to the requirements of Section 4, Procurement Document Control
  - Selection of procurement sources, proposal/bid evaluation and award
  - LES evaluation of supplier performance
  - LES verifications including any hold and witness point notifications
  - Control of nonconformances
  - Corrective action
  - Acceptance of the material, equipment or service
  - Identification of quality assurance records to be provided to LES.
- Be accomplished as early as possible, and no later than at the start of those procurement activities that are required to be controlled to assure interface compatibility and a uniform approach to the procurement process.
- Be performed relative to the level of importance, complexity and quantity of the item or service being procured and the supplier's quality performance.

- Include the involvement of the LES QA organization to ensure that the QA requirements have been properly identified.

## **SOURCE EVALUATION AND SELECTION**

Supplier selection shall be based on an evaluation, performed before the contract and/or purchase order is awarded, of the supplier's capability to provide items or services in accordance with procurement document (technical and quality) requirements. The functional area needing the procurement shall request that the LES QA organization evaluate the potential supplier for placement on the LES ASL. Responsibilities and measures for evaluating and selecting procurement sources are detailed in the applicable QA procedure and include one or more of the following methods for evaluating potential suppliers:

- Evaluation of the supplier's history for providing an identical or similar product that performs satisfactorily in actual use. The supplier's history shall reflect current capability.
- Evaluation of supplier's current quality assurance records supported by any documented qualitative and quantitative information which can be objectively evaluated.
- Evaluation of the supplier's technical and quality capability based on an evaluation of supplier facilities, personnel and quality assurance program implementation.

The results of procurement source evaluation and selection shall be documented in accordance with the applicable QA procedure.

## **PROPOSAL/BID EVALUATION**

For proposals and bids, technically qualified personnel from the QA and ~~Engineering and Contracts~~ Project Management or other affected/involved organizations shall perform an evaluation to determine if the proposal/bid meets procurement document requirements. As a minimum, this evaluation shall review the following subjects consistent with the importance, complexity and quantity of items or services being procured:

- Technical considerations
- QA program requirements
- Supplier personnel qualifications
- Supplier production capability and past performance
- Alternatives and exceptions

Before the contract is awarded, the LES QA Director or ~~Engineering and Contracts Manager~~ Vice President - Project Management, or other affected/involved organization manager shall resolve, or obtain commitments to resolve, unacceptable quality conditions identified during the proposal/bid evaluation. Supplier quality assurance programs shall be evaluated by the QA organization before contract placement, and any deficiencies that would affect quality shall be corrected before starting work subject to these requirements. Supplier QA programs shall be accepted by the LES QA Director before the supplier starts work.

## **SUPPLIER PERFORMANCE EVALUATION**

The LES ~~Engineering and Contracts Manager~~ Vice President - Project Management in coordination with the QA Director shall establish measures to routinely interface with the supplier and to verify supplier performance. The measures shall include:

- Establishing an understanding between LES and the supplier of the requirements and specifications identified in procurement documents.
- Requiring the supplier to identify planning techniques and processes to be used in fulfilling procurement document requirements.
- Reviewing supplier documents that are prepared or processed during work performed to fulfill procurement requirements.
- Identifying and processing necessary change information.
- Establishing the method to be used to document information exchanges between LES and supplier.
- Establishing the extent of source surveillance and inspection.

The extent of LES verifications shall be a function of the relative importance, complexity/quantity of items or services being procured and the supplier's quality performance. Verification activities shall be accomplished by qualified personnel assigned to check, inspect, audit, or witness the activities of the suppliers. LES verifications shall be conducted as early as practical and shall not relieve the supplier of the responsibility for the verification of quality achievement.

Verifications shall include supplier audits, surveillances or source inspections (or combinations) used as a method of evaluating the supplier's performance, and evaluation of purchaser's documentation to aid in the determination of the effectiveness of the supplier's quality assurance program. Records, including source surveillances and inspections, audits, receiving inspections, nonconformances, dispositions, waivers, and corrective actions shall be maintained in accordance with the requirements of Section 17, Quality Assurance Records.

## **CONTROL OF SUPPLIER GENERATED DOCUMENTS**

Supplier generated documents shall be controlled, processed and accepted by LES in accordance with the requirements established in the applicable QA procedures. Measures shall be implemented to ensure that the submittal of supplier generated documents is accomplished in accordance with the procurement document requirements. These measures shall also provide for the acquisition, processing and recorded evaluation of technical, inspection and test data compared against the acceptance criteria.

## **CONTROL OF CHANGES IN ITEMS OR SERVICES**

LES shall establish contractual controls with suppliers to ensure that changes in procurement documents are controlled and documented in accordance with this QAPD.

## **ACCEPTANCE OF ITEMS OR SERVICES**

Methods for accepting supplier furnished material, equipment or services shall include one or more of the following, as appropriate to the items or services being procured:

- Evaluating the supplier certificate of conformance,
- Performing one or a combination of source verification, receiving inspection or post-installation test,

- Technical verification of the data produced (services only),
- Surveillance or audit of the activities (services only),
- Review of objective evidence for conformance to procurement requirements (services only).

The supplier shall verify that furnished material, equipment or services comply with LES's procurement requirements before offering the material, equipment or services for acceptance and shall provide to LES objective evidence that material, equipment or services conform to procurement documents. Where required by code, regulations or contract provisions, documentary evidence that items conform to procurement documents shall be available at the site prior to installation or use.

#### CERTIFICATE OF CONFORMANCE

When a certificate of conformance is used to accept material, equipment or service:

- The certificate shall identify the purchased material, equipment or service to the specific procurement document.
- The certificate shall identify the specific procurement requirements met by the purchased material, equipment or service. The procurement requirements identified shall include any approved changes, waivers or deviations applicable to the material, equipment or service.
- The certificate shall identify any procurement requirements that have not been met together with an explanation and the means for resolving nonconformances.
- The certificate shall be signed and dated or otherwise authenticated by an individual who is responsible for the supplier's quality assurance function and whose responsibilities and position are described in the supplier's quality assurance program.
- The certification process, including the implementing documents to be followed in filling out a certificate and the administrative implementing documents for review and approval of the certificates, shall be described in the supplier's quality assurance program.
- Measures shall be identified to verify the validity of supplier certificates and the effectiveness of the certification process (such as by audit of the supplier or by an independent inspection or test of the item). Verifications shall be conducted by LES at intervals commensurate with the past quality performance of the supplier.

#### SOURCE VERIFICATION

LES may accept material, equipment or service by monitoring, witnessing or observing activities performed by the supplier. This method of acceptance is called source verification. Source verification shall be implemented consistent with the supplier's planned inspections, examinations or tests at predetermined points and performed at intervals consistent with the importance and complexity of the item. Documented evidence of acceptance of source verified material, equipment or services shall be furnished to the receiving destination of the item, to LES, and to the supplier. Personnel qualified in accordance with the applicable requirements for the material, equipment or service being procured shall perform source verification.

#### RECEIVING INSPECTION

When receiving inspection is used to accept an item:

- The inspection shall consider any source verifications/audits and the demonstrated quality

performance of the supplier.

- The inspection shall be performed in accordance with established inspection procedures.
- The inspection shall verify, as applicable, proper configuration; identification; dimensional, physical and other characteristics; freedom from shipping damage; and cleanliness.
- The inspection shall be planned and executed according to the requirements of Section 10 Inspection.
- Receiving inspection shall be coordinated with a review for adequacy and completeness of any required supplier documentation submittals.

#### POST-INSTALLATION TESTING

When post-installation testing is used as a method of acceptance, the ~~LES Engineering and Contracts Manager~~Vice President - Project Management or the affected/involved LES organization manager and the supplier, when possible, shall mutually establish test requirements and acceptance documentation. The ~~LES Engineering and Contracts Manager~~Vice President - Project Management is ultimately responsible for ensuring appropriate test requirements and acceptance documentation are established.

#### **CONTROL OF SUPPLIER NONCONFORMANCES**

The ~~LES Engineering and Contracts~~Project Management organization and the supplier shall establish and document the process for disposition of items that do not meet procurement document requirements. The supplier shall evaluate nonconforming items according to the applicable requirements of Section 15, Nonconforming Items and submit a report of nonconformance to ~~LES Engineering and Contracts~~Project Management organization including supplier recommended disposition (for example, use-as-is or repair) and technical justification. Reports of nonconformances to procurement document requirements, or documents approved by LES, shall be submitted to ~~LES Engineering and Contracts~~Project Management organization for approval of the recommended disposition whenever one of the following conditions exists:

- Technical or material requirements are violated.
- A requirement in supplier documents, which have been approved by LES, is violated.
- The nonconformance cannot be corrected by continuation of the original manufacturing process or by re-work.
- The item does not conform to the original requirement even though the item can be restored to a condition such that the capability of the item to function is unimpaired.

~~LES Engineering and Contracts~~Project Management organization shall disposition the supplier's recommendation and verify implementation of the disposition. LES will maintain records of the supplier-submitted nonconformances.

#### **COMMERCIAL GRADE ITEMS**

Where the design utilizes commercial grade material and/or equipment, the following requirements are an acceptable alternate to other requirements of this Section:

- The commercial grade material/equipment is identified in an approved design output document. An alternate commercial grade material/equipment may be applied, provided there is verification that the alternate commercial grade material/equipment will perform the

## **SECTION 11            TEST CONTROL**

The elements of the LES QA Program described in this section and associated procedures implement the requirements of Criterion 11, Test Control, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 11 and Supplement 11S-1 of NQA-1-1994 Part I. The commitment to the provisions in Supplement 11S-2, Supplementary Requirements for Computer Program Testing is addressed in Section 3, Design Control.

Tests required to verify conformance of an item or computer program to specified requirements and to demonstrate satisfactory performance for service are planned and executed. Characteristics to be tested and test methods to be employed are specified. Test results are documented and their conformance with acceptance criteria is evaluated. Tests required to collect data, such as for siting or design input, shall be planned, executed, documented and evaluated.

### **TEST REQUIREMENTS**

Test requirements and acceptance criteria shall be provided or approved by the organization responsible for the design of the item to be tested unless otherwise designated. Required tests, including, as appropriate, prototype qualification tests, production tests, proof tests prior to installation, construction tests, pre-operational tests, and operational tests are controlled. Test requirements and acceptance criteria are based upon specified requirements contained in applicable design or other pertinent technical documents.

### **TEST PROCEDURES**

Test procedures shall include:

- Test objectives and the identification of any implementing documents to be developed to control and perform tests as appropriate;
- Identification of items to be tested, test requirements and acceptance limits, including required levels of precision and accuracy;
- Identification of test methods to be employed and instructions for performing the test;
- Test prerequisites that address calibrated instrumentation, appropriate and adequate test equipment/instrumentation, trained personnel, condition of test equipment and the item to be tested, suitably controlled environmental conditions and provisions for data acquisition;
- Mandatory hold points and methods to record data and results;
- Provisions for ensuring that prerequisites for the given test have been met;
- Selection and identification of the measuring and test equipment to be used to perform the test to ensure that the equipment is of the proper type, range, accuracy, and tolerance to accomplish the intended function; and
- Identification of the functional qualification level of personnel performing tests.

### **PERFORMING TESTS**

Tests shall be performed in accordance with procedures that address the following requirements as applicable:

- Provisions for determining when a test is required, describing how tests are performed, and ensuring that testing is conducted by trained and appropriately qualified personnel.
- Include or reference test objectives and provisions for ensuring that prerequisites for the given test have been met, adequate calibrated instrumentation is available and used, necessary monitoring is performed and suitable environmental conditions are maintained.
- Test requirements and acceptance criteria provided or approved by the organization responsible for the design of the item to be tested, unless otherwise designated.
- Test requirements and acceptance criteria based upon specified requirements contained in applicable design or other pertinent technical documents.
- Potential sources of uncertainty and error. Test parameters affected by potential sources of uncertainty and error shall be identified and controlled.

### **MONITORING AND OVERSIGHT OF SUPPLIER TEST**

The LES ~~Engineering and Contracts Manager~~ Vice President - Project Management in coordination with the QA Director shall establish measures to routinely interface with the supplier and to verify supplier performance. LES may accept material, equipment or service by monitoring, witnessing or observing activities performed by the supplier. This method of acceptance is called source verification. Source verification shall be implemented consistent with the supplier's planned inspections, examinations or tests at predetermined points and performed at intervals consistent with the importance and complexity of the item. Documented evidence of acceptance of source verified material, equipment or services shall be furnished to the receiving destination of the item, to LES, and to the supplier. Personnel qualified in accordance with the applicable requirements for the material, equipment or service being procured shall perform source verification.

### **USE OF OTHER TESTING DOCUMENTS**

Other testing documents (e.g., American Society for Testing and Materials (ASTM)) specifications, supplier manuals or other related documents containing acceptance criteria may be used instead of preparing special test procedures. If used, the information shall be incorporated by reference in the approved test procedure. Implementing documents shall include adequate supplemental instructions as required to ensure the required quality of the testing work.

### **TEST RESULTS**

Test results shall be documented and their conformance with acceptance criteria shall be evaluated by a qualified individual within the responsible organization to ensure that test requirements have been satisfied.

## **SECTION 18      AUDITS**

The elements of the LES QA Program described in this section and associated QA procedures implement the requirements of Criterion 18, Audits, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 18 and Supplement 18S-1 of NQA-1-1994 Part 1.

In accordance with the description of the QA organization during the various phases of design, construction, and operation provided in Section 1, Organization, the LES QA Director or QA Manager shall verify LES compliance with all aspects of the LES QA Program and determine QA Program effectiveness by ensuring that planned and scheduled audits are conducted. Elements that have been selected for audit shall be evaluated against specified requirements. An auditing function reports to the LES QA Director/QA Manager and has the organizational independence and authority to execute an effective audit process to meet all requirements of the QA Program. Objective evidence shall be examined to the depth necessary to determine if these elements are being implemented effectively. LES audits are performed in accordance with written procedures or checklists by appropriately trained and qualified personnel who do not have direct responsibility for performing the activities being audited. Audit results are documented and provided to the appropriate management for review and corrective action as applicable. Follow-up actions are taken where indicated.

### **AUDIT SCHEDULES**

Internal or external audits shall be scheduled in a manner to provide coverage, consistency and coordination with ongoing work, and at a frequency commensurate with the status and importance of the work. Internal or external audits shall be scheduled to begin as early in the life of the work as practical and shall be scheduled to continue at intervals consistent with the schedule for accomplishing the work. As a minimum, internal audits of LES QA Level 1 activities shall be at least once per year or at least once during the life of the activity, whichever is shorter. Regularly scheduled internal audits shall be supplemented by additional audits of specific subjects when necessary to provide an adequate assessment of compliance or effectiveness. Internal audits to determine quality assurance program effectiveness shall be performed on selected work products. The audit schedule shall be developed annually and revised as necessary to ensure that coverage is maintained current. Frequency of audits should be based upon evaluation of all applicable and active elements of the LES QAPD applicable to LES workscope. These evaluations should include an assessment of the effectiveness of the applicable and active elements of the LES QAPD based upon previous audit results and corrective actions, nonconformance reports, identified trends, and significant organizational changes.

### **AUDIT PLANS**

A documented audit plan shall be developed for each audit. This plan shall identify the audit scope, requirements for performing the audit, type of audit personnel needed, work to be audited, organizations to be notified, applicable documents, audit schedule, and implementing documents or checklists to be used.

## **AUDIT TEAMS**

The LES QA Director or QA Manager shall select and assign auditors who are independent of any direct responsibility for performing the work being audited. Audit personnel shall have sufficient authority and organizational freedom to make the audit process meaningful and effective. The audit team shall include one or more auditors comprised of representatives from the LES QA organization and any applicable technical organizations. A lead auditor shall be appointed to supervise the team, organize and direct the audit, prepare and coordinate issuance of the audit report and evaluate responses. Technical specialists may be used to assist in assessing the adequacy of technical processes. Before commencing the audit, the lead auditor shall ensure the personnel assigned to the audit team are prepared and collectively have experience and/or training commensurate with the scope, complexity or special nature of the work to be audited. Lead auditors, auditors and technical specialists shall be trained and qualified according to the requirements of Section 2, Quality Assurance Program.

## **PERFORMING AUDITS**

The LES QA Director or QA Manager shall provide written notification of a planned audit to the affected organizations at a reasonable time before the audit is to be performed. The notification should include all relevant information pertaining to the audit, such as schedule, scope and names of audit lead and team members, if known. In addition, the audit team leader shall ensure the following is performed.

- The audit team shall be adequately prepared before starting the audit.
- Audits shall be performed in accordance with written procedures or checklists.
- Elements that have been selected for the audit shall be evaluated against specified requirements.
- Objective evidence shall be examined to the depth necessary to determine if the selected elements are being implemented effectively.
- Audit results shall be documented by auditing personnel, and reported to/reviewed by management having responsibility for the area audited. Conditions requiring prompt corrective action shall be reported immediately to management of the audited organization.
- Identified audit findings shall be documented and the audited organization shall correct the findings according to the requirements of Section 16, Corrective Action. Minor audit findings can be corrected during the conduct of the audit.

## **REPORTING AUDIT RESULTS**

The audit report shall be prepared and signed by the audit team leader and issued to the management of the audited organization in a timely manner after completion of the audit.

The audit report shall include the following information:

- A description of the audit scope.
- Identification of the auditors.
- Identification of persons contacted during the audit.
- A summary of audit results and the documents reviewed, persons interviewed and the specific results of the reviews and interviews (i.e., a summary of the checklist contents).

- Statement as to the effectiveness of the implementation of the QA Program elements audited.
- A description of each reported adverse audit finding in sufficient detail to enable corrective action to be taken by the audited organization.
- A requested date for response by the audited organization.

### **RESPONDING TO AUDITS**

Management of the audited organization or activity shall:

- Investigate adverse audit findings in a timely manner;
- Determine and schedule corrective action, including measures to prevent recurrence;
- Prior to or by the requested response date, notify the LES QA Director in writing of the actions taken or scheduled, according to the requirements of Section 16 Corrective Action.

### **EVALUATING AUDIT RESPONSES**

The LES QA Director or QA Manager is responsible for evaluating audit responses.

### **FOLLOW-UP ACTION**

Follow-up action shall be taken by the LES QA Director to verify that:

- Corrective actions are completed as scheduled according to the requirements of Section 16 Corrective Action.

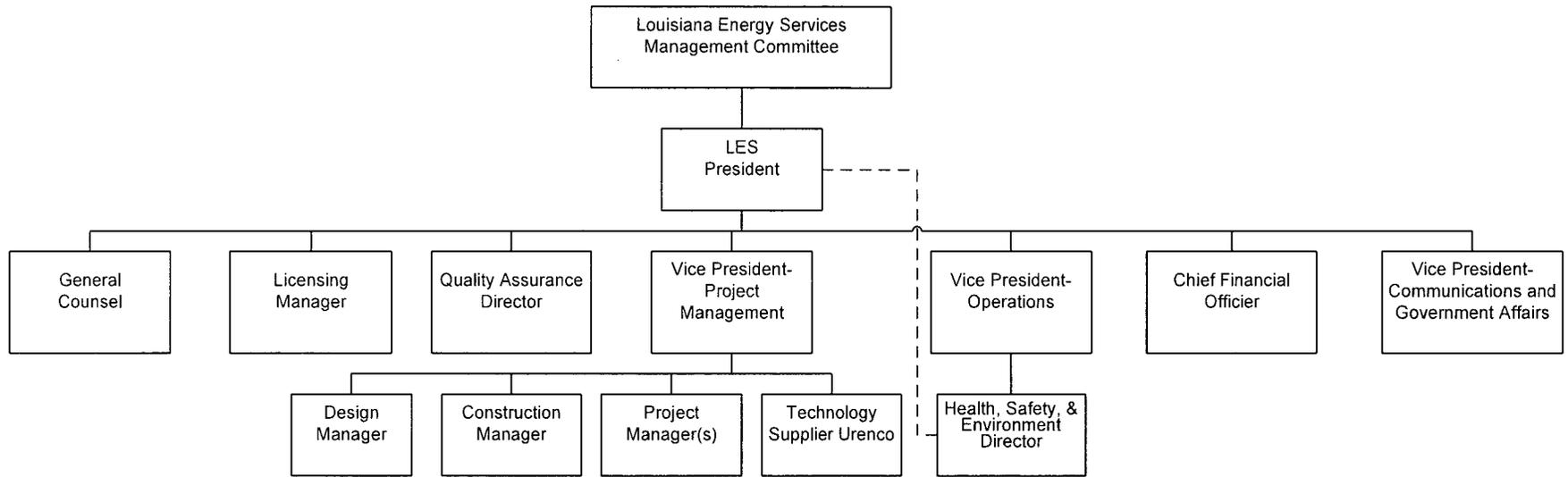
### **RECORDS**

- Audit records include audit plans and audit reports.
- Written replies and the record of completion of any required corrective actions.

These documents are QA records and shall be submitted to the LES Records Center for retention according to the requirements of Section 17, Quality Assurance Records.

### **NON-LES AUDITOR QUALIFICATIONS**

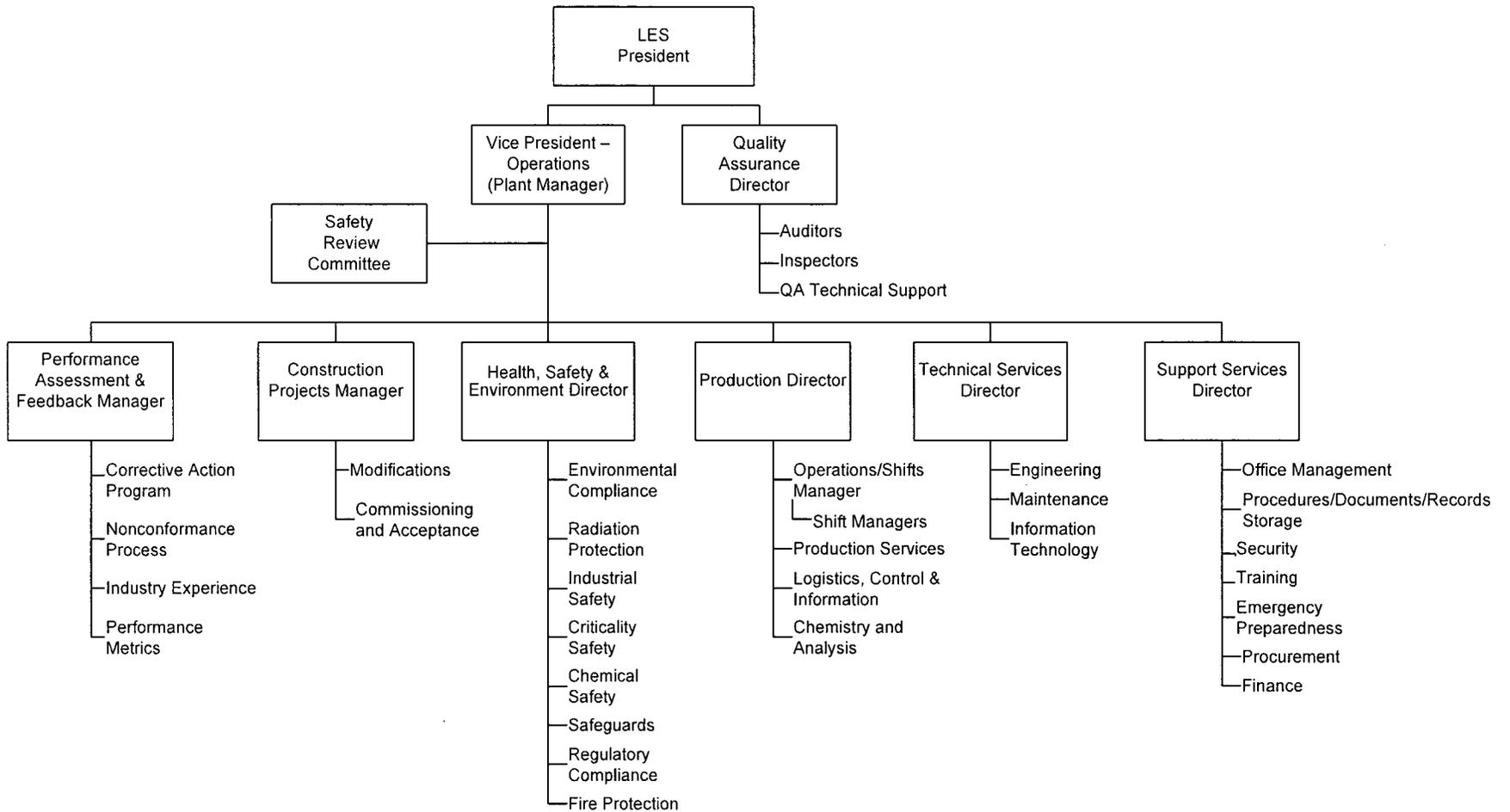
Non-LES certified auditors may be used to perform audits and surveillances provided the LES QA Director or QA Manager confirms and documents applicable QAPD requirements have been met and the individual has been certified in accordance with the QA procedure on auditor qualification and certification.



REFERENCE NUMBER  
Figure A1.dwg



**FIGURE A1**  
LES CORPORATE, DESIGN AND  
CONSTRUCTION ORGANIZATION  
DATE: SEPTEMBER 2006



**FIGURE A2**  
 LES NATIONAL ENRICHMENT FACILITY  
 OPERATING ORGANIZATION  
 DATE: SEPTEMBER 2006

REFERENCE NUMBER  
 Figure A2.dwg



ENCLOSURE 6

Quality Assurance Program Description, Replacement Pages

**Quality Assurance Program Description  
Page Replacement Instructions**

<u>Replace Page</u>	<u>With Page</u>
Pages A1 through A7	Pages A1 through A7
Page A11	Page A11
Pages A13 and A14	Pages A13 and A14
Page A18	Page A18
Pages A22 and A23	Pages A22 and A23
Pages A28 and A29	Pages A28 and A29
Page A31	Page A31
Page A42	Page A42
Pages A61 through A63	Pages A61 through A63
Figure A1	Figure A1
Figure A2	Figure A2

# **APPENDIX A**

## **Louisiana Energy Services Quality Assurance Program Description**

### **Design, Construction, Operations and Decommissioning Phases**

## INTRODUCTION

Louisiana Energy Services (LES) maintains full responsibility for ensuring that the enrichment facility is designed, constructed, operated, and decommissioned in conformance with applicable regulatory requirements, specified design requirements, applicable industry standards and good engineering practices in a manner to protect the health and safety of the employees and the public. To this end, the LES Quality Assurance Program conforms to the criteria established in Title 10 of the Code of Federal Regulations 10 CFR 50, Appendix B, Quality Assurance Criteria For Nuclear Power Plants and Fuel Reprocessing Plants. The criteria in 10 CFR 50, Appendix B, are met by LES's commitment to follow the guidelines of the American Society of Mechanical Engineers (ASME) Quality Assurance (QA) standard NQA-1-1994, Quality Assurance Program Requirements for Nuclear Facilities, including supplements as revised by the ASME NQA-1a-1995 Addenda.

The LES QA Program described herein covers design, construction (including pre-operational testing), operation (including testing), maintenance and modification, and decommissioning of the facility. This Quality Assurance Program Description (QAPD) describes the requirements to be applied to those structures, systems and components, and activities that have been designated Quality Assurance (QA) Level 1.

QA Level 1 is applied exclusively to items relied on for safety (IROFS), any items which are determined to affect the function of the IROFS, and, in general, to items required to satisfy regulatory requirements. The development of the IROFS list is a product of the Integrated Safety Analysis (ISA) process. The Integrated Safety Analysis provides the methodology utilized to establish the IROFS list. IROFS are comprised of specific structures, systems and components (SSC) and administrative controls. All sections of this QAPD are applied to IROFS, any SSC and administrative controls which are determined to affect the functions of the IROFS and items required to satisfy regulatory requirements for which QA Level 1 requirements are applied. Application of the QAPD requirements is part of the configuration management system and will be performed in accordance with documented procedures. The LES QA organization reviews and concurs with the selection of the IROFS and the application of QA requirements to the IROFS, any items which are determined to affect the functions of the IROFS and items required to satisfy regulatory requirements for which QA Level 1 requirements are applied.

The QA Level 2 program description is provided in Section 20, Quality Assurance Program for QA Level 2 Activities of this QAPD. These requirements are implemented by LES and LES contractors through the use of approved QA programs and procedures. The Owner defined QA Level 2 SSCs and their associated activities i.e., those SSCs that are not IROFS, provide support of normal operations of the facility, and do not affect the functions of the IROFS (e.g., occupational exposure, radioactive waste management) and SSCs that minimize public, worker, and environmental risks (e.g., physical interaction protection, certain radiation monitors and criticality alarms) are evaluated against the requirements in Section 20, of this QAPD. This evaluation identifies which QA controls are needed to ensure these SSC meet their intended functions and do not affect the functions of the IROFS. This evaluation may also include nuclear industry precedent in the application of augmented QA requirements.

Three QA Levels have been established and apply throughout the life of the facility from licensing and siting through design, construction, operation, and decommissioning. The three

levels are defined as follows.

#### QA LEVEL 1 REQUIREMENTS

The QA Level 1 Program shall conform to the criteria established in 10 CFR 50, Appendix B. These criteria shall be met by commitments to follow the guidelines of ASME NQA-1-1994, including supplements as revised by the ASME NQA-1a-1995 Addenda. The QA Level 1 QA program shall be applied to those structures, systems, components, and administrative controls that have been determined to be IROFS, items that affect the functions of the IROFS, and, in general, to items required to satisfy regulatory requirements.

#### QA LEVEL 2 REQUIREMENTS

The QA Level 2 program is an owner-defined QA program that uses the ASME NQA-1 standard as guidance. General QA Level 2 requirements are described in Section 20, Quality Assurance Program for QA Level 2 Activities. For contractors, the QA Level 2 program shall be described in documents that must be approved by LES. The QA Level 2 program shall be applied to Owner designated structures, systems, components, and activities. An International Organization for Standardization (ISO) 9000 series QA program may be acceptable for QA Level 2 applications provided it complies with applicable LES QAPD requirements and the QAPD is reviewed and accepted by the LES QA Director.

#### QA LEVEL 3 REQUIREMENTS

The QA Level 3 program is defined as standard commercial practice. A documented QA Level 3 program is not required. QA Level 3 governs all activities not designated as QA Level 1 or QA Level 2.

As described in Section 19, Provisions for Change, subsequent changes to the LES QA Program shall be incorporated in this QAPD. Any changes that reduce the commitments in the approved QAPD will be submitted to the Nuclear Regulatory Commission (NRC) for review and approval prior to implementation.

## **SECTION 1 ORGANIZATION**

The elements of the LES QA Program described in this section and associated QA procedures implement the requirements of Criterion 1, Organization, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 1 and Supplement 1S-1 of NQA-1-1994.

LES employees and contractor employees representing LES have full responsibility to ensure that the facility is designed, constructed, operated, and decommissioned in a manner to protect the health and safety of the public. This responsibility begins with initial design and continues throughout the life of the facility. The LES QA Program is designed to ensure that the necessary quality requirements for structures, systems, components and work activities are met. This objective is attained by ensuring that the organizational structure and the responsibility assignments are such that (a) quality is achieved and maintained by those who have been assigned responsibility for performing work and, (b) quality achievement is verified by persons or organizations not directly responsible for performing the work.

### **CORPORATE ORGANIZATION AND FUNCTIONS**

LES is the owner and operator of the enrichment facility. LES is a registered limited partnership formed to provide uranium enrichment services for commercial nuclear power plants. LES is responsible for the design, construction, operation and decommissioning of the enrichment facility in accordance with its QA Program. The President of LES reports to the LES Management Committee. The committee is composed of representatives from the general partners of LES.

The LES President establishes the basic policies of the QA Program. These policies are described in this QA Program, are transmitted to all levels of management, and are implemented through approved procedures. The LES QA Director has overall responsibility for development, management and implementation of the LES QA Program during all phases of the enrichment facility. As part of this responsibility, the QA Director is responsible for ensuring that contractor QA Programs meet all applicable requirements of the LES QA Program. LES management is continually involved in activities affecting quality and QA requirements.

Reporting to the President are the Vice President - Project Management, Vice President - Communications and Government Affairs, Chief Financial Officer (CFO), Quality Assurance Director, Vice President - Operations, General Counsel, and Licensing Manager. The Health, Safety and Environment Director reports to the Vice President - Operations, but has a direct reporting relationship to the President for all matters concerning safety during design and construction. Figure A1, LES Corporate, Design and Construction Organization, shows the levels of authority and lines of communications for activities affecting quality.

### **DESIGN AND CONSTRUCTION ORGANIZATION AND FUNCTIONS**

LES has contracted Urenco, the owner of the enrichment technology and operator of enrichment facilities in Europe, to prepare the reference design for the facility. An architect/engineering (A/E) firm was contracted and is under the responsibility of the Vice President - Project Management or President to further specify structures and systems of the facility, and ensure the reference design meets all applicable U.S. codes and standards. A contractor specializing in site evaluations was contracted to perform the site selection evaluation. A nuclear consulting company was contracted to conduct the site characterization, perform the Integrated Safety Analysis and to support development of the license application

including the Environmental Report.

During the design and construction phases, preparation of design and construction documents and construction itself are contracted to qualified contractors. The Vice President - Project Management is responsible for managing the design, construction and construction inspection activities, startup, including pre-operational testing and procurement activities during these phases. Contractor QA Programs will be reviewed by the LES QA organization and must be approved by the LES QA Director before work can start as described in Section 4, Procurement Document Control, and Section 7, Control of Purchased Material, Equipment and Services. Urenco will design, manufacture and deliver to the site the centrifuges necessary for the facility under a QA Program approved by the LES QA Director or under the LES QA Program. In addition, Urenco is supplying the technical assistance and consultation for the facility in accordance with the applicable requirements of the LES QA Program. As shown in Figure A1, the Vice President - Project Management is responsible for managing the work and contracts with the Technology Supplier (i.e., Urenco), Design Manager, Construction Manager, and other Project Managers.

QA Procedures will be developed by the Project Management organization to implement this QAPD in the Project Management area.

### **OPERATING ORGANIZATION AND FUNCTIONS**

The operating organization is shown in Figure A2, LES National Enrichment Facility Operating Organization. The Vice President - Operations serves as the Plant Manager, and reports to the President. The Plant Manager is responsible for the overall operation and administration of the enrichment facility. The Plant Manager is also responsible for ensuring the facility complies with all applicable regulatory requirements including the requirements of this QAPD. In the discharge of these responsibilities, the Plant Manager directs the activities of the following groups.

- Health, Safety and Environment
- Production (which includes Operations and Uranium Management)
- Technical Services
- Support Services
- Construction Projects
- Performance Assessment and Feedback

Procedures will be developed by the respective operations organizations to implement the requirements of this QAPD. Specific details of organizational responsibilities and job descriptions are provided in the National Enrichment Facility (NEF) Safety Analysis Report.

### **QA ORGANIZATION AND FUNCTIONS**

The LES QA organization during the design, construction, operations, and decommissioning phases will be headed by the LES QA Director. The LES QA Director reports directly to the LES President and is vested with the authority, access to work areas, and organizational independence to ensure that the requirements of this QAPD are properly implemented.

The LES QA Director is responsible for managing the LES QA Program that includes the following activities:

- QA Technical Support
  - Maintain the LES QAPD
  - Maintain QA procedures
  - QA technical reviews of procurement documents
  - Review and concurrence of changes to the identified IROFS, items that could affect the functions of IROFS, and items required to satisfy regulatory requirements for which QA Level 1 requirements are applied
  - Oversight of the Corrective Action and Nonconformance Processes
  - Maintain the LES Approved Suppliers List (ASL)
  - Administer the Auditor and Lead Auditor Certification Process
  - QA reviews of project documents
  - Approval of contractor QA Programs
  - Oversight of contractor QA Programs Implementation
  - Oversight of the quality of design and construction, including but not limited to the ISA process and the resultant selection of IROFS
  - Oversight of document and records control
- QA Verification
  - Audits, surveillances and assessments
  - Contractor/supplier evaluations
  - Contractor nonconformances
  - Equipment/Vendor Shop Inspections
  - Witness vendor acceptance testing

The following additional QA Director responsibilities are included for start up testing and operations:

- QA Technical Support
  - Quality Engineering support of startup organization
  - Oversight of startup activities

- QA selected reviews and oversight of programs developed for operations, including but not limited to the ISA process, the identification of IROFS and items that affect the performance of IROFS and any changes thereto, the controls for assuring IROFS performance and verifying and maintaining the facility design basis.
- QA selected reviews and oversight of operations including maintenance and testing and modification procedures
- Review and concurrence of changes to the identified IROFS, items that could affect the functions of IROFS, and items required to satisfy regulatory requirements for which QA Level 1 requirements are applied
- QA Oversight of operations procedure implementation
- Quality Control (QC) Inspection certification process
- QC Inspections
  - Receipt Inspections of QA Level 1 items
  - Applicable discipline inspections of modifications to QA Level 1 components

Accordingly, during the transition from construction to operations, the operations phase, and the decommissioning phase, the management of the QA organization and the QA staff have the responsibility to make quality assurance decisions and have sufficient authority, access to work areas, and organizational freedom to:

- Identify quality problems
- Initiate and recommend solutions to quality problems through designated channels
- Verify implementation of solutions
- Assure that further processing, delivery, installation, or use of items is controlled until proper disposition of nonconformances, deficiencies or unsatisfactory conditions has occurred
- Have direct access to highest levels of management
- Be sufficiently independent from cost and schedule considerations and have stop-work authority.

## **ORGANIZATIONAL INTERFACES**

The organizational interfaces between LES, contractors, and project applicable regulatory agencies are identified in the appropriate plans, contracts and implementing procedures. These documents contain the appropriate protocols, applicable roles, responsibilities and approval authorities for the specific topics for which they apply. LES design interfaces shall be identified and procedurally controlled. Design efforts shall be coordinated among interfacing organizations as detailed in LES procedures. Interface controls shall include the assignment of responsibility and the establishment of implementing documents among interfacing design organizations for the review, approval, release, distribution and revision of documents involving design interfaces. LES design information transmitted across interfaces shall be documented and procedurally controlled. LES transmittals of design information and/or documents shall reflect the status of the transmitted information and documents. Incomplete designs that require further evaluation, review or approval shall be identified. When it is necessary to initially transmit the design information orally or by other informal means, design information shall be promptly confirmed through a controlled implementing document.

## **DELEGATION OF WORK**

The delegation of work between LES and contractors is identified in applicable plans, contracts and implementing procedures. In all cases of delegation, LES retains the overall responsibility for all work performed under the direction of LES. All LES QA Level 1 work activities shall meet the requirements of this QAPD. Responsible managers have the authority to delegate tasks to another qualified individual within their organization provided the designated individual possesses the required qualifications and these qualifications are documented. All delegations shall be in writing. The responsible manager retains the ultimate responsibility and accountability for implementing the applicable requirements.

## **RESOLUTION OF DISPUTES**

Disputes involving differences of opinion on quality matters or issues are brought to the attention of line management, and if not resolved by the individual's manager, are elevated progressively to the QA Director. If satisfactory resolution cannot be obtained at that level, the matter is then elevated to the LES President for final resolution.

## **WORKER RESPONSIBILITIES**

Each employee has an obligation to identify concerns using the corrective action process with respect to work within their scope of responsibility whenever the health and safety of our workers, the public, or the environment is involved or when continued work will produce results that are not in compliance with the LES QA Program. This process is controlled by an LES procedure, which applies across the entire project/facility. The authorities and responsibilities for stopping work, the criteria and documentation required to process the stop work and the actions required before work may resume are detailed in an LES procedure. This process ensures that safety related activities are controlled until the deficiency, or unsatisfactory condition, has been resolved. Worker responsibilities are further discussed in Section 16, Corrective Action.

and environmental risks (e.g., physical interaction protection, certain radiation monitors and criticality alarms) are evaluated against the requirements in Section 20, of this QAPD. This evaluation identifies which QA controls are needed to ensure these SSCs meet their intended functions and do not affect the functions of the IROFS. This evaluation may also include nuclear industry precedent in the application of augmented QA requirements.

Three QA Levels have been established and apply throughout the life of the facility from licensing and siting through design, construction, testing, startup, operation, maintenance, modification, and decommissioning. The three levels are defined as follows.

#### QA LEVEL 1 REQUIREMENTS

The QA Level 1 Program shall conform to the criteria established in 10 CFR 50, Appendix B. These criteria shall be met by commitments to follow the guidelines of ASME NQA-1-1994, including supplements as revised by the ASME NQA-1a-1995 Addenda. The QA Level 1 QA program shall be applied to those structures, systems, components, and administrative controls that have been determined to be IROFS, items that affect the functions of the IROFS, and, in general, to items required to satisfy regulatory requirements.

#### QA LEVEL 2 REQUIREMENTS

The QA Level 2 program is an owner-defined QA program that uses the ASME NQA-1 standard as guidance. General QA Level 2 requirements are described in Section 20, Quality Assurance Program for QA Level 2 Activities. For contractors, the QA Level 2 program shall be described in documents that must be approved by LES. The QA Level 2 program shall be applied to Owner designated structures, systems, components, and activities. An International Organization for Standardization (ISO) 9000 series QA program may be acceptable for QA Level 2 applications provided it complies with LES QAPD requirements and the QAPD is reviewed and accepted by the LES QA Director.

#### QA LEVEL 3 REQUIREMENTS

The QA Level 3 program is defined as standard commercial practice. A documented QA Level 3 program is not required. QA Level 3 governs all activities not designated as QA Level 1 or QA Level 2.

### **QUALITY ASSURANCE TRAINING**

LES employees who perform QA Level 1 activities receive LES QA Indoctrination Training. This training includes general criteria, including introduction to applicable codes, standards, QA Procedures, QA Program elements and job responsibilities and authorities. LES personnel assigned to perform QA Level 1 activities are also required to complete training in the specific LES QA procedures needed to perform their job roles and responsibilities as assigned by their supervisor. Detailed QA training is provided on the LES QA Program and job specific QA procedures prior to an employee beginning QA Level 1 work. Supervision is responsible for ensuring that personnel performing work under their supervision are appropriately trained. LES will also include a version of QA Indoctrination Training as part of the general employee training given to all full-time employees.

The Training Manager is responsible for coordinating QA training activities for LES. Support Services serves as a centralized training support service for supervision in coordinating training and maintaining QA training records. This responsibility is carried out as support for line management. LES supervisory personnel are responsible for determining the

## **SECTION 3            DESIGN CONTROL**

The elements of the LES QA Program described in this section and associated procedures implement the requirements of Criterion 3, Design Control, of 10 CFR 50, Appendix B, and the commitment to Basic Requirements 3 and Supplement 3S-1 of NQA-1-1994 Part I as revised by NQA-1a-1995 Addenda of NQA-1-1994. The LES QA Program also implements the commitment to Part II of NQA-1-1994 Subpart Part 2.7, *Quality Assurance Requirements of Computer Software for Nuclear Facility Applications*, as revised by NQA-1a-1995 Addenda of NQA-1-1994. These commitments also apply to computer software that is used to produce or manipulate data that is used directly in the design, analysis and operation of structures, systems and components relied on for safety. Part I, Supplement 11S-2, *Supplementary Requirements for Computer Program Testing*, requirements for computer software qualification and use are also implemented by the LES QA Program.

Measures are established in procedures to assure that applicable requirements are correctly translated into design documents. Design inputs are specified on a timely basis to support LES milestones. Controls are established for the selection and suitability of application of materials, parts, equipment and processes that are essential to the functions of structures, systems and components. Design interfaces to ensure completeness and efficiency of design are established in applicable procedures. Procedures detail the controls for design input, design process, design verification, design changes and approval. These procedures include appropriate quantitative and/or qualitative acceptance criteria for determining that activities have been satisfactorily accomplished. LES design documents are prepared, reviewed, and approved by qualified individuals. Design is verified by one or more of the following verification methods: design reviews, alternate calculations or qualification tests. Design changes are governed by control measures commensurate with those applied to the original design. The design process and design verification practices and procedures shall be reviewed and modified, as necessary, when a significant design change is required because of an incorrect design. These and any other design deficiencies discovered during the design process on subsequent design related activities that affect the design of SSC shall be entered into the Corrective Action Program (CAP) according to Section 16, Corrective Action. If these deficiencies cause constructed or partially constructed items (systems, structures or components) to be deficient, the affected items shall be controlled in accordance with Section 15, Nonconforming Items. Configuration management is maintained in accordance with the applicable procedure and the applicable procedures controlling changes to the various types of design documents.

### **DESIGN INPUT CONTROL**

Applicable design inputs (such as design basis, conceptual design reports, performance requirements, regulatory requirements, codes and standards) shall be controlled by the LES Vice President - Project Management according to the following requirements:

- Design inputs shall be identified and documented, and their selection reviewed and approved.
- Design inputs shall be specified and approved in a manner to support the schedule. Design inputs shall provide the necessary details to permit design to be carried out in a manner that provides a consistent basis for making design decisions, accomplishing design verification

and evaluating design changes.

- Changes from approved design inputs and reasons for the changes shall be identified, approved, documented and controlled.
- Design inputs based on assumptions that require re-verification shall be identified and controlled by the appropriate procedures.

## **DESIGN PROCESS**

The LES design process shall be controlled by the Vice President - Project Management according to the following requirements:

- LES design work shall be prescribed and documented on a timely basis and to the level of detail necessary to permit the design process to be carried out in a correct manner and to permit verification that the design meets requirements.
- Design documents shall be adequate to support design, construction and operation.
- Appropriate quality standards shall be identified and documented, and their selection reviewed and approved.
- Changes from specified standards, including the reasons for the change, shall be identified, approved, documented and controlled.
- Design methods, materials, parts, equipment and processes that are essential to the function of the structure, system, or component shall be selected and reviewed for and suitability of application.
- Applicable information derived from experience as set forth in reports or other documentation, shall be made available to cognizant design personnel.
- Final design documents (i.e., approved design output documents and approved changes thereto) shall be sufficiently detailed as to purpose, method, assumptions, design input, references and units such that a person technically qualified in the subject/engineering discipline can understand the documents and verify their adequacy without recourse to the originator of the design document.
- Procedural controls for identifying sub-assemblies or components on final design documents that are part of the item being designed shall be established. When a commercial grade item is modified and/or tested to new requirements that are different from the supplier's published product description, the component part shall be traceable to documentation noting that it is different from the originally approved commercial grade item.
- LES design drawings, specifications or other design output documents shall contain appropriate inspection, examination and testing acceptance criteria.

## DESIGN ANALYSIS

LES design analyses shall be planned, controlled and documented. Design analysis documents shall be legible, in a form suitable for reproduction, filing and retrieval, and under configuration management control. LES design calculations shall be identifiable by subject (including structure, system or component to which the calculation applies), originator, reviewer and date, or by other designators in order that approved calculations are retrievable.

Computer software used to perform design analyses shall be developed and/or qualified, and used according to the provisions of ASME NQA-1-1994, Part II, Subpart 2.7 as revised by NQA-

- The interface between the design organization responsible for finalizing a design change and other organizations either involved in the review of the change, such as the QA and configuration management organizations, and those affected by the change, such as the operations and maintenance organizations, described in the next subsection, Design Interface Control, shall be maintained.
- The design process and design verification practices and procedures shall be reviewed and modified, as necessary, when a significant design change is required because of an incorrect design. These design deficiencies shall be documented according to Section 16.0, Corrective Actions. If these deficiencies cause constructed or partially constructed items (systems, structures or components) to be deficient, the affected items shall be controlled in accordance with Section 15, Nonconforming Items.
- When a design change is approved other than revision to the affected design documents, field changes shall be incorporated into affected design documents when such incorporation is appropriate.

### **DESIGN INTERFACE CONTROL**

LES design interfaces shall be identified and procedurally controlled. Design efforts shall be coordinated among interfacing organizations as detailed in LES procedures. Interface controls shall include the assignment of responsibility and the establishment of procedures among interfacing design organizations for the review, approval, release, distribution and revision of documents involving design interfaces. LES design information transmitted across interfaces shall be documented and procedurally controlled. LES transmittals of design information and/or documents shall reflect the status of the transmitted information and documents. Incomplete designs that require further evaluation, review or approval shall be identified. When it is necessary to initially transmit the design information orally or by other informal means, design information shall be promptly confirmed through a controlled document.

During the operational phase, the Plant Manager is responsible for ensuring the facility complies with all applicable regulatory requirements including the requirements of this QA Program. In the discharge of these responsibilities, the Plant Manager directs the activities of Health, Safety & Environment, Production, Technical Services, Support Services, Performance Assessment and Feedback, and Construction Projects. Procedures for controlling the interfaces and configuration management ensure that changes and modifications are properly managed and disseminated to those responsible personnel or organizations whose duties may be affected by the design change or modification and do not adversely impact the safe operation of the plant.

### **COMPUTER SOFTWARE CONTROLS**

If LES uses software to produce or manipulate data that is used directly in the design, analysis and operation of structures, systems, and components relied on for safety, the provisions provided in Part II ASME NQA-1-1994 Subpart Part 2.7, *Quality Assurance Requirements of Computer Software for Nuclear Facility Applications*, as revised by NQA-1a-1995 Addenda of NQA-1-1994 and ASME NQA-1-1994, Part I, Supplement 11S-2, *Supplementary Requirements for Computer Program Testing* shall apply. Procedures will be developed to implement of these provisions as applicable.

proceed by the supplier without LES QA Director authorization. The Vice President - Project Management may also establish hold points indicating work that cannot proceed without authorization by the Vice President - Project Management.

- Documentation required to be submitted to LES for information, review or acceptance shall be identified along with a document submittal schedule. Record retention times, disposition requirements and record maintenance responsibilities shall be identified for documentation that will become quality assurance records.
- Requirements for the supplier to report to LES in writing adverse quality conditions resulting in work stoppages and nonconformances. LES approval of partial and full work releases and disposition of nonconformances is required.
- Identification of any spare and replacement parts or assemblies and the appropriate delineation of technical and quality assurance data required for ordering these parts or assemblies. Commercial Grade procurements shall also be identified in procurement documents.

### **Procurement Document Review and Approval**

Procurement document reviews shall be performed and documented before issuing the procurement documents to the supplier. A review of the procurement documents and any changes thereto shall be made to verify that documents include all applicable requirements specified under Section 4, Procurement Document Content, above and contain appropriate provisions to ensure that material, equipment or services will meet the governing requirements. Reviews shall be performed and documented to provide objective evidence of satisfactory accomplishment of such review prior to contract award. Changes made as a result of the bid evaluation or precontract negotiations shall be incorporated into the procurement documents. The review of such changes and their effects shall be completed prior to contract award. This review shall include the following considerations: 1) appropriate requirements specified in Procurement Document Content above, 2) a determination of any additional or modified design criteria, and 3) an analysis of exceptions or changes requested by the supplier and a determination on the impacts such changes may have on the intent of the procurement documents or quality of the item or service to be provided shall be performed by the LES organization initiating the procurement. Personnel who have access to pertinent information and have an adequate understanding of the requirements and scope of the procurement shall perform reviews of the procurement documents. Reviewers shall include representatives from the Project Management and QA organizations. The QA review shall assure compliance to quality assurance requirements.

### **Procurement Document Change**

Changes to the scope of work, technical requirements, quality assurance program requirements, right of access, documentation requirements, work stoppage and nonconformance, hold points and lists of spare and replacement parts delineated in procurement documents, shall be subject to the same degree of control as used in the preparation of the original procurement document.

## **SECTION 5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS**

The elements of the LES QA Program described in this section and associated procedures implement the requirements of Criterion 5, Instructions, Procedures, and Drawings, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 5 of NQA-1-1994 Part I.

Activities affecting quality shall be prescribed by and conducted in accordance with approved procedures and other implementing documents (drawings, specifications, etc.) appropriate to the circumstances. Generally, four types of procedures are used by LES to ensure that activities are carried out in compliance with the requirements of this QAPD and in a safe manner. These include administrative, operating, maintenance and emergency procedures. Administrative procedures would include areas such as engineering procurement, etc. Administrative procedures are the higher level procedures that prescribe the implementation of the requirements provided in this QAPD. Operating and maintenance procedures are utilized to implement the QA program during the start up, operation, and testing of the facility. During the design and construction phases, procedures are reviewed and approved by the affected organizations with review and oversight by the QA organization. Those procedures that delineate the responsibilities and functions of the QA organization, the QA procedures, are approved by the LES QA Director to ensure compliance with QAPD. During operations, the LES QA Director and Plant Manager have responsibility to review and approve the procedures that cover activities under their organizational purview that relate to the QAPD and the safe operation of the plant. Procedures approved by the Plant Manager will be subject to selected review and oversight by the QA organization.

### **TYPES OF DOCUMENTS**

The type of document to be used to perform work shall be appropriate to the nature and circumstances of the work being performed. Documents include procedures, drawings and specifications. Work controlling procedures may also utilize approved checklists, travelers or other means to assure process requirements are met including prerequisite requirements prior to starting work. Procedures provide a consistent method for process performance and documentation of completion as well as ensure specified safety and environmental conditions are maintained.

### **CONTENT OF DOCUMENTS**

Documents shall include or reference the following information as appropriate to the work to be performed:

- Responsibilities of the organizations affected by the document,
- Quality, technical and regulatory requirements,
- A sequential description of the work to be performed including controls for altering the sequence of required inspections, tests and other operations,
- Quantitative or qualitative acceptance criteria sufficient for determining that prescribed activities have been satisfactorily accomplished,
- Prerequisites, limits, precautions, process parameters and environmental conditions,
- Quality verification points and hold points

- Include the involvement of the LES QA organization to ensure that the QA requirements have been properly identified.

### **SOURCE EVALUATION AND SELECTION**

Supplier selection shall be based on an evaluation, performed before the contract and/or purchase order is awarded, of the supplier's capability to provide items or services in accordance with procurement document (technical and quality) requirements. The functional area needing the procurement shall request that the LES QA organization evaluate the potential supplier for placement on the LES ASL. Responsibilities and measures for evaluating and selecting procurement sources are detailed in the applicable QA procedure and include one or more of the following methods for evaluating potential suppliers:

- Evaluation of the supplier's history for providing an identical or similar product that performs satisfactorily in actual use. The supplier's history shall reflect current capability.
- Evaluation of supplier's current quality assurance records supported by any documented qualitative and quantitative information which can be objectively evaluated.
- Evaluation of the supplier's technical and quality capability based on an evaluation of supplier facilities, personnel and quality assurance program implementation.

The results of procurement source evaluation and selection shall be documented in accordance with the applicable QA procedure.

### **PROPOSAL/BID EVALUATION**

For proposals and bids, technically qualified personnel from the QA and Project Management or other affected/involved organizations shall perform an evaluation to determine if the proposal/bid meets procurement document requirements. As a minimum, this evaluation shall review the following subjects consistent with the importance, complexity and quantity of items or services being procured:

- Technical considerations
- QA program requirements
- Supplier personnel qualifications
- Supplier production capability and past performance
- Alternatives and exceptions

Before the contract is awarded, the LES QA Director or Vice President - Project Management, or other affected/involved organization manager shall resolve, or obtain commitments to resolve, unacceptable quality conditions identified during the proposal/bid evaluation. Supplier quality assurance programs shall be evaluated by the QA organization before contract placement, and any deficiencies that would affect quality shall be corrected before starting work subject to these requirements. Supplier QA programs shall be accepted by the LES QA Director before the supplier starts work.

## **SUPPLIER PERFORMANCE EVALUATION**

The LES Vice President - Project Management in coordination with the QA Director shall establish measures to routinely interface with the supplier and to verify supplier performance. The measures shall include:

- Establishing an understanding between LES and the supplier of the requirements and specifications identified in procurement documents.
- Requiring the supplier to identify planning techniques and processes to be used in fulfilling procurement document requirements.
- Reviewing supplier documents that are prepared or processed during work performed to fulfill procurement requirements.
- Identifying and processing necessary change information.
- Establishing the method to be used to document information exchanges between LES and supplier.
- Establishing the extent of source surveillance and inspection.

The extent of LES verifications shall be a function of the relative importance, complexity/quantity of items or services being procured and the supplier's quality performance. Verification activities shall be accomplished by qualified personnel assigned to check, inspect, audit, or witness the activities of the suppliers. LES verifications shall be conducted as early as practical and shall not relieve the supplier of the responsibility for the verification of quality achievement.

Verifications shall include supplier audits, surveillances or source inspections (or combinations) used as a method of evaluating the supplier's performance, and evaluation of purchaser's documentation to aid in the determination of the effectiveness of the supplier's quality assurance program. Records, including source surveillances and inspections, audits, receiving inspections, nonconformances, dispositions, waivers, and corrective actions shall be maintained in accordance with the requirements of Section 17, Quality Assurance Records.

## **CONTROL OF SUPPLIER GENERATED DOCUMENTS**

Supplier generated documents shall be controlled, processed and accepted by LES in accordance with the requirements established in the applicable QA procedures. Measures shall be implemented to ensure that the submittal of supplier generated documents is accomplished in accordance with the procurement document requirements. These measures shall also provide for the acquisition, processing and recorded evaluation of technical, inspection and test data compared against the acceptance criteria.

## **CONTROL OF CHANGES IN ITEMS OR SERVICES**

LES shall establish contractual controls with suppliers to ensure that changes in procurement documents are controlled and documented in accordance with this QAPD.

## **ACCEPTANCE OF ITEMS OR SERVICES**

Methods for accepting supplier furnished material, equipment or services shall include one or more of the following, as appropriate to the items or services being procured:

- Evaluating the supplier certificate of conformance,
- Performing one or a combination of source verification, receiving inspection or post-installation test,

performance of the supplier.

- The inspection shall be performed in accordance with established inspection procedures.
- The inspection shall verify, as applicable, proper configuration; identification; dimensional, physical and other characteristics; freedom from shipping damage; and cleanliness.
- The inspection shall be planned and executed according to the requirements of Section 10 Inspection.
- Receiving inspection shall be coordinated with a review for adequacy and completeness of any required supplier documentation submittals.

#### POST-INSTALLATION TESTING

When post-installation testing is used as a method of acceptance, the LES Vice President - Project Management or the affected/involved LES organization manager and the supplier, when possible, shall mutually establish test requirements and acceptance documentation. The LES Vice President - Project Management is ultimately responsible for ensuring appropriate test requirements and acceptance documentation are established.

#### **CONTROL OF SUPPLIER NONCONFORMANCES**

The LES Project Management organization and the supplier shall establish and document the process for disposition of items that do not meet procurement document requirements. The supplier shall evaluate nonconforming items according to the applicable requirements of Section 15, Nonconforming Items and submit a report of nonconformance to LES Project Management organization including supplier recommended disposition (for example, use-as-is or repair) and technical justification. Reports of nonconformances to procurement document requirements, or documents approved by LES, shall be submitted to LES Project Management organization for approval of the recommended disposition whenever one of the following conditions exists:

- Technical or material requirements are violated.
- A requirement in supplier documents, which have been approved by LES, is violated.
- The nonconformance cannot be corrected by continuation of the original manufacturing process or by re-work.
- The item does not conform to the original requirement even though the item can be restored to a condition such that the capability of the item to function is unimpaired.

LES Project Management organization shall disposition the supplier's recommendation and verify implementation of the disposition. LES will maintain records of the supplier-submitted nonconformances.

#### **COMMERCIAL GRADE ITEMS**

Where the design utilizes commercial grade material and/or equipment, the following requirements are an acceptable alternate to other requirements of this Section:

- The commercial grade material/equipment is identified in an approved design output document. An alternate commercial grade material/equipment may be applied, provided there is verification that the alternate commercial grade material/equipment will perform the intended function and will meet design requirements applicable to both the replaced

- Provisions for determining when a test is required, describing how tests are performed, and ensuring that testing is conducted by trained and appropriately qualified personnel.
- Include or reference test objectives and provisions for ensuring that prerequisites for the given test have been met, adequate calibrated instrumentation is available and used, necessary monitoring is performed and suitable environmental conditions are maintained.
- Test requirements and acceptance criteria provided or approved by the organization responsible for the design of the item to be tested, unless otherwise designated.
- Test requirements and acceptance criteria based upon specified requirements contained in applicable design or other pertinent technical documents.
- Potential sources of uncertainty and error. Test parameters affected by potential sources of uncertainty and error shall be identified and controlled.

### **MONITORING AND OVERSIGHT OF SUPPLIER TEST**

The LES Vice President - Project Management in coordination with the QA Director shall establish measures to routinely interface with the supplier and to verify supplier performance. LES may accept material, equipment or service by monitoring, witnessing or observing activities performed by the supplier. This method of acceptance is called source verification. Source verification shall be implemented consistent with the supplier's planned inspections, examinations or tests at predetermined points and performed at intervals consistent with the importance and complexity of the item. Documented evidence of acceptance of source verified material, equipment or services shall be furnished to the receiving destination of the item, to LES, and to the supplier. Personnel qualified in accordance with the applicable requirements for the material, equipment or service being procured shall perform source verification.

### **USE OF OTHER TESTING DOCUMENTS**

Other testing documents (e.g., American Society for Testing and Materials (ASTM)) specifications, supplier manuals or other related documents containing acceptance criteria may be used instead of preparing special test procedures. If used, the information shall be incorporated by reference in the approved test procedure. Implementing documents shall include adequate supplemental instructions as required to ensure the required quality of the testing work.

### **TEST RESULTS**

Test results shall be documented and their conformance with acceptance criteria shall be evaluated by a qualified individual within the responsible organization to ensure that test requirements have been satisfied.

## **SECTION 18        AUDITS**

The elements of the LES QA Program described in this section and associated QA procedures implement the requirements of Criterion 18, Audits, of 10 CFR 50, Appendix B, and the commitment to Basic Requirement 18 and Supplement 18S-1 of NQA-1-1994 Part 1.

In accordance with the description of the QA organization during the various phases of design, construction, and operation provided in Section 1, Organization, the LES QA Director shall verify LES compliance with all aspects of the LES QA Program and determine QA Program effectiveness by ensuring that planned and scheduled audits are conducted. Elements that have been selected for audit shall be evaluated against specified requirements. An auditing function reports to the LES QA Director and has the organizational independence and authority to execute an effective audit process to meet all requirements of the QA Program. Objective evidence shall be examined to the depth necessary to determine if these elements are being implemented effectively. LES audits are performed in accordance with written procedures or checklists by appropriately trained and qualified personnel who do not have direct responsibility for performing the activities being audited. Audit results are documented and provided to the appropriate management for review and corrective action as applicable. Follow-up actions are taken where indicated.

### **AUDIT SCHEDULES**

Internal or external audits shall be scheduled in a manner to provide coverage, consistency and coordination with ongoing work, and at a frequency commensurate with the status and importance of the work. Internal or external audits shall be scheduled to begin as early in the life of the work as practical and shall be scheduled to continue at intervals consistent with the schedule for accomplishing the work. As a minimum, internal audits of LES QA Level 1 activities shall be at least once per year or at least once during the life of the activity, whichever is shorter. Regularly scheduled internal audits shall be supplemented by additional audits of specific subjects when necessary to provide an adequate assessment of compliance or effectiveness. Internal audits to determine quality assurance program effectiveness shall be performed on selected work products. The audit schedule shall be developed annually and revised as necessary to ensure that coverage is maintained current. Frequency of audits should be based upon evaluation of all applicable and active elements of the LES QAPD applicable to LES workscope. These evaluations should include an assessment of the effectiveness of the applicable and active elements of the LES QAPD based upon previous audit results and corrective actions, nonconformance reports, identified trends, and significant organizational changes.

### **AUDIT PLANS**

A documented audit plan shall be developed for each audit. This plan shall identify the audit scope, requirements for performing the audit, type of audit personnel needed, work to be audited, organizations to be notified, applicable documents, audit schedule, and implementing documents or checklists to be used.

## **AUDIT TEAMS**

The LES QA Director shall select and assign auditors who are independent of any direct responsibility for performing the work being audited. Audit personnel shall have sufficient authority and organizational freedom to make the audit process meaningful and effective. The audit team shall include one or more auditors comprised of representatives from the LES QA organization and any applicable technical organizations. A lead auditor shall be appointed to supervise the team, organize and direct the audit, prepare and coordinate issuance of the audit report and evaluate responses. Technical specialists may be used to assist in assessing the adequacy of technical processes. Before commencing the audit, the lead auditor shall ensure the personnel assigned to the audit team are prepared and collectively have experience and/or training commensurate with the scope, complexity or special nature of the work to be audited. Lead auditors, auditors and technical specialists shall be trained and qualified according to the requirements of Section 2, Quality Assurance Program.

## **PERFORMING AUDITS**

The LES QA Director shall provide written notification of a planned audit to the affected organizations at a reasonable time before the audit is to be performed. The notification should include all relevant information pertaining to the audit, such as schedule, scope and names of audit lead and team members, if known. In addition, the audit team leader shall ensure the following is performed.

- The audit team shall be adequately prepared before starting the audit.
- Audits shall be performed in accordance with written procedures or checklists.
- Elements that have been selected for the audit shall be evaluated against specified requirements.
- Objective evidence shall be examined to the depth necessary to determine if the selected elements are being implemented effectively.
- Audit results shall be documented by auditing personnel, and reported to/reviewed by management having responsibility for the area audited. Conditions requiring prompt corrective action shall be reported immediately to management of the audited organization.
- Identified audit findings shall be documented and the audited organization shall correct the findings according to the requirements of Section 16, Corrective Action. Minor audit findings can be corrected during the conduct of the audit.

## **REPORTING AUDIT RESULTS**

The audit report shall be prepared and signed by the audit team leader and issued to the management of the audited organization in a timely manner after completion of the audit.

The audit report shall include the following information:

- A description of the audit scope.
- Identification of the auditors.
- Identification of persons contacted during the audit.
- A summary of audit results and the documents reviewed, persons interviewed and the specific results of the reviews and interviews (i.e., a summary of the checklist contents).

- Statement as to the effectiveness of the implementation of the QA Program elements audited.
- A description of each reported adverse audit finding in sufficient detail to enable corrective action to be taken by the audited organization.
- A requested date for response by the audited organization.

### **RESPONDING TO AUDITS**

Management of the audited organization or activity shall:

- Investigate adverse audit findings in a timely manner;
- Determine and schedule corrective action, including measures to prevent recurrence;
- Prior to or by the requested response date, notify the LES QA Director in writing of the actions taken or scheduled, according to the requirements of Section 16 Corrective Action.

### **EVALUATING AUDIT RESPONSES**

The LES QA Director is responsible for evaluating audit responses.

### **FOLLOW-UP ACTION**

Follow-up action shall be taken by the LES QA Director to verify that:

- Corrective actions are completed as scheduled according to the requirements of Section 16 Corrective Action.

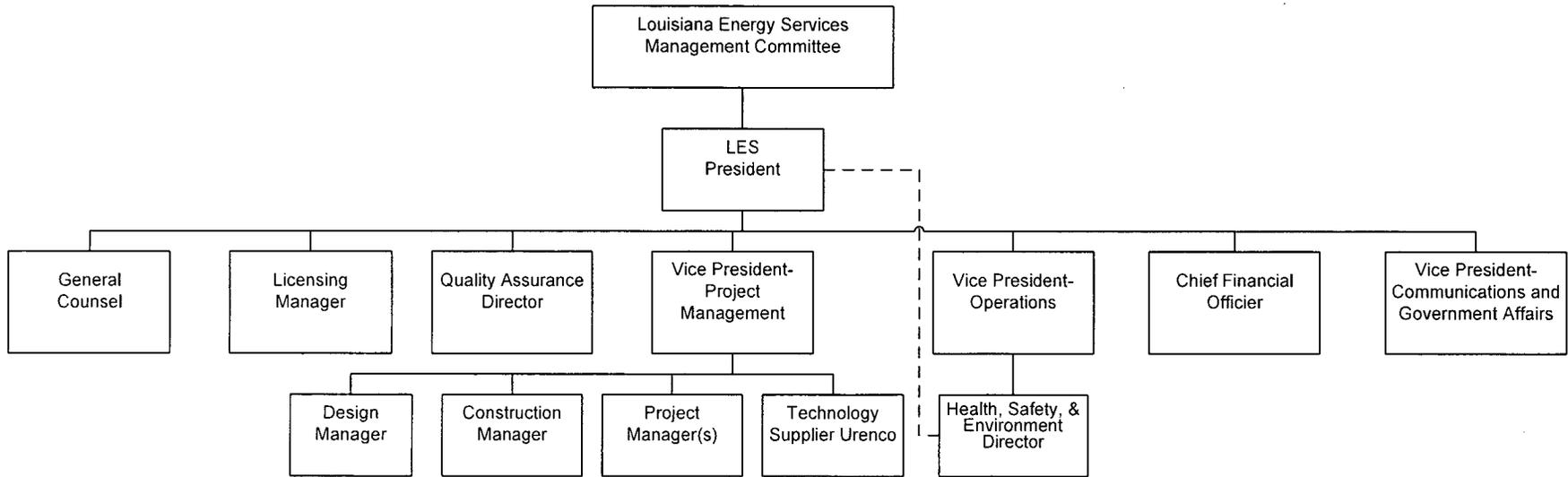
### **RECORDS**

- Audit records include audit plans and audit reports.
- Written replies and the record of completion of any required corrective actions.

These documents are QA records and shall be submitted to the LES Records Center for retention according to the requirements of Section 17, Quality Assurance Records.

### **NON-LES AUDITOR QUALIFICATIONS**

Non-LES certified auditors may be used to perform audits and surveillances provided the LES QA Director confirms and documents applicable QAPD requirements have been met and the individual has been certified in accordance with the QA procedure on auditor qualification and certification.

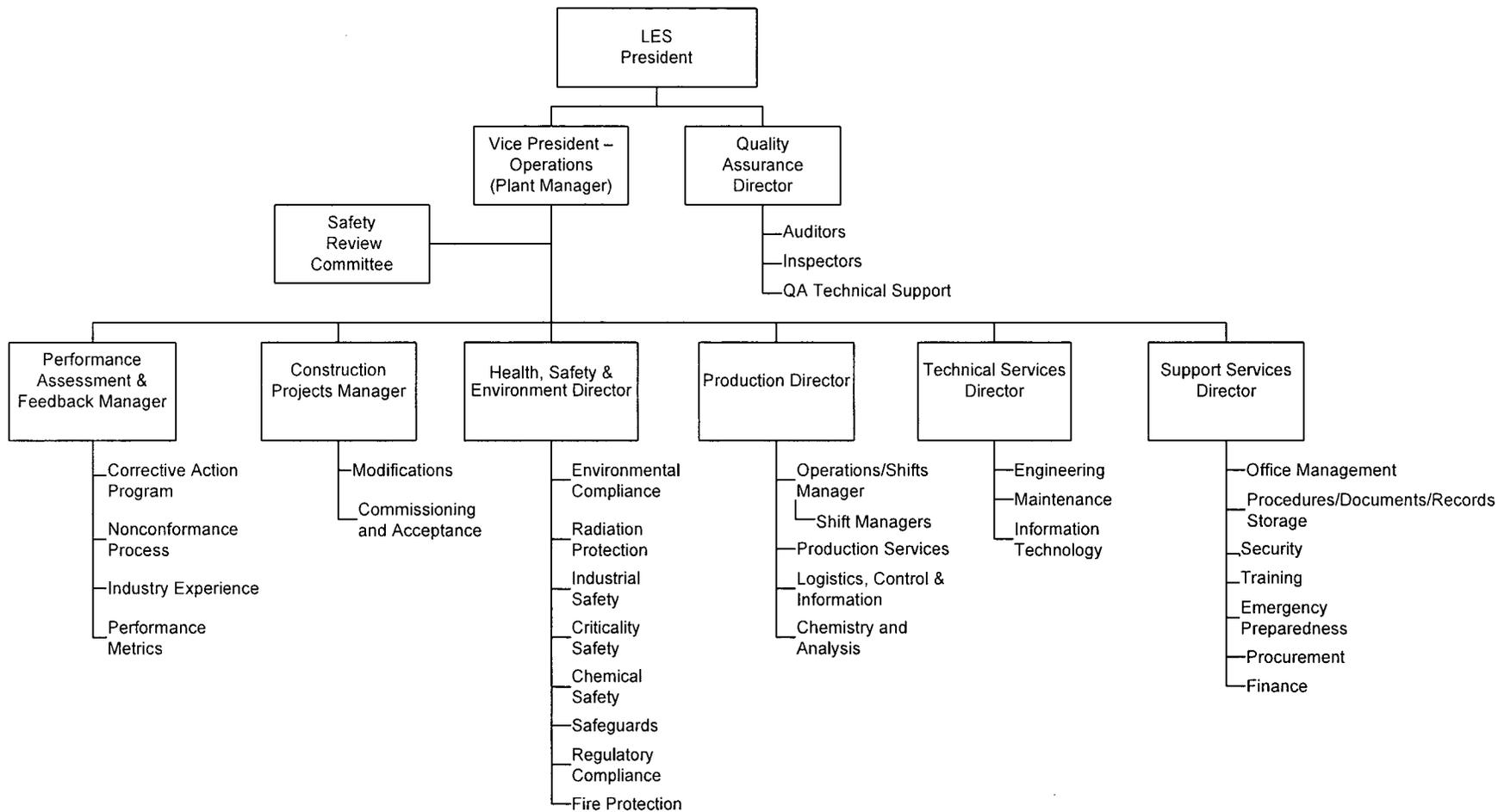


REFERENCE NUMBER  
Figure A1.dwg



**FIGURE A1**  
LES CORPORATE, DESIGN AND  
CONSTRUCTION ORGANIZATION

DATE: SEPTEMBER 2006



REFERENCE NUMBER  
Figure A2.dwg



**FIGURE A2**

LES NATIONAL ENRICHMENT FACILITY  
OPERATING ORGANIZATION

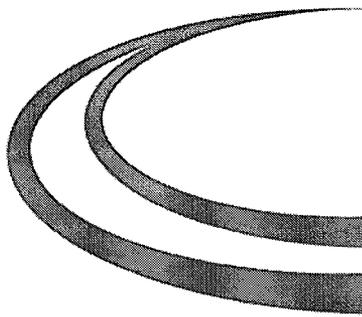
DATE: SEPTEMBER 2006

ENCLOSURE 7

Safety Analysis Report Chapter 2

Information Copy

Revision 12, September 2006

The logo consists of three thick, curved lines that sweep from the left side towards the right, creating a sense of motion or a stylized 'N' shape.

# NATIONAL ENRICHMENT FACILITY

## SAFETY ANALYSIS REPORT

INFORMATION COPY



**FOR INFORMATION ONLY**  
**TABLE OF CONTENTS**

	<b>Page</b>
2.0 ORGANIZATION AND ADMINISTRATION .....	2.0-1
2.1 ORGANIZATIONAL STRUCTURE.....	2.1-1
2.1.1 Corporate Functions, Responsibilities, and Authorities .....	2.1-1
2.1.2 Design and Construction Organization .....	2.1-2
2.1.3 Operating Organization.....	2.1-2
2.1.4 Transition From Design and Construction to Operations.....	2.1-3
2.2 KEY MANAGEMENT POSITIONS .....	2.1-4
2.2.1 Operating Organization.....	2.2-1
2.2.2 Shift Crew Composition .....	2.2-7
2.2.3 Safety Review Committee .....	2.2-7
2.2.4 Personnel Qualification Requirements .....	2.2-8
2.3 ADMINISTRATION.....	2.3-1
2.3.1 Configuration Management .....	2.3-1
2.3.2 Maintenance .....	2.3-1
2.3.3 Training and Qualifications .....	2.3-2
2.3.4 Procedures .....	2.3-2
2.3.5 Audits and Assessments .....	2.3-3
2.3.5.1 Safety Review Committee .....	2.3-3
2.3.5.2 Quality Assurance Department .....	2.3-4
2.3.5.3 Facility Operating Organization .....	2.3-4
2.3.5.4 Audited Organizations .....	2.3-4
2.3.6 Incident Investigations .....	2.3-4
2.3.7 Employee Concerns .....	2.3-4
2.3.8 Records Management .....	2.3-5
2.3.9 Written Agreements with Offsite Emergency Resources.....	2.3-5
2.4 REFERENCES.....	2.4-1

**FOR INFORMATION ONLY**  
**LIST OF FIGURES**

- Figure 2.1-1      LES Corporate, Design and Construction Organization  
Figure 2.1-2      LES National Enrichment Facility Operating Organization

## 2.0 ORGANIZATION AND ADMINISTRATION

This chapter describes the management system and administrative procedures for the effective implementation of Health, Safety, and Environmental (HS&E) functions at the Louisiana Energy Services (LES) enrichment facility. The chapter presents the organizations responsible for managing the design, construction, operation, and decommissioning of the facility. The key management and supervisory positions and functions are described including the personnel qualifications for each key position at the facility.

The LES policy is to maintain a safe work place for its employees and to assure operational compliance within the terms and conditions of the license and applicable regulations. The Vice President – Operations is the Plant Manager. The Plant Manager has overall responsibility for safety and compliance to this policy. In particular, LES employs the principle of keeping radiation and chemical exposures to employees and the general public as low as reasonably achievable (ALARA).

The information provided in this chapter, the corresponding regulatory requirement, and the section of NUREG-1520 (NRC, 2002), Chapter 2 in which the NRC acceptance criteria are presented is summarized below.

**FOR INFORMATION ONLY**

Information Category and Requirement	10 CFR 70 Citation	NUREG-1520 Chapter 2 Reference
<b>Section 2.1 Organizational Structure</b>		
• Functional description of specific organization groups responsible for managing the design, construction, and operation of the facility	70.22(a)(6)	2.4.3
• Management controls and communications among organizational units	70.22(a)(8)	2.4.3
• Startup and transition to operations	70.22(a)(6)	2.4.3
<b>Section 2.2 Key Management Positions</b>		
• Qualifications, responsibilities, and authorities for key management personnel	70.22(a)(6)	2.4.3
<b>Section 2.3 Administration</b>		
• Effective implementation of HS&E functions using written procedures	70.22(a)(8)	2.4.3
• Reporting of unsafe conditions or activities	70.62(a)	2.4.3
• Commitment to establish formal management measures to ensure availability of IROFS	70.62(d)	2.4.3
• Written agreements with offsite emergency resources	70.22(i)	2.4.3

## FOR INFORMATION ONLY

### 2.1 ORGANIZATIONAL STRUCTURE

The LES organizational structure is described in the following sections. The organizational structure indicates the lines of communication and management control of activities associated with the design, construction, operation, and decommissioning of the facility.

#### 2.1.1 Corporate Functions, Responsibilities, and Authorities

LES is a registered limited partnership formed solely to provide uranium enrichment services for commercial nuclear power plants. The LES partnership is described in Chapter 1, Section 1.2, Institutional Information.

LES has presented to Lea County, New Mexico a proposal to develop the NEF. Lea County would issue its Industrial Revenue Bond (National Enrichment Facility Project) Series 2004 in the maximum aggregate principal amount of \$1,800,000,000 to accomplish the acquisition, construction and installation of the project pursuant to the County Industrial Revenue Bond Act, Chapter 4, Article 59 NMSA 1978 Compilation, as amended. The Project is comprised of the land, buildings, and equipment.

Under the Act, Lea County is authorized to acquire industrial revenue projects to be located within Lea County but outside the boundaries of any incorporated municipality for the purpose of promoting industry and trade by inducing manufacturing, industrial and commercial enterprises to locate or expand in the State of New Mexico, and for promoting a sound and proper balance in the State of New Mexico between agriculture, commerce, and industry. Lea County will lease the project to LES, and LES will be responsible for the construction and operation of the facility. Upon expiration of the Bond after 30 years, LES will purchase the project.

The County has no power under the Act to operate the project as a business or otherwise or to use or acquire the project property for any purpose, except as lessor thereof under the terms of the lease.

In the exercise of any remedies provided in the lease, the County shall not take any action at law or in equity that could result in the Issuer obtaining possession of the project property or operating the project as a business or otherwise.

LES is responsible for the design, quality assurance, construction, operation, and decommissioning of the enrichment facility. The President of LES reports to the LES Management Committee. This committee is composed of representatives from the general partners of LES.

The President receives policy direction from the LES Management Committee. Reporting to the President are the Vice President - Project Management, Vice President - Communications and Government Affairs, Chief Financial Officer (CFO), Quality Assurance (QA) Director, Vice President - Operations, General Counsel and Licensing Manager. The Health, Safety & Environment Director reports to the Vice President – Operations, but has a direct reporting relationship to the President for all matters concerning safety during design and construction. Figure 2.1-1, LES Corporate, Design and Construction Organization shows the authority and lines of communication.

## FOR INFORMATION ONLY

### 2.1.2 Design and Construction Organization

As the owner of the enrichment technology and operator of the enrichment facilities in Europe, LES has contracted Urenco Limited to prepare the reference design for the facility, while an architect/engineering (A/E) has been contracted to further specify structures and systems of the facility, and ensure the reference design meets all applicable U.S. codes and standards. A contractor specializing in site evaluations has been contracted to perform the site selection evaluation. A nuclear consulting company has been contracted to conduct the site characterization, perform the Integrated Safety Analysis and to support development of the license application.

During the construction phase, preparation of construction documents and construction itself are contracted to qualified contractors. The Vice President - Project Management is responsible for managing the design, construction, initial startup and procurement activities. Contractor QA Programs will be reviewed by LES QA and must be approved before work can start.

Urenco will design, manufacture and deliver to the site the centrifuges necessary for facility operation. In addition, Urenco is supplying technical assistance and consultation for the facility. Urenco has extensive experience in the gas centrifuge uranium enrichment process since it operates three gas centrifuge uranium enrichment plants in Europe. Urenco is conducting technical reviews of the design activities to ensure the design of the enrichment facility is in accordance with the Urenco reference design information.

For procurement involving the use of vendors located outside the U.S., LES selects vendors *only after a determination that their quality assurance programs meet the LES requirements*. Any components supplied to LES are designed to meet applicable domestic industry code requirements or their equivalents as stated by the equipment specifications.

As shown in Figure 2.1-1, the Vice President - Project Management is responsible for managing the work and contracts with the Technology Supplier (Urenco), the Design Manager, Construction Manager, and other Project Managers. The lines of communication of key management positions within the engineering and construction organization are shown in Figure 2.1-1.

Position descriptions of key management personnel in the design and construction organization will be accessible to all affected personnel and the NRC.

### 2.1.3 Operating Organization

The operating organization for LES is shown in Figures 2.1-1, and 2.1-2, LES National Enrichment Facility Operating Organization. LES has direct responsibility for preoperational testing, initial start-up, operation and maintenance of the facility.

The Vice President – Operations is the Plant Manager, and reports to the LES President. The Plant Manager is responsible for the overall operation and administration of the enrichment facility. He is also responsible for ensuring the facility complies with all applicable regulatory requirements. In the discharge of these responsibilities, the Plant Manager directs the activities of the following groups:

- Health, Safety, and Environment

## FOR INFORMATION ONLY

- Production (includes Operations and Uranium Management)
- Technical Services
- Support Services
- Construction Projects
- Performance Assessment and Feedback.

The responsibilities, authorities and lines of communication of key management positions within the operating organization are discussed in Section 2.2, Key Management Positions.

Position descriptions for key management personnel in the operating organization will be accessible to all affected personnel and to the NRC.

### 2.1.4 Transition From Design and Construction to Operations

LES is responsible for the design, quality assurance, construction, testing, initial startup, operation, and decommissioning of the facility.

Towards the end of construction, the focus of the organization will shift from design and construction to initial start-up and operation of the facility. As the facility nears completion, LES will staff the LES NEF Operating Organization to ensure smooth transition from construction activities to operation activities. During this transition, the Health, Safety, & Environment (HS&E) Director position has the authority to report safety concerns directly to the LES President (as shown in Figure 2.1-1) for HS&E matters related to design and construction and reports directly to the Plant Manager (as shown in Figure 2.1-2) for HS&E matters related to operations. This position is intentionally provided two levels of reporting and stop work authority to provide significant continued focus on the health, safety, and environment goals during design and construction when the operating organization is not yet fully developed and implemented. Urenco, which has been operating gas centrifuge enrichment facilities in Europe for over 30 years, will have personnel integrated into the LES organization to provide technical support during startup of the facility and transition into the operations phase.

As the construction of systems is completed, the systems will undergo acceptance testing as required by procedure, followed by turnover from the construction organization to the operations organization by means of a project acceptance plan. The turnover will include the physical systems and corresponding design information and records. Following turnover, the operating organization will be responsible for system maintenance and configuration management. The design basis for the facility is maintained during the transition from construction to operations through the configuration management system described in Chapter 11, Management Measures.

Additional information regarding the transition from design and construction to operations, for the LES QA Organization, is provided in Section 1 of the LES Quality Assurance Program Description (i.e., Appendix A of the NEF Safety Analysis Report).

**FOR INFORMATION ONLY**

**(This page intentionally left blank)**

## FOR INFORMATION ONLY

### 2.2 KEY MANAGEMENT POSITIONS

This section describes the functional positions responsible for managing the operation of the facility. The facility is staffed at sufficient levels prior to operation to allow for training, procedure development, and other pre-operational activities.

The responsibilities, authorities and lines of communication for each key management position are provided in this section. Responsible managers have the authority to delegate tasks to other individuals; however, the responsible manager retains the ultimate responsibility and accountability for implementing the applicable requirements. Management responsibilities, supervisory responsibilities, and the criticality safety engineering staff responsibilities related to nuclear criticality safety are in accordance with ANSI/ANS-8.19-1996, Administrative Practices for Nuclear Criticality Safety (ANSI, 1996).

The LES Corporate Organization and lines of communication are shown in Figure 2.1-1.

#### 2.2.1 Operating Organization

The functions and responsibilities of key facility management are described in the following paragraphs. Additional detailed responsibilities related to nuclear criticality safety for key management positions and remaining supervisory and criticality safety staff are in accordance with ANSI/ANS-8.19-1996 (ANSI, 1996). Some position titles have been changed to better reflect the actual responsibilities of the position. Similarly, some operating functions have been assigned to different managers to better reflect the operating organization presently used at Urenco and U. S. nuclear facilities.

##### A. Vice President - Operations

The Vice President - Operations is appointed by the President and is responsible for ensuring the facility complies with all applicable regulatory requirements. The Vice President - Operations is the Plant Manager. The Plant Manager has direct responsibility for operation of the facility in a safe, reliable and efficient manner. The Plant Manager is responsible for proper selection of staff for all key positions including positions on the Safety Review Committee. The Plant Manager is responsible for the protection of the facility staff and the general public from radiation and chemical exposure and/or any other consequences of an accident at the facility and also bears the responsibility for compliance with the facility license. The Plant Manager or designee(s) have the authority to approve and issue procedures.

##### B. Quality Assurance Director

The Quality Assurance Director is appointed by and reports to the President and has overall responsibility for development, management and implementation of the LES QA Program.

The facility line managers and their staff who are responsible for performing quality-affecting work are responsible for ensuring implementation of and compliance with the QA Program. The QA Director position is independent from other management positions at the facility to ensure the QA Director has access to the managers for matters affecting quality. In addition, the QA

## FOR INFORMATION ONLY

Director has the authority and responsibility to contact the LES President with any Quality Assurance concerns.

### C. Health, Safety, and Environment Director

The Health, Safety, and Environment (HS&E) Director reports to the Plant Manager and has the responsibility for assuring safety at the facility through activities including regulatory compliance, maintaining compliance with safeguards (UF<sub>6</sub> material control), and implementation and control of the Fundamental Nuclear Material Control (FNMC) Plan. This includes HS&E activities associated with nuclear criticality safety, radiation protection, industrial safety, chemical safety, environmental compliance, and fire protection. The HS&E Director works with the other facility managers to ensure consistent interpretations of HS&E requirements, performs independent reviews, and supports facility and operations change control reviews.

This position is independent from other management positions at the facility to ensure objective HS&E audit, review, and control activities. The HS&E Director has the authority to shut down operations if they appear to be unsafe, and must consult with the Plant Manager with respect to restart of shutdown operations after the deficiency, or unsatisfactory condition, has been resolved.

### D. Production Director

The Production Director reports to the Plant Manager and has the responsibility for Operations, Production Services, Logistics Control and Information, and Chemistry and Analysis. This includes such activities as ensuring the correct and safe operation of UF<sub>6</sub> processes, proper handling of UF<sub>6</sub>, and the identification and mitigation of any off normal operating conditions, UF<sub>6</sub> cylinder management (including transportation licensing), directing the scheduling of enrichment operations to ensure smooth production, ensuring proper feed material and maintenance equipment are available for the facility, developing and maintaining production schedules for enrichment services, ensuring that cylinders of uranium hexafluoride are received and routed correctly at the facility, and all transportation licensing. In the event of the absence of the Plant Manager, the Production Director may assume the responsibilities and authorities of the Plant Manager.

### E. Technical Services Director

The Technical Services Director reports to the Plant Manager and has the responsibility of providing technical support to the facility. This includes technical support for facility modifications (including administration of the configuration management system), engineering support for operations and maintenance, maintenance activities, and computer support. In the event of the absence of the Plant Manager, the Technical Services Director may assume the responsibilities and authorities of the Plant Manager.

### F. Support Services Director

The Support Services Director reports to the Plant Manager and has the responsibility for emergency planning, ensuring adequate staffing, ensuring training is provided for facility employees, providing administrative support services to the facility regarding records management, the physical security of the facility, the protection of classified matter ensuring spare parts and other materials needed for operation of the facility are ordered, received,

## FOR INFORMATION ONLY

inspected and stored properly, and ensuring support functions such as accounting, word processing and general office management are provided for the facility. The Support Services Director, in coordination with the Vice President of Communications and Governmental Affairs, has the responsibility for providing information about the facility and LES to the public and media, including ensuring that the public and media receive accurate and up-to-date information during an abnormal event at the facility. In the event of the absence of the Plant Manager, the Support Services Director may assume the responsibilities and authorities of the Plant Manager.

### G. Construction Projects Manager

The Construction Projects Manager reports to the Plant Manager and has the responsibility for the implementation of major facility modifications and acceptance of the facility during commissioning.

### H. Performance Assessment and Feedback Manager

The Performance Assessment and Feedback Manager reports to the Plant Manager and has the responsibility for organizational performance metrics, and implementing the Corrective Action Program (CAP), Nonconformance Process and Industry Experience Program.

### I. Quality Assurance Inspectors

The Quality Assurance Inspectors report to the Quality Assurance Director (via a designated supervisory position, if applicable) and have the responsibility for performing inspections related to the implementation of the LES QA Program.

### J. Quality Assurance Auditors

The Quality Assurance Auditors report to the Quality Assurance Director (via a designated supervisory position, if applicable) and have the responsibility for performing audits related to the implementation of the LES QA Program.

### K. Quality Assurance Technical Support

The Quality Assurance Technical Support personnel report to the Quality Assurance Director (via a designated supervisory position, if applicable) and have the responsibility for providing technical support related to the implementation of the LES QA Program.

### L. Emergency Preparedness Manager

The Emergency Preparedness Manager reports to the Support Services Director and has the responsibility for ensuring the facility remains prepared to react and respond to any emergency situation that may arise. This includes emergency preparedness training of facility personnel, facility support personnel, the training of, and coordination with, offsite emergency response organizations (EROs), and conducting periodic drills to ensure facility personnel and offsite response organization personnel training is maintained up to date.

## FOR INFORMATION ONLY

### M. Licensing Manager

The Licensing Manager reports to the President and has the responsibility for coordinating facility activities to ensure compliance is maintained with applicable Nuclear Regulatory Commission (NRC) requirements. The Licensing Manager is also responsible for ensuring abnormal events are reported to the NRC in accordance with NRC regulations.

### N. Environmental Compliance Specialist

The Environmental Compliance Specialist reports to the HS&E Director and has the responsibility for coordinating facility activities to ensure all local, state and federal environmental regulations are met. This includes submission of periodic reports to appropriate regulating organizations of effluents from the facility.

### O. Radiation Protection Manager

The Radiation Protection Manager reports to the HS&E Director and has the responsibility for implementing the Radiation Protection program. These duties include the training of personnel in use of equipment, control of radiation exposure of personnel, continuous determination of the radiological status of the facility, and conducting the radiological environmental monitoring program.

During emergency conditions the Radiation Protection Manager's duties may also include:

- Providing Emergency Operations Center personnel information and recommendations concerning chemical and radiation levels at the facility
- Gathering and compiling onsite and offsite radiological and chemical monitoring data
- Making recommendations concerning actions at the facility and offsite deemed necessary for limiting exposures to facility personnel and members of the general public
- Taking prime responsibility for decontamination activities.

In matters involving radiological protection, the Radiation Protection Manager has direct access to the Plant Manager.

### P. Industrial Safety Manager

The Industrial Safety Manager reports to the HS&E Director and has the responsibility for the implementation of facility industrial safety programs and procedures. This shall include programs and procedures for training individuals in safety.

### Q. Fire Protection Officer

The Fire Protection Officer reports to the HS&E Director and has the responsibility for maintaining the performance of the facility fire protection systems.

## FOR INFORMATION ONLY

### R. Criticality Safety Officer

Criticality Safety Officer reports to the HS&E Director and is responsible for implementing the Criticality Safety Program in the operating organization, including conducting and reporting periodic nuclear criticality safety assessments.

### S. Criticality Safety Engineers

Criticality Safety Engineers report to the Engineering Manager and are responsible for the preparation and/or review of nuclear safety criticality evaluations and analysis. Nuclear criticality safety evaluations and analyses require independent review by a second Criticality Safety Engineer.

### T. Chemical Safety Specialist

The Chemical Safety Specialist reports to the HS&E Director (via a designated supervisory position, if applicable) and is responsible for the preparation and/or review of chemical safety programs and procedures for the facility.

### U. Operations/Shifts Manager

The Operations/Shifts Manager reports to the Production Director, and has the responsibility of directing the day-to-day operation of the facility. This includes such activities as ensuring the correct and safe operation of UF<sub>6</sub> processes, proper handling of UF<sub>6</sub>, and the identification and mitigation of any off normal operating conditions.

### V. Shift Managers

The Shift Managers report to the Operations/Shifts Manager and have the responsibility for ensuring safe operation of enrichment equipment and support equipment. Each Shift Manager directs assigned personnel in order to provide enrichment services in a safe, efficient manner.

### W. Safeguards Manager

The Safeguards Manager reports to the HS&E Director and has the responsibility for ensuring the proper implementation of the FNMC Plan. This position is separate from and independent of the Operations, Technical Services, Construction Projects, Performance Assessment and Feedback, and Support Services departments to ensure a definite division between the safeguards group and the other departments. In matters involving safeguards, the Safeguards Manager has direct access to the Plant Manager.

### X. Chemistry Manager

The Chemistry Manager reports to the Production Director and has the responsibility for the implementation of chemistry analysis programs and procedures for the facility. This includes effluent sample collection, chemical analysis of effluents, comparison of effluent analysis results to limits, and reporting of chemical analysis of effluents to appropriate regulatory agencies.

## FOR INFORMATION ONLY

### Y. Project Managers

The Project Managers report to the Construction Projects Manager and have the responsibility for the implementation of facility modifications and acceptance of the facility commissioning. The Project Managers also provide engineering support as needed to support facility operation and maintenance, and support of performance testing of systems and equipment.

### Z. Engineering Manager

The Engineering Manager reports to the Technical Services Director and has the responsibility for providing engineering and technical support at the facility and maintaining the configuration management system. The Engineering Manager is responsible for the development of all design changes to the plant.

### AA. Maintenance Manager

The Maintenance Manager reports to the Technical Services Director and has the responsibility of directing and scheduling maintenance activities to ensure proper operation of the facility, including preparation and implementation of maintenance, surveillance, and test procedures. This includes activities such as repair and preventive maintenance of facility equipment. The Maintenance Manager is responsible for coordinating and maintaining testing programs for the facility, including the testing of systems and components to ensure the systems and components are functioning as specified in design documents.

### BB. Security Manager

The Security Manager reports to the Support Services Director and has the responsibility for directing the activities of security personnel to ensure the physical protection of the facility. The Security Manager is also responsible for the protection of classified matter at the facility and obtaining security clearances for facility personnel and support personnel. In matters involving physical protection of the facility or classified matter, the Security Manager has direct access to the Plant Manager.

### CC. Records Management Manager

The Records Management Manager reports to the Support Services Director and has the responsibility for adequately controlling documents at the facility.

### DD. Training Manager

The Training Manager reports to the Support Services Director and has the responsibility for conducting training and maintaining training records for personnel at the facility.

## FOR INFORMATION ONLY

### 2.2.2 Shift Crew Composition

The minimum operating shift crew consists of a Shift Manager (or Deputy Shift Manager in the absence of the Shift Manager), one Control Room operator, one Radiation Protection technician, one operator for each Cascade Hall and associated UF<sub>6</sub> handling systems, and security personnel. When only one Cascade Hall is in operation, a minimum of two operators is required.

At least one criticality safety engineer or the criticality safety officer will be available, with appropriate ability to be contacted by the Shift Manager, to respond to any routine request or emergency condition. This availability may be offsite if adequate communication ability is provided to allow response as needed.

### 2.2.3 Safety Review Committee

The facility maintains a Safety Review Committee (SRC) to assist with the safe operation of the facility. The SRC reports to the Plant Manager and provides technical and administrative review and audit of operations that could impact plant worker, public safety and environmental impacts. The scope of activities reviewed and audited by the SRC shall, as a minimum, include the following:

- Radiation protection
- Nuclear criticality safety
- Hazardous chemical safety
- Industrial safety including fire protection
- Environmental protection
- ALARA policy implementation
- Changes in facility design or operations.

The SRC shall conduct at least one facility audit per year for the above areas.

The Safety Review Committee shall be composed of at least five members, including the Chairman. Members of the SRC may be from the LES corporate office or technical staff. The five members shall include experts on operations and all safety disciplines (criticality, radiological, chemical, industrial). The Chairman, members and alternate members of the Safety Review Committee shall be formally appointed by the Plant Manager, shall have an academic degree in an engineering or physical science field; and, in addition, shall have a minimum of five years of technical experience, of which a minimum of three years shall relate directly to one or more of the safety disciplines (criticality, radiological, chemical, industrial).

The Safety Review Committee shall meet at least once per calendar quarter.

Review meetings shall be held within 30 days of any incident that is reportable to the NRC. These meetings may be combined with regular meetings. Following a reportable incident, the

## FOR INFORMATION ONLY

SRC shall review the incident's causes, the responses, and both specific and generic corrective actions to ensure resolution of the problem is implemented.

A written report of each SRC meeting and audit shall be forwarded to the Plant Manager and appropriate Managers within 30 days and be retained in accordance with the records management system.

### 2.2.4 Personnel Qualification Requirements

The minimum qualification requirements for the facility functions that are directly responsible for its safe operation shall be as outlined below consistent with NUREG-1520. This includes the facility manager (Plant Manager), Operations Manager, Shift Managers, and managers for various safety and environmental disciplines. The nuclear experience of each individual shall be determined to be acceptable by the Plant Manager. "Responsible nuclear experience" for these positions shall include (a) responsibility for and contributions towards support of facility(s) in the nuclear fuel cycle (e.g., design, construction, operation, and/or decommissioning), and (b) experience with chemical materials and/or processes. The Plant Manager may approve different experience requirements for key positions. Approval of different requirements shall be done in writing and only on a case-by-case basis.

The assignment of individuals to the Manager positions reporting directly to the Plant Manager, and to positions on the SRC, shall be approved by the Plant Manager. Assignments to all other staff positions shall be made within the normal administrative practices of the facility.

The actual qualifications of the individuals assigned to the key facility positions described in Section 2.2.1, Operating Organization will be maintained in the employee personnel files or other appropriate file at the facility. Development and maintenance of qualification records and training programs are the responsibility of the Training Manager.

#### A. Vice President - Operations

The President of LES, based on the individual's experience, proven ability in management of large-scale facilities, proven knowledge of regulatory and QA requirements, and overall leadership qualities, appoints the Vice President - Operations.

The Vice President – Operations is the Plant Manager, who is the overall manager of the facility. This appointment by the President of LES reflects confidence in the individual's ability as an effective programs and business manager. The Plant Manager shall be knowledgeable of the enrichment process, enrichment process controls and ancillary processes, criticality safety control, chemical safety, industrial safety, and radiation protection program concepts as they apply to the overall safety of a nuclear facility. The Plant Manager shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and ten years of responsible nuclear experience.

## FOR INFORMATION ONLY

### B. Quality Assurance Director

The Quality Assurance Director shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and at least six years of responsible nuclear experience in the implementation of a quality assurance program. The QA Director shall have at least four years experience in a QA organization at a nuclear facility.

### C. Health, Safety, and Environment Director

The Health, Safety, and Environment (HS&E) Director shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and at least five years of responsible nuclear experience in HS&E or related disciplines. The HS&E Director shall also have at least one year of direct experience in the administration of nuclear criticality safety evaluations and analyses.

### D. Production Director

The Production Director shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and four years of responsible nuclear experience.

### E. Operations/Shifts Manager

The Operations/Shifts Manager shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and four years of responsible nuclear experience.

### F. Technical Services Director

The Technical Services Director shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and four years of responsible nuclear experience.

### G. Support Services Director

The Support Services Director shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and four years of responsible nuclear experience.

### H. Emergency Preparedness Manager

The Emergency Preparedness Manager shall have a minimum of five years of experience in the implementation and supervision of emergency plans and procedures at a nuclear facility. No credit for academic training may be taken toward fulfilling this experience requirement.

### I. Licensing Manager

The Licensing Manager shall have a minimum of five years of appropriate, responsible experience in implementing and supervising a nuclear licensing program.

### J. Environmental Compliance Specialist

The Environmental Compliance Specialist shall have a minimum of five years of appropriate, responsible experience in implementing and supervising a nuclear environmental compliance program.

## FOR INFORMATION ONLY

### K. Radiation Protection Manager

The Radiation Protection Manager shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and three years of responsible nuclear experience associated with implementation of a Radiation Protection program. At least two years of experience shall be at a facility that processes uranium, including uranium in soluble form.

### L. Industrial Safety Manager

The Industrial Safety Manager shall have, as a minimum, a bachelor's degree (or equivalent) in either an engineering or a scientific field and three years of appropriate, responsible nuclear experience associated with implementation of a facility safety program.

### M. Criticality Safety Officer

Criticality Safety Officer shall have experience in the implementation of a criticality safety program. This individual shall hold a Bachelor of Science or Bachelor of Arts degree in an engineering or scientific field and have successfully completed a training program, applicable to the scope of operations, in the physics of criticality and in associated safety practices.

### N. Criticality Safety Engineers

The Criticality Safety Engineers shall hold a Bachelor of Science or Bachelor of Arts degree in an engineering or scientific field and have successfully completed a training program, applicable to the scope of operations, in the physics of criticality and in associated safety practices. In addition, these individuals shall have at least two years of experience performing criticality safety analyses.

Should a change to the facility require a nuclear criticality safety evaluation or analysis, an individual who, as a minimum, possesses the equivalent qualifications of the Criticality Safety Engineer shall perform the evaluation or analysis. An independent review of the evaluation or analysis, shall be performed by a second Criticality Safety Engineer with the same minimum qualifications.

### O. Chemical Safety Specialist

The Chemical Safety Specialist shall have a minimum of two years experience in the preparation and/or review of chemical safety programs and procedures. This individual shall hold a bachelor's degree (or equivalent) in an engineering or scientific field and have successfully completed a training program, applicable to the scope of operations, in chemistry and in associated safety practices.

### P. Shift Managers

Shift Managers shall have a minimum of five years of appropriate, responsible experience in implementing and supervising a nuclear operations program.

## FOR INFORMATION ONLY

### Q. Projects Manager

The Projects Manager shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and have a minimum of five years of appropriate, responsible nuclear experience.

### R. Safeguards Manager

The Safeguards Manager shall have as a minimum a bachelor's degree in an engineering or scientific field, and five years of experience in the management of a safeguards program for Special Nuclear Material, including responsibilities for material control and accounting. No credit for academic training may be taken toward fulfilling this experience requirement.

### S. Chemistry Manager

The Chemistry Manager shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or a scientific field and three years of appropriate, responsible nuclear experience associated with implementation of a facility chemistry program.

### T. Engineering Manager

The Engineering Manager shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and have a minimum of five years of appropriate, responsible experience in implementing and supervising a nuclear engineering program.

### U. Maintenance Manager

The Maintenance Manager shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and four years of responsible nuclear experience.

### V. Security Manager

The Security Manager shall have as a minimum, a bachelor's degree in an engineering or scientific field, and five years of experiences in the responsible management of physical security at a facility requiring security capability similar to that required for the facility. No credit for academic training may be taken toward fulfilling this experience requirement.

### W. Training Manager

The Training Manager shall have a minimum of five years of appropriate, responsible experience in implementing and supervising a training program.

### X. Fire Protection Officer

The Fire Protection Officer shall be trained in the field of fire protection and have practical day-to-day experience at nuclear facilities.

### Y. Records Management Manager

The Records Management Manager shall have a minimum of three years of appropriate, responsible experience in implementing and supervising a document control program.

**FOR INFORMATION ONLY**

Z. Performance Assessment and Feedback Manager

The Performance Assessment and Feedback Manager shall have, as a minimum, a bachelor's degree (or equivalent) in an engineering or scientific field and four years of responsible nuclear experience.

## FOR INFORMATION ONLY

### 2.3 ADMINISTRATION

This section summarizes how the activities that are essential for implementation of the management measures and other HS&E functions are documented in formally approved, written procedures, prepared in compliance with a formal document control program. The mechanism for reporting potentially unsafe conditions or activities to the HS&E organization and facility management is also summarized. Details of the management measures are provided in Chapter 11, Management Measures.

#### 2.3.1 Configuration Management

Configuration management is provided for Items Relied On For Safety (IROFS) throughout facility design, construction, testing, and operation. Configuration management provides the means to establish and maintain a technical baseline for the facility based on clearly defined requirements. During design and construction, the Vice President - Project Management has responsibility for configuration management through the design control process. Selected documentation is controlled under the configuration management system in accordance with appropriate QA procedures associated with design control, document control, and records management. Design changes to IROFS undergo formal review, including interdisciplinary reviews as appropriate, in accordance with these procedures.

Configuration management provides the means to establish and maintain the essential features of the design basis of IROFS. As the project progresses from design and construction to operation, configuration management is maintained by the facility engineering organization as the overall focus of activities changes.

Additional details on Configuration Management are provided in Chapter 11, Management Measures.

#### 2.3.2 Maintenance

The maintenance program will be implemented for the operations phase of the facility. Preventive maintenance activities, surveillance, and performance trending provide reasonable and continuing assurance that IROFS will be available and reliable to perform their safety functions.

The purpose of planned and scheduled maintenance for IROFS is to ensure that the equipment and controls are kept in a condition of readiness to perform the planned and designed functions when required. Appropriate plant management is responsible for ensuring the operational readiness of IROFS under this control. For this reason, the maintenance function is administratively closely coupled to operations. The maintenance organization plans, schedules, tracks, and maintains records for maintenance activities.

Maintenance activities generally fall into the following categories:

- Corrective maintenance
- Preventive maintenance

## FOR INFORMATION ONLY

- Surveillance/monitoring
- Functional testing.

These maintenance categories are discussed in detail in Chapter 11, Management Measures.

### 2.3.3 Training and Qualifications

Formal planned training programs shall be established for facility employees. Indoctrination training shall be provided to employees within 30 days of reporting to work, and shall address safety preparedness for all safety disciplines (criticality, radiological, chemical, industrial), ALARA practices, and emergency procedures. In-depth training programs shall be provided to individuals depending on job requirements in the areas of radiological safety (for all personnel with access to the Restricted Area) and in criticality safety control. Nuclear criticality safety training shall satisfy the recommendations of ANSI/ANS-8.20 - 1991, Nuclear Criticality Safety Training (ANSI, 1991). Retraining of personnel previously trained shall be performed for radiological and criticality safety at least annually, and shall include updating and changes in required skills. The training program shall include methods for verifying training effectiveness, such as written tests, actual demonstration of skills, and where required by regulation, maintaining a current and valid license demonstrating qualification. Changes to training shall be implemented if indicated due to incidents potentially compromising safety, or if changes are made to facilities or processes.

The training programs and maintenance of the training program records at the facility are the responsibility of the Training Manager. Accurate records are maintained on each employee's qualifications, experience, training and retraining. The employee training file shall include records of all general employee training, technical training, and employee development training conducted at the facility. The employee training file shall also contain records of special company sponsored training conducted by others. The training records for each individual are maintained so that they are accurate and retrievable. Training records are retained in accordance with the records management system.

Additional details on the facility training program are provided in Chapter 11, Management Measures.

### 2.3.4 Procedures

Activities involving licensed materials will be conducted through the use of approved, written procedures. Applicable procedure and training requirements will be satisfied before use of the procedure. Procedures will be used to control activities in order to ensure the activities are carried out in a safe manner.

Generally, four types of plant procedures are used to control activities: operating procedures, administrative procedures, maintenance procedures, and emergency procedures. Operating procedures, developed for workstation and control room operators, are used to directly control process operations. Administrative procedures are written by each department as necessary to control activities that support process operations, including management measures (e.g. configuration management, training and record-keeping). Maintenance procedures address preventive and corrective maintenance, surveillance (includes calibration, inspection, and other

## FOR INFORMATION ONLY

surveillance testing), functional testing following maintenance, and requirements for pre-maintenance activity involving reviews of the work to be performed and reviews of procedures. Emergency procedures address the preplanned actions of operators and other plant personnel in the event of an emergency.

Policies and procedures will be developed to ensure that there are ties between major plant safety functions such as the ISA, management measures for items relied on for safety (IROFS), radiation safety, nuclear criticality safety, fire safety, chemical safety, environmental monitoring, and emergency planning.

Chapter 11 details the use of procedures, including development, revision, and distribution and control.

### 2.3.5 Audits and Assessments

The LES QA Program requires periodic audits to confirm that activities affecting quality comply with the QA Program and that the QA Program is being implemented effectively. The assessment function includes audits and other independent assessments to verify performance. These assessments provide a comprehensive independent evaluation of activities, including activities delegated to others under the LES QA Program, and procedures. Personnel who do not have direct responsibility in the area being assessed conduct these assessments.

An assessment and audit program for operational quality assurance of the enrichment facility is established, and periodically reviewed by management, to:

- verify that the configuration and operation of the facility are consistent with LES company policy, approved procedures and license provisions
- review important proposed facility modifications, tests and procedures
- verify that reportable occurrences are investigated and corrected in a manner which reduces the probability of recurrence of such events
- to detect trends which may not be apparent to a day-to-day observer.

The organizational structure for conducting the operational reviews and audit program includes:

- The Safety Review Committee appointed by the Plant Manager
- Regular audits conducted by the Quality Assurance Department.

Each of the above shall have the authority necessary to discharge its responsibilities adequately. Implicit in this authority shall be access to facility records and personnel as required in order to perform reviews and audits properly.

Additional details on audits and assessments are provided in Chapter 11, Management Measures.

#### 2.3.5.1 Safety Review Committee

The Safety Review Committee (SRC) provides technical and administrative review of facility operations that could impact plant worker and public safety. Details on the SRC and the scope of activities reviewed by the SRC are provided in Section 2.2.3, Safety Review Committee.

## FOR INFORMATION ONLY

### 2.3.5.2 Quality Assurance Department

The Quality Assurance Department conducts periodic audits of activities associated with the facility, in order to verify the facility's compliance with established procedures. The LES Quality Assurance Program Description is included in Chapter 11, Management Measures as Appendix A.

### 2.3.5.3 Facility Operating Organization

The facility operating organization shall provide, as part of the normal duties of supervisory personnel, timely and continuing monitoring of operating activities to assist the Plant Manager in keeping abreast of general facility conditions and to verify that the day-to-day operating activities are conducted safely and in accordance with applicable administrative controls.

These continuing monitoring activities are considered to be an integral part of the routine supervisory function and are important to the safety of the facility operation.

### 2.3.5.4 Audited Organizations

Audited organizations shall assure that deficiencies identified are corrected in a timely manner.

Audited organizations shall transmit a response to each audit report within the time period specified in the audit. For each identified deficiency, the response shall identify the corrective action taken or to be taken. For each identified deficiency, the response shall also address whether or not the deficiency is considered to be indicative of other problems (e.g., a specific audit finding may indicate a generic problem) and the corrective action taken or to be taken for any such problems determined.

Copies of audit reports and responses are maintained in accordance with the records management system.

### 2.3.6 Incident Investigations

The Corrective Action Program (CAP) is described in detail in Section 11.6. Each event is considered in terms of its requirements for reporting in accordance with regulations and is evaluated to determine the level of investigation required. These evaluations and investigations are conducted in accordance with approved CAP procedures. The depth of the investigation depends upon the severity of the incident in terms of the levels of uranium released and/or the degree of potential for exposure of workers, the public or the environment.

### 2.3.7 Employee Concerns

Employees who feel that safety or quality is being compromised have the right and responsibility to initiate the "stop work" process in accordance with the applicable project or facility procedures to ensure the work environment is placed in a safe condition.

## FOR INFORMATION ONLY

Employees also have access to various resources to ensure their safety or quality concerns are addressed, including:

- line management or other facility management (e.g., Performance Assessment and Feedback Management, Plant Manager, HS&E Director , QA Director)
- the facility safety organization (i.e., any of the safety engineers or managers)
- NRC's requirements under 10 CFR 19, Notices, Instructions and Reports to Workers: Inspection and Investigations (CFR, 2003a)
- LES CAP - a simple mechanism available for use by any person at the NEF site for reporting unusual events and potentially unsafe conditions or activities.

### 2.3.8 Records Management

Procedures are established which control the preparation and issuance of documents such as manuals, instructions, drawings, procedures, specifications, and supplier-supplied documents, including any changes thereto. Measures are established to ensure documents, including revisions, are adequately reviewed, approved, and released for use by authorized personnel.

Document control procedures require documents to be transmitted and received in a timely manner at appropriate locations including the location where the prescribed activity is to be performed. Controlled copies of these documents and their revisions are distributed to and used by the persons performing the activity.

Superseded documents are destroyed or are retained only when they have been properly labeled. Indexes of current documents are maintained and controlled.

The QA Program assigns responsibility for verifying QA record retention to the QA Director. Applicable design specifications, procurement documents, or other documents specify the QA records to be generated by, supplied to, or held, in accordance with approved procedures. QA records are not considered valid until they are authenticated and dated by authorized personnel.

Additional details on the records management program are provided in Chapter 11, Management Measures.

### 2.3.9 Written Agreements with Offsite Emergency Resources

The plans for coping with emergencies at the facility are presented in detail in the Emergency Plan. The Emergency Plan includes a description of the facility emergency response organization and interfaces with off-site EROs. Written agreements between the facility and off-site EROs, including the local fire department, the local law enforcement agency, ambulance/rescue units, and medical services and facilities have been established.

Coordination with participating government agencies (State, Counties) is vital to the safety and health of plant personnel and the general public. The principal state and local agencies/organizations having responsibilities for radiological or other hazardous material emergencies for the facility are:

- A. New Mexico Department of Public Safety, Office of Emergency Management
- B. Eunice Emergency Response Services

**FOR INFORMATION ONLY**

C. Hobbs Emergency Response Services

Details of the interfaces with these agencies are provided in Section 4 of the Emergency Plan.

## FOR INFORMATION ONLY

### 2.4 REFERENCES

ANSI, 1991. Nuclear Criticality Safety Training, ANSI/ANS-8.20-1991, American National Standards Institute/American Nuclear Society, 1991.

ANSI, 1996. Administrative Practices for Nuclear Criticality Safety, ANSI/ANS-8.19-1996, American National Standards Institute/American Nuclear Society, 1996.

CFR, 2003a. Title 10, Code of Federal Regulations, Part 19, Notices, Instructions and Reports to Workers: Inspection and Investigations, 2003.

CFR, 2003b. Title 10, Code of Federal Regulations, Part 40, Domestic Licensing of Source Material, 2003.

CFR, 2003c. Title 10, Code of Federal Regulations, Part 70, Domestic Licensing of Special Nuclear Material, 2003.

NRC, 1992. Proposed Method for Regulating Major Materials Licensees, NUREG-1324, U.S. Nuclear Regulatory Commission, 1992. |

NRC, 2002. Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility, NUREG-1520, U.S. Nuclear Regulatory Commission, March 2002. |

**FOR INFORMATION ONLY**

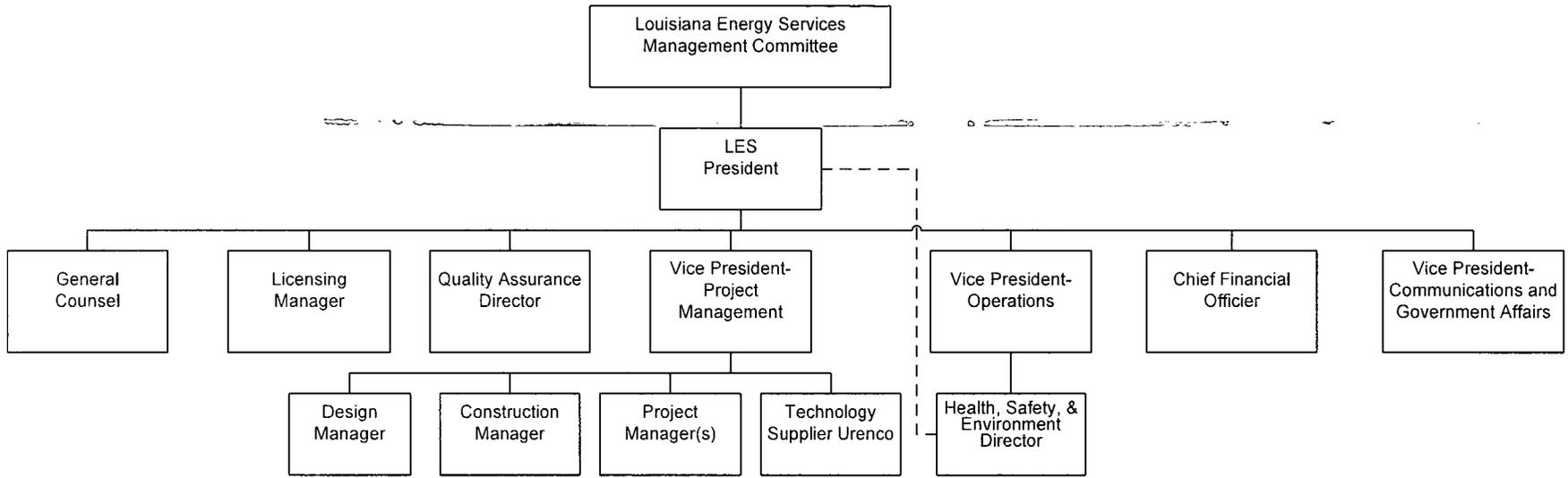
**(This page intentionally left blank)**

FOR INFORMATION ONLY

## FIGURES

**FOR INFORMATION ONLY**

**(This page intentionally left blank)**



REFERENCE NUMBER  
Figure 2.1-1.dwg



**FIGURE 2.1-1**

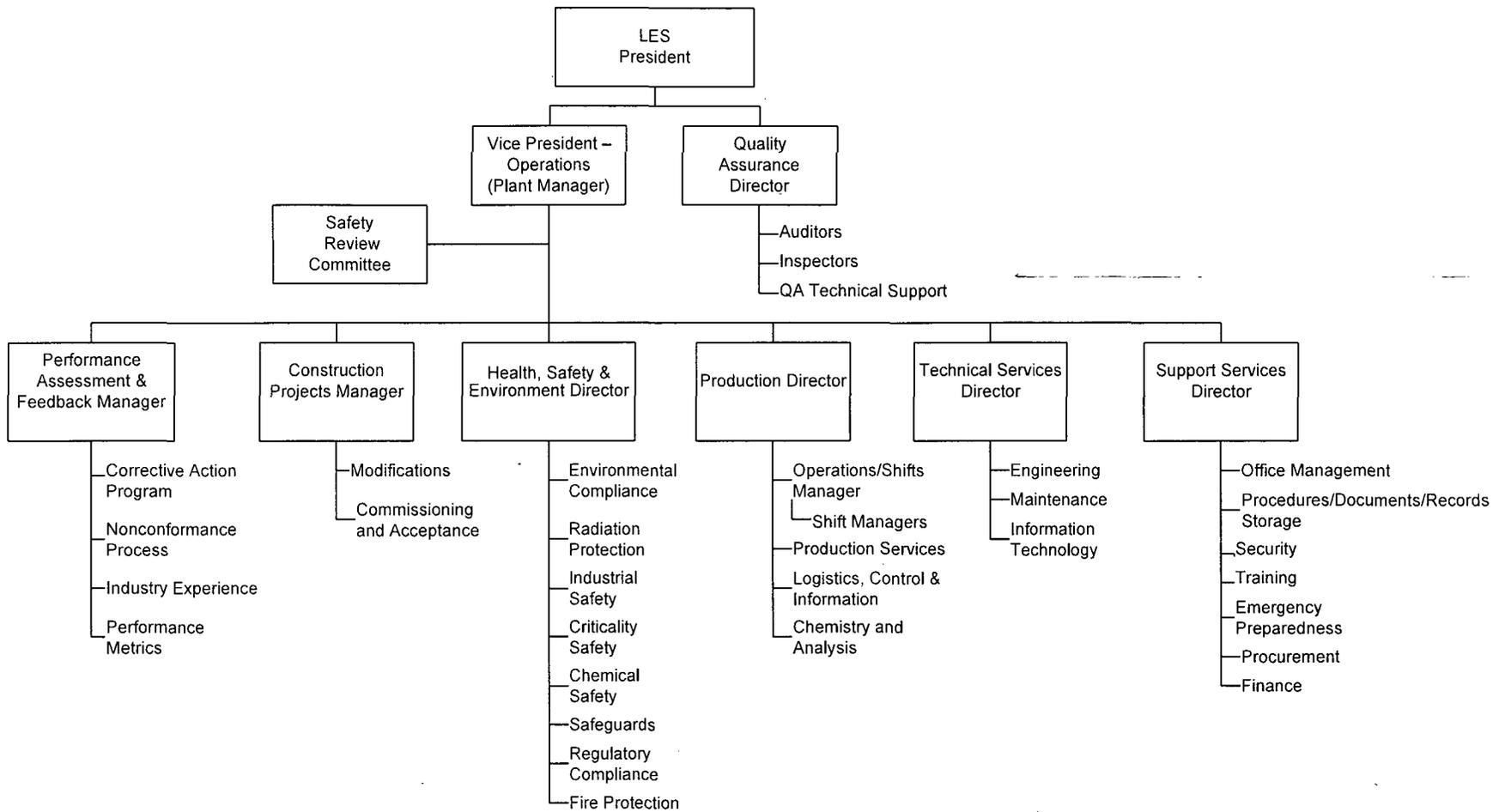
LES CORPORATE, DESIGN AND  
CONSTRUCTION ORGANIZATION

REVISION 12

DATE: SEPTEMBER 2006

**FOR INFORMATION ONLY**

**(This page intentionally left blank)**



**FIGURE 2.1-2**

LES NATIONAL ENRICHMENT FACILITY  
OPERATING ORGANIZATION

REVISION 12      DATE: SEPTEMBER 2006

REFERENCE NUMBER  
Figure 2.1-2.dwg

