

MAY 02 2010

LES-10-00086-NRC

Attn: Document Control Desk  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Louisiana Energy Services, LLC  
NRC Docket No. 70-3103

Subject: License Amendment Request for the National Enrichment Facility to clarify License requirements for Administrative Control IROFS boundaries (LAR-10-04)

References:

1. LES-10-00084-NRC, Letter from LES to NRC, LES Proposed Changes in Support of Plant Startup and Commitment to Submit a License Amendment Request, Apr 29, 2010.
2. LES-10-00075-NRC, Letter from LES to NRC, Backfit Claim Concerning Definition of Boundaries for Administrative Control IROFS, Apr 16, 2010.

In prior discussions and as stated in a letter from URENCO USA last week (Ref. 1), URENCO USA requests an amendment to its Materials License in accordance with 10 CFR 70.34 to clarify the License requirements applicable to Support Equipment determined to be within Administrative Control Items Relief on for Safety (IROFS) boundaries.

This amendment proposes to modify the Quality Assurance Program Description (QAPD), with associated changes in Safety Analysis Report (SAR), to include Support Equipment within the boundary of Administrative Control IROFS for the purpose of mandating enhanced verification of Support Equipment attributes (e.g., accurate and reliable indication) relied upon for worker actions. Support Equipment is being added to the boundary but is not an IROFS itself. Addition of this equipment to the boundary mandates the application of appropriate Management Measures to verify attributes. In addition, this amendment specifies the applicable quality requirements as documented in the proposed changes to the QAPD.

These additions enhance the Integrated Safety Analysis (ISA) and, by inclusion within the QAPD, serve to mandate URENCO USA to apply approved Management Measures for enhanced reliability of Support Equipment attributes. Inclusion of these features within the boundary of the Administrative Controls IROFS will also ensure that applicable failure tracking, appropriate restrictions on changes, applicable change requirements for IROFS, and reporting of certain losses or degradations will be accomplished. The attributes and controls are described in Enclosure 1.

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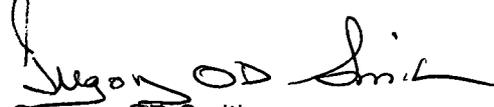
Enclosure 1 provides a description of the proposed change, background information and basis for the change. Enclosure 2 provides the marked up changes to the Licensing Basis Documents. Revision bars, strikethroughs and underlines were utilized.

The discussions in this submittal address the Administrative Control IROFS which are necessary for Initial Plant Operations consistent with Chapter 12 of the SAR and Chapter 4 of the Integrated Safety Analysis Summary. URENCO USA will provide additional information during future Readiness Reviews to address any needed similar changes to other Administrative Control IROFS (such as IROFS42).

As noted in Reference 2, URENCO USA believes we are currently compliant with the license and that no safety significant issue has been identified. Therefore approval of the LAR, in our opinion, is not required prior to startup. However, if in the opinion of the NRC, this LAR requires processing in support of startup, we request a turnaround that supports our ability to achieve startup during May 2010. We are available to support any questions or required responses to the LAR throughout the review process.

URENCO USA appreciates the efforts of the NRC staff in supporting the review and approval of this amendment in a timely manner. We look forward to your prompt attention to this License Amendment Request; should you have any questions regarding this letter, please contact me at 575.394.5206 or Gary Sanford, LES Director of Quality and Regulatory Affairs at 575.394.5407.

Respectfully,

A handwritten signature in black ink, appearing to read "Gregory OD Smith". The signature is written in a cursive style with a large initial "G".

Gregory OD Smith  
Chief Operating Officer and Chief Nuclear Officer

Enclosures: 1) Description of Proposed Changes  
2) Page Changes to the Licensing Basis Documents

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## ENCLOSURE 1

### Description of Proposed Changes, License Amendment Request (LAR-10-04) Background, Proposed Changes, Technical Analysis of Proposed Changes, Safety Significance

# 1 Introduction

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## 1.1 Purpose

This amendment proposes to modify the Quality Assurance Program Description (QAPD), with associated changes in Safety Analysis Report (SAR), to include Support Equipment within the boundary of Administrative Control IROFS for the purpose of mandating enhanced verification of Support Equipment attributes (e.g., accurate and reliable indication) relied upon for worker actions. Support Equipment is being added to the boundary but is not an IROFS itself. Addition of this equipment to the boundary mandates the application of appropriate Management Measures to verify attributes. In addition, this amendment specifies the applicable quality requirements as documented in the proposed changes to the QAPD.

These additions enhance the Integrated Safety Analysis (ISA) and, by inclusion within the QAPD, serve to mandate URENCO USA to apply approved Management Measures for enhanced reliability of Support Equipment attributes. Inclusion of these features within the boundary of the Administrative Controls IROFS will also ensure that applicable failure tracking, appropriate restrictions on changes, applicable change requirements for IROFS, and reporting of certain losses or degradations will be accomplished.

## 1.2 Background

A license application to construct and operate a uranium enrichment facility (the National Enrichment Facility or URENCO USA Facility) was submitted on December 12, 2003. As part of the license application, LES submitted an Integrated Safety Analysis (ISA) Summary, as required by 10 C.F.R. 70.61 and 70.62(c)(vi). In the ISA Summary, it designated each Administrative Control IROFS necessary to reduce the likelihood of a credible high-consequence event as an IROFS and further demonstrated that each IROFS would be available and reliable to perform its intended function when needed. The ISA Summary committed to defining the boundary of each IROFS (identifying all supporting systems, subsystems and components that are required to ensure the completion of the safety function) upon completion of the final design of the facility, and LES submitted its procedure for establishing such boundaries to the NRC. The ISA Summary and related correspondence also indicated that certain monitoring instruments and digital based controls (i.e., supporting components) were not themselves part of the boundary of the IROFS. For Administrative Control IROFS that use monitoring instruments, LES agrees that the IROFS boundary includes (1) the operator actions (based on procedures and training) required to take the administrative action, and (2) the calibration of the instruments that ensure accurate and reliable indication as presented on the docket in May 2004 in Revision 0 of the IROFS Boundary Definition Document procedure. This approach provides reasonable assurance that an appropriate level of nuclear and chemical safety is maintained.

We believe our boundary for the Administrative Control IROFS was defined, communicated, and remains unchanged since 2004. Support Equipment for Administrative Control IROFS was not

identified as requiring additional requirements in order for the workers to complete the identified safety function.

Recently, the NRC Staff notified LES that the boundary of an Administrative Control IROFS should include equipment necessary to perform the administrative worker action. Specifically, for IROFS38, IROFS42 and IROFSC6, the NRC has indicated that a set of the monitoring instruments and supporting equipment that could be used by operations personnel to take actions must be categorized as within the boundary of the IROFS and also be a Quality Level 1 IROFS unless prior NRC approval is received.

URENCO USA was first made aware of NRC concerns in this area during an inspection the week of February 8, 2010 for the Operational Readiness Review. Since then URENCO USA has been working diligently to identify alternatives to address NRC's concerns. On April 16, 2010, URENCO USA submitted a Backfit Claim concerning the IROFS Boundaries for Administrative Control IROFS. URENCO USA believes we are currently compliant with the license and that no safety significant issue has been identified.

URENCO USA is aware that the gap between our position and the NRC's still exists. URENCO USA has proposed steps to resolve these concerns. URENCO USA is submitting this LAR in order to reach a successful conclusion to the above mentioned interactions.

URENCO USA believes we are currently compliant with the license and that no safety significant issue has been identified. Therefore approval of the LAR, in our opinion, is not required prior to startup. However, if in the opinion of the NRC, this LAR requires processing in support of startup, we request a turnaround that supports our ability to achieve startup during May 2010. We are available to support any questions or required responses to the LAR throughout the review process.

### ***1.3 Additional Changes***

The discussions in this submittal address the Administrative Control IROFS which are necessary for Initial Plant Operations consistent with Chapter 12 of the SAR and Chapter 4 of the Integrated Safety Analysis Summary. URENCO USA will provide additional information during the future Readiness Reviews to address any needed similar changes to other Administrative Control IROFS (such as IROFS42).

Separately, URENCO USA is preparing a configuration change to incorporate a new Administrative Control IROFSC22, for accident sequence EC3-1. This change is being implemented in accordance with URENCO USA processes and is believed to be within LES' approval authority to add per 10 CFR 70.72. The new Administrative Control IROFS for Accident Sequence EC3-1 alone will provide sufficient mitigation or risk prevention in order to not require IROFSC6 to satisfy the performance requirements of 10 CFR 70.61. These new actions and IROFS do not rely on the Process Control System (PCS) to implement. Specifically, the IROFS will be added to perform periodic monitoring to confirm enrichment level and take operator actions. This IROFS will specify non PCS based monitoring and operator actions should enrichment control not be acceptably maintained, such as terminating feed flow to the cascade.

## **2 Proposed Changes**

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### ***2.1 Summary of Proposed Change***

This proposed change enhances the monitoring and worker response associated with Administrative Control IROFS. This is achieved by adding Support Equipment to the Administrative Control IROFS boundary for the purpose of applying applicable Management Measures to attributes relied upon by the worker.

A commitment has been added to the SAR to identify Administrative Control IROFS Support Equipment, identify the attributes relied upon by the work, and identify the Management Measures applicable to these attributes, as documented in the Administrative Control IROFS Boundary Definition Documents (BDDs). The SAR was previously revised to reflect which IROFS are necessary for Initial Plant Operations. Section 3.4 of the SAR is being modified in this submittal to identify the Administrative Control IROFS equipment attributes required for Initial Plant Operation. Support Equipment for remaining Administrative Control IROFS will be added to Section 3.4 of the SAR prior to Readiness Review for the respective IROFS.

The QAPD has been updated to require that Administrative Control IROFS Support Equipment be listed in the IROFS BDDs, including the specific attribute(s) relied upon for the worker action and the associated Management Measures used to verify these attributes. It notes that changes to Management Measures used to verify Support Equipment attributes require NRC approval prior to implementation if the change results in a reduction in commitment. It also defines Support Equipment as within the Administrative Control IROFS boundary but that the equipment itself is not an IROFS.

### ***2.2 Modification to Safety Analysis Report***

#### **2.2.1 SAR § 3.4.42**

A new Compliance Item Commitment is made for Administrative Control IROFS Support Equipment. Support Equipment and attributes relied upon for worker actions are specified.

#### **2.2.2 SAR Table 3.4-1**

A new Table 3.4-1, Administrative Control IROFS Support Equipment, is added. This table identifies Administrative Control IROFS, monitoring support equipment, operated support equipment, and corresponding attributes. Only equipment that meets the definition of Support Equipment is included in the table. IROFS and components with safe-by-design attributes which may be within the administrative IROFS boundary are not included in this table.

#### **2.2.3 SAR § 11.0**

A paragraph is added to delineate that management measures are also applied to Administrative Control IROFS Support Equipment attributes. Administrative IROFS Support Equipment are not

IROFS or items which are essential to the function of IROFS; therefore, only the attributes defined in Table 3.4-1 are controlled through management measures.

## ***2.3 Modification to Quality Assurance Program***

### **2.3.1 QAPD Section 2**

A new sub-section, "Administrative Control IROFS Support Equipment Requirements", was added. This sub-section defines that Support Equipment within the Administrative Control IROFS boundary is QL-3; however, the verification of the attributes are controlled by the applicable management measures. These attributes are defined in the Administrative Control IROFS Boundary Definition Documents.

# **3 Technical Analysis of Proposed Changes**

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## **3.1 Proposed Change**

This proposed change enhances the monitoring and worker response associated with administrative controls by identifying Administrative Control IROFS Support Equipment, the supporting attributes and the verification of the attributes pursuant to the applicable management measures.

## **3.2 Technical Basis for Change**

### **3.2.1 Support Equipment**

Administrative Control IROFS are safety functions provided by human actions as discussed in NUREG-1520,

*In 10 CFR Part 70, an administrative control is an IROFS if it is the human action necessary to meet safety performance requirements, and it is supported by management measures (training, quality assurance, procedures, etc.) that ensure that the action will be taken if needed.*

Administrative Control IROFS Support Equipment have attributes relied upon by the worker to perform the human actions that meet the safety performance requirements of the administrative control. This proposed change identifies this equipment in ISA Table 3.4-1 and also in the IROFS boundary in the Boundary Definition Document. The attributes of the Support Equipment that are relied upon to monitor or implement operator actions are verified using appropriate management measures to assure reliable use as needed. Any reduction or change to management measures designed to provide assurance of the attributes relied upon by the worker would be considered a reduction in commitment and require regulatory approval prior to implementation.

### **3.2.2 Quality Level**

Administrative Control IROFS Support Equipment are not IROFS and not "items which are determined to be essential to the function of the IROFS" as there are a number of methods available to the worker to be apprised of plant conditions and to implement actions. Many of the actions are to prevent an event and upon failure of indication availability, actions would be implemented to stop continued operation. However, to enhance worker action and direction to prevent events, Support Equipment was identified and included in the boundary.

Administrative Control IROFS Support Equipment contains attributes relied upon by the worker to perform the safety function of the administrative control. This equipment is not essential to a passive or engineered safety feature that must operate without any human interaction.

The Support Equipment inside the Administrative Control IROFS boundary is designated QL-3. The attributes of Support Equipment are controlled through the applicable management measures. Management measures are implemented through a quality assurance (QA) program in accordance with 10 CFR 50, Appendix B. Current application of management measures to these attributes is defined in the Administrative Control IROFS Boundary Definition Documents.

Support Equipment for Administrative Control IROFS are used for preventive measures and, if unavailable (such as indication), the associated operation is terminated.

### **3.2.3 Management Measures**

Management measures are applied to Administrative Control IROFS Support Equipment, which are defined in Section 3.4.42 and listed in Table 3.4-1. Administrative Control IROFS Support Equipment are not IROFS or items which are essential to the function of IROFS; therefore, only the attributes defined in Table 3.4-1 are controlled through management measures. Management measures are implemented through a quality assurance (QA) program in accordance with 10 CFR 50, Appendix B.

### **3.2.4 Material License Condition 20**

URENCO USA has agreed that the calibration of instrumentation is, and always has been, within the boundary of Administrative Control IROFS. URENCO USA is now placing the calibrated equipment within the IROFS boundary and is clarifying that adding equipment within the boundary of an IROFS does not make it an IROFS itself. There has not been, nor is it now necessary, to require an exception to Material License Condition 20.

## **3.3 Conclusions**

The inclusion of Support Equipment within the Administrative Control IROFS boundary is to enhance the monitoring and worker response associated with administrative controls. Unlike, Passive or Active Engineered IROFS, human action is essential to meet the safety performance requirements of an administrative control. The Support Equipment is included within the boundary of the IROFS to properly identify all management measures required to ensure equipment attributes are maintained. Management measures are implemented through a QA program in accordance with 10 CFR 50, Appendix B.

This proposed change enhances the application of Administrative Control IROFS.

# 4 Safety Significant Determination

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## 4.1 Administrative Control IROFS Impacted

### 4.1.1 IROFS14a and IROFS14b

IROFS14a: Administratively restrict proximity of vessels in non-designed locations containing enriched uranic material to ensure subcritical configuration. This is implemented by verifying the use of a safe-by-design transfer frame prior to movement of the associated waste container containing enriched uranic material. The proximity limit, enforced by the safe-by-design transfer frame, is based on assumptions in the Nuclear Criticality Safety Analyses. If the acceptance criterion is not met, then the associated waste container shall not be moved.

IROFS14b: Administratively restrict proximity of vessels in non-designed locations containing enriched uranic material to ensure subcritical configuration. This is implemented by verifying, prior to moving a waste container containing enriched uranic material within 180 cm of the associated storage array, the associated storage array condition is acceptable for storing the associated waste container (i.e., the storage array is the correct array for storage of the associated waste container, no component containing enriched uranic material is stored within 180 cm of the storage array (except in storage array locations), components are correctly stored in the array, and a vacant location is available for storage of the associated waste container) and no component containing enriched uranic material is in movement in the designated area. If the acceptance criteria are not met, then the associated waste container containing enriched uranic material shall not be moved.

The safety function of IROFS14a is the decision to use the safe-by-design transfer frame to transfer waste containers. The safety function of IROFS14b is the decision to conduct an inspection of the proposed storage array. These decisions are based on indication of instrumentation determining gross  $^{235}\text{U}$  content of the non-safe-by-design waste container. Therefore, the instruments are considered Support Equipment for Administrative Control IROFS14a and IROFS14b.

The attribute of the instruments relied upon by the worker is accurate and reliable indication. To ensure accurate and reliable indication, the instruments are periodically calibrated prior to use using a calibration procedure as part of the maintenance management measure. The higher of the two instrument readings is used as the final  $^{235}\text{U}$  content. The Material Control and Accountability (MC&A) program uses the indication from these meters for in-process accountability. Vendor documents provided indicate that the instruments are manufactured in accordance with ISO 9000.

If the gross  $^{235}\text{U}$  content of the non-safe-by-design waste container cannot be determined, the ORM prohibits movement of the container.

Controlling the calibration of the instrument through the management measures provides an enhancement to safety.

#### **4.1.2 IROFS16a**

IROFS16a: Administratively limit moderator mass (oil and water) in cylinders containing enriched uranic material to ensure subcriticality by allowing no visible oil and by limiting cylinder vapor pressure. This is implemented by allowing no visible oil and by limiting cylinder vapor pressure prior to introducing product, which is based on moderator limitations in the Nuclear Criticality Safety Analyses for product and receiver cylinders. If the acceptance criteria are not met, then product shall not be introduced into the associated cylinder.

There are two parts to IROFS16a; visual verification and verification based on cylinder vapor pressure.

Visual verification is performed using an endoscope passed through an opening in the cylinder to check the inside for oil, water, or other contaminants. Although the endoscope is required for the inspection, it is not considered Support Equipment for the IROFS as it does not meet the definition of Support Equipment in the QAPD; 1) if the endoscope does not allow a clear view inside the cylinder, then another endoscope could be used (i.e., no specific equipment required) and 2) there is no failure mechanism that would allow the operator to see inside the cylinder, but not see moderator material accumulated in the cylinder (i.e., no failure that could prevent the human action from meeting the safety performance requirements). If the visual verification cannot be obtained, the ORM prohibits the cylinder from being placed in service.

The verification based on cylinder vapor pressure is performed by connecting the cylinder to the process piping in the station, but isolated from the system. The cylinder is evacuated and pressure is monitored to ensure evacuation is occurring. This provides indication that the pressure instrument is functioning as required. The cylinder is then allowed to sit for 5 minutes. If pressure increases to a pre-determined set point, water is assumed to be in the cylinder. To ensure accurate and reliable pressure indication (in addition to the tracking the expected pressure changes during the evacuation process), the pressure instrument is periodically calibrated using a calibration procedure as part of the maintenance management measure.

If the pressure verification cannot be obtained, the ORM prohibits the cylinder from being placed in service.

Controlling the calibration of the instrument through the management measures provides an enhancement to safety.

#### **4.1.3 IROFS30a, IROFS30b, and IROFS30c**

IROFS30a: Administratively limit hydrocarbon oil (moderator mass) in enriched uranium product to ensure moderation control assumptions are maintained by controlling the type of oil used in process vacuum pumps. This is implemented by controlling the type of oil used in all process vacuum pumps to only perfluorinated polyether (PFPE) oil, consistent with moderation assumptions in the Nuclear Criticality Safety Analyses. If the acceptance criteria are not met, then action shall be initiated to remove the associated vacuum pumps from process systems.

Failure of IROFS30a is an administrative control. If the oil type is not verified by the worker, the ORM prohibits its use. There is no Support Equipment associated with IROFS30a.

IROFS30b: Administratively limit hydrocarbon oil (moderator mass) in enriched uranium product to ensure moderation control assumptions are maintained by verifying, through test prior to addition of oil, that process vacuum pump oil is not hydrocarbon oil. This is implemented by testing the oil prior to addition to any process vacuum pump to verify the oil is not hydrocarbon oil, consistent with moderation assumptions in the Nuclear Criticality Safety Analyses. If the acceptance criteria are not met, then the associated oil shall not be added to the process vacuum pump.

IROFS30c: Administratively limit hydrocarbon oil (moderator mass) in enriched uranium product to ensure moderation control assumptions are maintained by verifying, through test (after oil addition) prior to placing vacuum pumps in process system, that process vacuum pump oil is not hydrocarbon oil. This is implemented by testing the oil in all process vacuum pumps for hydrocarbons after bench testing, but before placing vacuum pumps in process systems to verify lack of hydrocarbon oil. This assures operation consistent with moderation assumptions in the Nuclear Criticality Safety Analyses. If the acceptance criteria are not met, then the associated vacuum pump shall not be placed in the process system.

The safety function of IROFS30b is the worker decision to add oil to a process vacuum pump or not. Similarly, the safety function of IROFS30c is the worker decision to align the process vacuum pump to the system or not. These decisions are made based on analysis results of two separate oil samples. Therefore, the oil analyzer is considered Support Equipment for Administrative Control IROFS30b and IROFS30c.

The specific attribute of the oil analyzers necessary to ensure the criticality event does not occur is an accurate and reliable indication of the hydrogen content within the oil. To ensure an accurate and reliable analysis results, the oil analyzer is periodically calibrated using a calibration procedure as part of the maintenance management measure.

If the oil analysis results cannot be obtained or do not meet the acceptance criteria, the ORM prohibits the pump from being placed in service.

Controlling the calibration of the oil analyzers through the management measures provides an enhancement to safety.

#### **4.1.4 IROFS31a, IROFS31b, and IROFS31c**

IROFS31a: Administratively limit  $^{235}\text{U}$  mass in non-safe-by-design solid waste containers to ensure subcriticality by performing independent sampling and assay analysis. This is implemented by independent sampling and assay analysis of waste container contents for  $^{235}\text{U}$  mass and limiting mass to that assumed in the Nuclear Criticality Safety Analyses before enriched uranic material is transferred and bulk stored in solid waste containers. IROFS31a is independent of IROFS31b. If the acceptance criterion is not met, then enriched uranic material shall not be transferred and bulk stored in solid waste containers.

IROFS31b: Administratively limit  $^{235}\text{U}$  mass in non-safe-by-design solid waste containers to ensure subcriticality by performing independent sampling and assay analysis. This is implemented by independent sampling and assay analysis of waste container contents for  $^{235}\text{U}$  mass and limiting mass to that assumed in the Nuclear Criticality Safety Analyses before enriched uranic material is transferred and bulk stored in solid waste containers. IROFS31b

is independent of IROFS31a. If the acceptance criterion is not met, then enriched uranic material shall not be transferred and bulk stored in solid waste containers.

The safety function of IROFS31a and IROFS31b is the worker decision to transfer waste containing enriched uranic material into a non-safe-by-design waste container or not. This decision is based on indication of instrumentation determining gross  $^{235}\text{U}$  content of the non-safe-by-design waste container. Therefore, the instruments are considered Support Equipment for Administrative Control IROFS31a and IROFS31b.

The specific attribute of the instruments necessary to ensure the criticality event does not occur is an accurate and reliable indication of the  $^{235}\text{U}$  content within the drum. To ensure accurate and reliable indication, the instruments are periodically calibrated prior to use using a calibration procedure as part of the maintenance management measure. The higher of the two instrument readings is used as the final  $^{235}\text{U}$  content. The Material Control and Accountability (MC&A) program uses the indication from these meters for in-process accountability.

If the gross  $^{235}\text{U}$  content of the non-safe-by-design waste container cannot be determined, the ORM prohibits addition of enriched uranic material into the container.

Controlling the calibration of the instruments through the management measures provides an enhancement to safety.

IROFS31c: Administratively limit  $^{235}\text{U}$  mass in non-safe-by-design solid waste containers to ensure subcriticality using bookkeeping procedures. This is implemented by bookkeeping procedures to limit calculated uranic mass in solid waste containers to that assumed in the Nuclear Criticality Safety Analyses for solid waste bulking operations. The calculated  $^{235}\text{U}$  mass in solid waste containers shall be determined using bookkeeping procedures before enriched uranic material is transferred and bulk stored in solid waste containers. If the acceptance criterion is not met, then enriched uranic material shall not be transferred and bulk stored in solid waste containers.

The safety function of IROFS31c is also the worker decision to transfer waste containing enriched uranic material into a non-safe-by-design waste container or not. This decision is based on verification of the bookkeeping quantity of  $^{235}\text{U}$  already in the container.

If the bookkeeping quantity cannot be determined, the ORM prohibits transfer of waste into the container. There is no Support Equipment associate with this bookkeeping requirement.

#### **4.1.5 IROFS36a, IROFS36c, IROFS36f, and IROFS36g**

IROFS36a: Administratively limit transient combustible loading in areas containing uranic material to ensure integrity of uranic material components/containers and limit the quantity of uranic material at risk to ensure consequences to the public are low. Transients will be controlled to limit aggregate combustible load (transient and in-situ) in the area of concern.

The safety function of IROFS36a is a visual inspection of areas of concern to ensure compliance with combustible material accumulation requirements. This visual inspection is conducted in accordance with approved plant procedures.

If excessive combustible materials are identified, action is taken as directed by the ORM. There is no Support Equipment associate with this IROFS36a.

IROFS36c: Administratively limit onsite UF<sub>6</sub> cylinder transporters/movers to ensure only use of electric drive or diesel powered with a fuel capacity of less than 280 L (74 gal).

The safety function of IROFS36c is worker decision to allow the use of UF<sub>6</sub> cylinder transporters/movers or not. The decision is based on visual assurance of an electrical transporter/mover or documentation verifying the fuel tank capacity meets the requirements of the IROFS. This visual or documentation verification is conducted in accordance with approved plant procedures.

If the worker cannot complete the verification, the ORM prohibits use of the cylinder transporter/mover. There is no Support Equipment associate with IROFS36c.

IROFS36f: Administratively limit designated routes for bulk fueling vehicles onsite to ensure UBC cylinder integrity. This is implemented by limiting diesel fuel deliveries to designated routes. Diesel fuel delivery vehicles will be prohibited from entering the UBC Storage Pad perimeter road.

The safety function of IROFS36f is the use of the designated route for bulk fuel deliveries. This safety function is verified by operations escort of the fuel truck in accordance with approved plant procedures and the ORM. There is no Support Equipment associate with IROFS36f.

IROFS36g: Administratively limit onsite vegetation fire sources to ensure integrity of important targets. This is implemented by requiring clear cutting of vegetation onsite proximate to buildings and cylinders containing uranic material.

The safety function of IROFS36g is removal of potential combustible material, specifically vegetation or accumulated plant debris, from the areas of concern. The determination of the need to remove vegetation is based on a visual inspection. There is no Support Equipment for the visual inspection.

The safety function is met using various pieces of landscaping equipment. Although various pieces of the landscape equipment may be required to meet the IROFS safety function, the equipment is not considered Support Equipment for the IROFS as it does not meet the definition of Support Equipment in the QAPD; 1) any piece of landscaping equipment that fails will simply be replaced or repaired (i.e., no specific equipment required) and 2) if the equipment does not remove the vegetation for any reason, it will be obvious to the operator (i.e., no failure that could prevent the human action from meeting the safety performance requirements).

#### **4.1.6 IROFS38**

IROFS38: Administratively limit the cylinder fill mass to ensure cylinder integrity. This is implemented at Tails Low Temperature Take-off Stations, Feed Purification Low Temperature Take-off Stations, Product Low Temperature Take-off Stations, and Product Blending Receiver Stations by verifying that cylinder weight is within specified trending limits once per shift during filling of the cylinder. Weight limit conservative with respect to assuring cylinder integrity. If the acceptance criterion is not met, then fill of the associated cylinder shall be terminated.

The safety function of IROFS38 is worker trending of cylinder mass and matches the trend to the expected fill rate. This trend is performed to detect anomalies with the load cell, instrumentation, or cylinder fill rate. If there is an indication that the fill rate is not as expected, if there is a problem with measurement, or if the cylinder mass exceeds the administrative limit, then the fill is terminated.

Trending is accomplished using the local indication of the station load cell. Therefore, the local indication of the station load cell is considered Support Equipment for Administrative Control IROFS38. The specific attribute of the local indication of the station load cell is to ensure an accurate and reliable indication of cylinder mass. To ensure accurate and reliable indication, the instruments are periodically calibrated using a calibration procedure as part of the maintenance management measure. This calibration meets MC&A program requirements.

If trending indicates an abnormal fill rate, the operator takes action to terminate the cylinder fill regardless of whether this is due to an actual condition or a failed or failing indicator. This is accomplished by closing one of several available isolation valves. These valves include (in order of preference) the xA5, then xA1, and finally the cylinder valve (for feed purification system the valves are xA25, xA2, and finally the cylinder valve). The valves are identified as Support Equipment with a "valve closure" attribute. These valves are periodically exercise tested as part of normal system operations in accordance with plant procedures by trained operators. In addition the valves meet ASME B31.3 or ASME N14.1 standards as applicable. Load cells are manufactured in accordance with ISO 9000 requirements.

Controlling the calibration of the instruments through the management measures provides an enhancement to safety.

#### **4.1.7 IROFS39a, IROFS39b, IROFS39c, and IROFS39d**

IROFS39a: Administratively limit exposure by requiring worker action to evacuate the area(s) of concern to ensure worker consequences of inhalation of uranic material and HF are low. This is implemented by worker evacuation from area(s) of concern in the event of a seismic event consistent with assumptions of the consequence analyses.

IROFS39b: Administratively limit exposure by requiring worker action to evacuate the area(s) of concern to ensure worker consequences of inhalation of uranic material and HF are low. This is implemented by worker evacuation from area(s) of concern in the event of a fire consistent with assumptions of the consequence analyses

IROFS39c: Administratively limit exposure by requiring worker action to evacuate the area(s) of concern to ensure worker consequences of inhalation of uranic material and HF are low. This is implemented by worker evacuation from area(s) of concern in the event of a release consistent with assumptions of the consequence analyses.

The safety function of IROFS39a, IROFS39b, and IROFS39c is the worker evacuation of the area of concern upon detection a seismic event, fire, or chemical (UF<sub>6</sub>/HF) release. Detection is obtained by any means available such as personal detection (visual, audible, odor, ground motion, etc.), radio, PA system, telephone, fire protection system, etc. No specific notification system is credited for detection. Therefore, there is no Support Equipment associated with IROFS39a, IROFS39b, or IROFS39c.

IROFS39d: Administratively limit exposure by requiring worker action to evacuate the area(s) of concern to ensure worker consequences of inhalation of uranic material and HF are low. This is implemented by worker evacuation from area(s) of concern in the event of severe weather consistent with assumptions of the consequence analyses.

The safety function of IROFS39d is the pre-emptive worker evacuation of the area of concern upon severe weather (tornado, tornado missile, high wind, excessive roof snow load, and roof ponding and site flooding due to local intense precipitation). Detection is obtained by any means available such as personal detection (visual, audible), radio, PA system, telephone, weather website, etc. If necessary, a walkdown of facilities is conducted for notification. No specific notification system is credited for detection. Therefore, there is no Support Equipment associated with IROFS39d.

#### **4.1.8 IROFS50b, IROFS50c, IROFS50d, IROFS50e, IROFS50f, and IROFS50g**

IROFS50b: Administratively control proximity of external site preparations vehicles around areas of concern to prevent an impact with areas of concern resulting in a release of UF<sub>6</sub>. This is implemented by establishing a temporary barrier of sufficient strength to alert the vehicle operator upon impact with the barrier. The barrier is placed at a minimum distance of 30 feet from areas of concern to allow the vehicle operator sufficient distance to stop or alter course prior to reaching the areas of concern.

IROFS50c: Administratively control proximity of external site preparations vehicles around areas of concern to prevent an impact with areas of concern resulting in a release of UF<sub>6</sub>. This is implemented by establishing a second and independent temporary barrier of sufficient strength to alert the vehicle operator upon impact with the barrier. The barrier is placed at a minimum distance of 30 feet from the area of concern to allow the vehicle operator sufficient distance to stop or alter course prior to reaching areas of concern.

The safety function of IROFS50b and IROFS50c is to alert external site preparations vehicle operators in the vicinity of facilities containing UF<sub>6</sub> of entry into restricted areas to prevent impact to the facility. Physical barriers are used to alert the operator. Therefore, the physical barriers are considered Support Equipment for Administrative Control IROFS50b and IROFS50c.

The specific attributes of the physical barriers to prevent impact event is visibility and the ability of the barrier to alert the operator upon impact. These attributes are verified by weekly walkdowns in accordance with approved plant procedures to ensure barriers are in place and visible.

If the barriers are not in place as required, the ORM prohibits movement of site preparation vehicles in the area of concern.

IROFS50d: Administratively control proximity of internal construction vehicles relative to operating process equipment of concern to prevent a release of UF<sub>6</sub> associated with an impact. This is implemented by establishing an appropriate barrier to alert the operator of proximity to operating process equipment of concern.

IROFS50e: Administratively control movement of internal construction vehicles to prevent impact with operating process equipment of concern resulting in a release of UF<sub>6</sub>. This is implemented by requiring the use of a spotter to independently monitor and supervise internal construction vehicle movement relative to the operating process equipment of concern.

The safety function of IROFS50d and IROFS50e is to alert internal construction vehicle operators upon entry into a restricted area to prevent impact to process equipment. Physical barriers and spotters are used to alert the operator. The physical barriers are considered Support Equipment for Administrative Control IROFS50d. Specific training is provided to IROFS50e Spotters to monitor equipment movement and warn equipment operator if the equipment approaches the barrier around areas containing UF<sub>6</sub>.

The specific attribute of the physical barriers to prevent an impact is visibility. This attribute is verified by weekly walkdowns in accordance with approved plant procedures to ensure barriers are in place and visible.

If the barriers are not in place as required, the ORM prohibits movement of construction vehicles in the area of concern.

IROFS50f: Administratively control proximity of external construction cranes around the areas of concern to prevent a release of UF<sub>6</sub>. This is implemented by establishing a No Swing Zone when the crane is closer than a safe distance from an operating area of concern.

IROFS50g: Administratively control movement of external construction cranes around the areas of concern to prevent a release of UF<sub>6</sub>. This is implemented by requiring the use of a spotter to independently monitor and supervise external construction crane movement relative to the operating area of concern.

The safety function of IROFS50f and IROFS50g is to alert crane operators in the vicinity of facilities containing UF<sub>6</sub> of entry restricted areas (including the No Swing Zone) to prevent impact to the facility. Physical barriers are used to alert the operator. Therefore, the physical barriers are considered Support Equipment for Administrative Control IROFS50f. Specific training is provided to IROFS50f Spotters to monitor crane movement and warn crane operator if the crane load approaches the barrier around areas containing UF<sub>6</sub>.

The specific attributes of the physical barriers to prevent impact is visibility only for the No Swing Zone and visibility and the ability of the barrier to alert the operator upon impact for crane movement. These attributes are verified by weekly walkdowns in accordance with approved plant procedures to ensure barriers are in place and visible.

If the barriers are not in place as required, the ORM prohibits the use of cranes in the area of concern.

#### **4.1.9 IROFSC6**

IROFSC6: Administratively calculate and set the cascade enrichment control device in accordance with the calculation to ensure <sup>235</sup>U enrichment < 5 w/0 to ensure subcriticality within the designed process and analyzed activities. This is implemented by ensuring the calculation performed accurately, and the associated cascade enrichment control device setting is implemented in accordance with the calculation. The 5 w/0 limit is based on the NEF Materials License limit and consistent with the Nuclear Criticality Safety Analyses to ensure subcriticality within the designed process and analyzed activities. If the acceptance criterion is not met and the cascade enrichment control device setting has not been changed, then the cascade enrichment control device setting shall not be changed. If the acceptance criterion is not met and the cascade enrichment control device setting has been changed, then the associated cascade shall be isolated such that no additional UF<sub>6</sub> can enter or exit the cascade.

The safety function of IROFSC6 is to prevent human error from incorrectly setting the enrichment level by accurately determining and setting the enrichment control device. The calculation is conducted using a Quality Level 1 software program (CASAL). If the enrichment control device setting is not properly set, the ORM requires isolation of the associated cascade. Valves which are required to be closed to stop cascade feed flow are considered Support Equipment to the Administrative Control IROFS. To ensure reliability, the valves are periodically exercise tested as part of normal system operations in accordance with plant procedures by trained operators. In addition the valves meet ASME B31.3 or ASME N14.1 standards as applicable.

## **4.2 Conclusion**

Administrative Control IROFS Support Equipment are not IROFS and not "items which are determined to be essential to the function of the IROFS." Administrative Control IROFS Support Equipment contains attributes relied upon by the worker to perform the safety function of the Administrative Control IROFS. This equipment is not essential to a passive or engineered safety feature that must operate without any human interaction; therefore, Administrative Control IROFS support equipment is not subject to Quality Level 1 requirements. The attributes of the Support Equipment that are relied upon to monitor or implement operator actions are verified using appropriate management measures to assure reliable use as needed. Support Equipment for Administrative Control IROFS are used for preventive measures and, if unavailable (such as indication), the associated operation is terminated as required by ORM and plant procedures.

Further, multiple means are available to detect and take actions. The events these actions are designed to prevent, such as cylinder overfill exceeding a safety limit or a criticality have not occurred in URENCO history. Support Equipment was added as an enhancement to the Administrative IROFS boundary to provide positive assurance that all equipment attributes relied upon by the worker to meet the safety performance requirements of the administrative control are accurate, reliable and perform when called upon. Assurance of these attributes is maintained by verifying the attributes utilizing appropriate management measures. Any reduction or change to management measure application designed to provide assurance of the attributes relied upon by the worker would be considered a reduction in commitment and require regulatory approval prior to implementation.

## **5 Environmental Considerations**

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There are no significant environmental impacts associated with the changes proposed in this License Amendment Request. The proposed changes do not meet the criteria specified in 10 CRF 5160 (b) (2) since they do not involve a significant expansion of the site, a significant change in the types of effluents, a significant increase in individual or cumulative occupational radiation exposure, or a significant increase in the potential for or consequences from radiological accidents. Consequently, a separate supplement to the Environmental Report is not submitted.

**ENCLOSURE 2**

**Page Changes to the Licensing Basis Documents  
Safety Analysis Report and Quality Assurance Program Description  
(Revision bars, strikethroughs and underlines were utilized)**

### 3.5 References

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designed, procured, installed, tested, and maintained using the applicable guidance in Regulatory Guide 1.180, "Guidelines for Evaluating Electromagnetic and Radio-Frequency Interference in Safety-Related Instrumentation and Control Systems,". IROFS systems will be designed and maintained consistent with the reliability assumptions in the ISA. Redundant IROFS systems will be separate and independent from each other. IROFS systems will be designed to be fail-safe. In addition, IROFS systems will be designed such that process control system failures will not affect the ability of the IROFS systems to perform their required safety functions. Plant control systems will not be used to perform IROFS functions. Installation of IROFS systems will be in accordance with engineering specifications and manufacturer's recommendations. Required testing and calibration of IROFS will be consistent with the assumptions of the ISA and setpoint calculations, as applicable. For hardware IROFS involving instrumentation which provides automatic prevention or mitigation of events, setpoint calculations are performed in accordance with a setpoint methodology, which is consistent with the applicable guidance provided in Regulatory Guide 1.105, "Setpoints for Safety-Related Instrumentation".

- 3.4.38 Should the design of any IROFS require prior NRC approval** pursuant to Material License Condition 20 and require operator actions, a human factors engineering review of the human-system interfaces shall be conducted using the applicable guidance in NUREG-0700, "Human-System Interface Design Review Guidelines," and NUREG-0711, "Human Factors Engineering Program Review Model."
- 3.4.39 LES will review the topography** of the NEF/LES site and surrounding relevant area, out to the boundaries of the drainage basin, for any natural or man made changes. This review will be performed every five years unless significant topography changes are identified between reviews. In the event of changes that could affect the calculation of the maximum possible flood level, LES will re-evaluate the flooding analysis to ensure that all Separations Building Modules (SBMs) abnormal condition calculations are still bounding.
- 3.4.40 The Product Stations design will be based on ETC4069917-1** design drawings. The internal station design size of approximately 9'7" does not accommodate a 48-inch feed cylinder. Blending donor and receiver station designs do not accommodate 48-inch cylinders. Product cylinders, as designed, cannot physically connect to a feed station. Therefore, potential for re-feeding enriched materials does not exist. Future construction and design efforts will be consistent. Any modification to station designs or product cylinder connection points will be re-evaluated and revised consistent with overall ISA methodology including criticality reviews.
- 3.4.41 The Assay Sampling Rig** shall exhaust to a gaseous effluent ventilation system with safe-by-design attributes. At final design, this rig will be evaluated for criticality concerns and IROFS or other controls will be identified in compliance with 10 CFR 70.61.
- 3.4.42 Administrative Control IROFS Support Equipment** contain attributes that are required by the worker to fulfill the Administrative Control IROFS. The attributes are verified to ensure that the worker can perform the IROFS safety function. Support Equipment is in the Administrative Control IROFS boundary but is not an IROFS itself. The worker action is the IROFS. Support Equipment is not an IROFS as there are a number of methods available to the worker to be apprised of plant conditions

### 3.5 References

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and to implement actions. Many of the actions are to prevent an event and upon failure of indication availability, actions would be implemented to stop continued operation. However, to enhance worker action and direction to prevent events, Support Equipment was identified and included in the boundary. The attributes of Support Equipment are controlled through the applicable management measures. For example, the attribute of "accurate and reliable indication" is controlled through the calibration and testing which is part of the Maintenance Functional Testing Program.

Support Equipment is listed in Table 3.4-1, Administrative Control IROFS Support Equipment. This table only contains Support Equipment. IROFS and components with safe-by-design attributes which may be within the Administrative Control IROFS boundary are not included in this table.

3.5 References

| <b>Table 3.4-1 Administrative Control IROFS Support Equipment</b> |   |   |  |   |
|---|---|---|--|---|
| <b><u>IROFS</u></b>   | <b><u>Monitoring Support Equipment</u></b>                                    | <b><u>Monitoring Equipment Attributes</u></b> | <b><u>Operated Support Equipment</u></b> | <b><u>Operated Equipment Attributes</u></b> |
| <u>IROFS14a</u>   | <u>Two independent instruments for determining gross U235 content</u>         | <u>Accurate and reliable indication</u>       | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS14b</u>   | <u>Two independent instruments for determining gross U235 content</u>         | <u>Accurate and reliable indication</u>       | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS16a</u>   | <u>Pressure instrument</u>  | <u>Accurate and reliable indication</u>       | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS30a</u>   | <u>None</u>   | <u>N/A</u>                                    | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS30b</u>   | <u>Oil analyzer</u>   | <u>Accurate and reliable indication</u>       | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS30c</u>   | <u>Oil analyzer</u>   | <u>Accurate and reliable indication</u>       | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS31a</u>   | <u>Instrument for determining gross U235 content, independent of IROFS31b</u> | <u>Accurate and reliable indication</u>       | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS31b</u>   | <u>Instrument for determining gross U235 content, independent of IROFS31a</u> | <u>Accurate and reliable indication</u>       | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS31c</u>   | <u>None</u>   | <u>N/A</u>                                    | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS36a</u>   | <u>None</u>   | <u>N/A</u>                                    | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS36c</u>   | <u>Volume certification label</u>   | <u>Accurate and reliable indication</u>       | <u>None</u>                              | <u>N/A</u>                                  |
| <u>IROFS36f</u>   | <u>None</u>   | <u>N/A</u>                                    | <u>None</u>                              | <u>N/A</u>                                  |

3.5 References

| <b>Table 3.4-1 Administrative Control IROFS Support Equipment</b> |   |   |   |   |
|---|---|---|---|---|
| <b><u>IROFS</u></b>   | <b><u>Monitoring Support Equipment</u></b>  | <b><u>Monitoring Equipment Attributes</u></b> | <b><u>Operated Support Equipment</u></b>      | <b><u>Operated Equipment Attributes</u></b> |
| <u>IROFS36g</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>None</u>                                   | <u>N/A</u>                                  |
| <u>IROFS38</u>  | <u>Local digital readout from load cell</u> | <u>Accurate and reliable indication</u>       | <u>Series of independent isolation valves</u> | <u>Valve closure</u>                        |
| <u>IROFS39a</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>None</u>                                   | <u>N/A</u>                                  |
| <u>IROFS39b</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>None</u>                                   | <u>N/A</u>                                  |
| <u>IROFS39c</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>None</u>                                   | <u>N/A</u>                                  |
| <u>IROFS39d</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>None</u>                                   | <u>N/A</u>                                  |
| <u>IROFS50b</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>Barriers</u>                               | <u>Visible and substantial</u>              |
| <u>IROFS50c</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>Barriers</u>                               | <u>Visible and substantial</u>              |
| <u>IROFS50d</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>Barriers</u>                               | <u>Visible</u>                              |
| <u>IROFS50e</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>None</u>                                   | <u>N/A</u>                                  |
| <u>IROFS50f</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>Barriers</u>                               | <u>Visible and substantial</u>              |
| <u>IROFS50g</u>   | <u>None</u>                                 | <u>N/A</u>                                    | <u>Barriers</u>                               | <u>Visible</u>                              |
| <u>IROFSC6</u>  | <u>None</u>                                 | <u>N/A</u>                                    | <u>Series of independent isolation valves</u> | <u>Valve closure</u>                        |

## 11.0 Management Measures

Management measures are functions applied to item(s) relied on for safety (IROFS) and any items which are essential to the function of IROFS to provide reasonable assurance that the IROFS are available and able to perform their functions when needed. This chapter addresses each of the management measures included in the 10 CFR 70.4 definition of management measures.

Management measures are applied to Administrative Control IROFS Support Equipment attributes, which are defined in Section 3.4.42 and listed in Table 3.4-1. Administrative IROFS Support Equipment are not IROFS or items which are essential to the function of IROFS; therefore, only the attributes defined in Table 3.4-1 are controlled through management measures.

Management measures are implemented through a quality assurance (QA) program in accordance with 10 CFR 50, Appendix B (CFR, 2003b). The QA program also provides additional measures for ensuring that the design, construction, operation and decommissioning of IROFS are controlled commensurate with their importance to safety. The Louisiana Energy Services (LES) Quality Assurance Program is described in the LES QA Program Description document included as Appendix A to this chapter. The NRC has evaluated the LES QA Program Description and concluded that the application of QA elements as described in the QA Program Description meets the requirements of 10 CFR 70 (CFR, 2003g) and provides reasonable assurance of protection of public and worker health and safety and the environment (NRC, 2004).

LES maintains full responsibility for assuring that the National Enrichment Facility (NEF) is designed, constructed, tested, and operated in conformance with good engineering practices, applicable regulatory requirements and specified design requirements and in a manner to protect the health and safety of the public. To this end, the LES Quality Assurance Program conforms to the criteria established in 10 CFR 50, Appendix B, Quality Assurance Criteria For Nuclear Power Plants and Fuel Reprocessing Plants (CFR, 2003b). The criteria in 10 CFR 50, Appendix B (CFR, 2003b), are implemented following the commitment to ASME NQA-1, Quality Assurance Program Requirements for Nuclear Facilities.

The QA Program described herein includes design, construction, pre-operational testing, and operation of the facility. This QA Program describes the requirements to be applied for those systems, components, items, and services that have been determined to be QA Level 1 as defined in Appendix A. LES and their contractors implement these requirements through the use of approved procedures. In addition, a quality assurance program as described in Appendix A is applied to certain other systems, components, items, and services which are not QA Level 1. The information provided in this chapter, the corresponding regulatory requirement, and the section of NUREG-1520, Chapter 11 in which the NRC acceptance criteria are presented is summarized below.

### 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, QA Level 1 Graded or QA Level 2.

#### **Administrative Control IROFS Support Equipment Requirements**

Administrative Control IROFS are safety functions provided by human actions as defined by NUREG-1520.

*In 10 CFR Part 70, an administrative control is an IROFS if it is the human action necessary to meet safety performance requirements, and it is supported by management measures (training, quality assurance, procedures, etc.) that ensure that the action will be taken if needed.*

Support Equipment have attributes relied upon by the worker to perform the human action (safety function) of the Administrative Control IROFS. Support Equipment is identified within the IROFS boundary in the Boundary Definition Document.

Administrative Control IROFS Support Equipment are not IROFS and not "items which are determined to be essential to the function of the IROFS." Administrative Control IROFS Support Equipment contains attributes relied upon by the worker to perform the safety function of the Administrative Control IROFS. This equipment is not essential to a passive or engineered safety feature that must operate without any human interaction; therefore, Administrative Control IROFS support equipment is not subject to Quality Level 1 requirements. The attributes of the Support Equipment that are relied upon to monitor or implement operator actions are verified using appropriate management measures to assure reliable use as needed. Support Equipment for Administrative Control IROFS are used for preventive measures and, if unavailable (such as indication), the associated operation is terminated.

The Support Equipment inside the Administrative Control IROFS boundary is designated QL-3, and the supporting attributes are verified pursuant to appropriate management measures. Any reduction or change to management measures application designed to provide assurance of the attributes relied upon by the worker would be considered a reduction in commitment and require regulatory approval prior to implementation. Current application of management measures to these attributes is defined in the Administrative Control IROFS Boundary Definition Documents.

### **QUALITY ASSURANCE TRAINING**

Personnel who are assigned to perform QA Level 1 activities receive LES QA Indoctrination Training. This training includes general criteria, such as an introduction to applicable codes, standards, QA Procedures, QAPD elements and job responsibilities and authorities. Personnel assigned to perform QA Level 1 and QA Level 1 Graded 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 QAPD and job specific QA procedures prior to an employee beginning QA Level 1 and QA Level 1 Graded 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