May 16, 2013

Gary J. Laughlin, Chief Nuclear Officer
and Head of Technical Services
Louisiana Energy Services
P.O. Box 1789
Eunice, NM 88231

SUBJECT: LOUISIANA ENERGY SERVICES, URENCO USA - NUCLEAR REGULATORY COMMISSION INSPECTION REPORT NO. 70-3103/2013-201

Dear Mr. Laughlin:

The U.S. Nuclear Regulatory Commission (NRC) conducted a routine, announced nuclear criticality safety (NCS) inspection of your facility in Eunice, New Mexico, from April 15-18, 2013. The purpose of the inspection was to determine whether operations involving special nuclear material were conducted safely and in accordance with regulatory requirements. Inspection observations and findings were discussed with members of your staff and management throughout the inspection. An exit meeting was conducted at the conclusion of the inspection on April 18, 2013.

The inspection, which is described in the enclosure, focused on the most hazardous activities and plant conditions; the most important controls relied on for safety and their analytical basis; and the principal management measures for ensuring controls are available and reliable to perform their functions relied on for safety. The inspection consisted of analytical basis review, selective review of related procedures and records, examinations of relevant NCS-related equipment, interviews with NCS engineers and plant personnel, and facility walkdowns to observe plant conditions and activities related to safety basis assumptions and related NCS controls.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390 of NRC's "Rules of Practice," a copy of this letter and the enclosure will be made publicly available in the public electronic reading room of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions concerning this report, please contact Timothy Sippel, of my staff, at (301) 492-3164, or via email to Timothy.Sippel@nrc.gov.

Sincerely,

/RA/

Michael X. Franovich, Chief
Programmatic Oversight
and Regional Support Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No. 70-3103
License No. SNM-2010

Enclosure:
NRC Inspection Report No. 70-3103/2013-201
w/Attachment: Supplementary Information

cc w/enclosure:
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Santa Fe, NM 87502-0157

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U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

Docket No.:	70-3103
License No.:	SNM-2010
Report No.:	70-3103/2013-201
Licensee:	Louisiana Energy Services, LLC, URENCO USA
Location:	Eunice, New Mexico
Inspection Dates:	April 15-18, 2013
Inspector:	Timothy Sippel, Criticality Safety Inspector
Approved By:	Michael X. Franovich, Chief Programmatic Oversight and Regional Support Branch Division of Fuel Cycle Safety and Safeguards Office of Nuclear Material Safety and Safeguards

Enclosure

EXECUTIVE SUMMARY

Louisiana Energy Services, LLC, URENCO USA
NRC Inspection Report 70-3103/2013-201

Introduction

The staff performed a routine, scheduled criticality safety inspection at URENCO USA'S (UUSA) enrichment facility in Eunice, New Mexico, April 15-18, 2013. Staff reviewed the licensee's nuclear criticality safety (NCS) program, administrative and operating procedures, NCS-related internal events, NCS audits and inspections, and plant operations. The U.S. Nuclear Regulatory Commission inspector also went on walkthroughs in the Cylinder Receipt and Dispatch Building (CRDB), and the centrifuge test facility.

Results

- No safety concerns were identified regarding the NCS program.
- No safety concerns were identified related to internal events, the tracking of corrective actions, or reportability determinations.
- No safety concerns were identified regarding licensee audits and inspections.
- No safety concerns were identified regarding plant operations.

REPORT DETAILS

1.0 Plant Status

UUSA enriches uranium to a maximum of 5 percent enrichment in its gaseous centrifuge facility near Eunice, New Mexico. A centrifuge test facility is also operated with licensed material. These facilities are operating routinely during the inspection. Large scale construction activities were underway at the site. The Small Component Decontamination Train (SCDT), Multi-Function Decontamination Train (MFDT), and Liquid Effluent Collection and Treatment System (LECTS) were being installed and/or modified.

2.0 Nuclear Criticality Safety Program (IP 88015, 88016)

a. Scope of Inspection

The inspector reviewed criticality analyses for risk-significant operations at the UUSA facility. The inspector interviewed licensee engineers, operators, and managers regarding operations, equipment and controls. The inspector reviewed selected portions of the following documents:

- CR-2-1000-01, "Nuclear Criticality Safety Program Description," Rev. 6, dated January 31, 2013.
- EG-3-2100-01, "Configuration Change," Rev. 19, dated August 9, 2012.
- ISA-MEM-0056, "Solid Waste System HAZOP and Risk Determination Analysis," Rev. 0, dated January 23, 2013.
- LS-3-1000-04, "10 CFR 70.72(c) Evaluations for Proposed Changes," Rev. 12, dated January 24, 2013.
- NCS-CSE-021, "Movement of Components," Rev. 1, dated October 18, 2012.
- NCS-CSE-022, "NCSE for the Ventilated Storage Room in the UF_6 Handling Area," Rev. 2, dated April 8, 2010.
- NCS-CSE-025, "General Storage of Fissile Material," Rev. 1, dated January 31, 2013.
- RW-3-1000-09, "Waste Container Setup, Handling and Disposition," Rev. 8, dated January 24, 2013.
- WO: 1000091434, "SBD Verification C3.5 Centrifuges," dated May 5, 2013.

b. Observations and Findings

The licensee is modifying their waste handling process to allow the 'bulking' of a type of dry solid waste called contaminated combustible compactable waste. The inspector reviewed the relevant Integrated Safety Analysis (ISA) meeting minutes (ISA-MEM-0056), the criticality safety evaluation (NCS-CSE-025), and the procedure for handling waste containers (RW-3-1000-09). The controls and criteria to be used were consistent between these documents. If this waste contains less uranium than the threshold value it may be 'bulked' (the contents of multiple Safe-By-Design (SBD) containers will be combined into a single 55-gallon drum). CR-2-1000-01, section 5.5.1 states that "If the Threshold Parameters are not exceeded, then it does not involve or affect uranium and are not a concern for criticality safety and does not require criticality

safety controls." Contaminated combustible compactable waste (CCCW) may now be determined to be below the Threshold Parameters if the waste (1) comes from an activity or area that does not credibly produce waste that can cause a criticality or, (2) can be visually surveyed to ensure that there is no excessive accumulation of UO_2F_2. CCCW is not considered threshold waste if it is from equipment decontamination in any area, or a major spill clean-up that contains uranium, or is waste that requires special handling.

To result in a criticality multiple SBD containers containing moderated UO_2F_2 would have to be incorrectly determined to contain dry waste material with below threshold quantities of uranium, and then be bulked into the same 55-gallon drum. Assuming 6 wt% ^{235}U enrichment it would take over 10 liters of UO_2F_2 to go critical, and a significant amount of moderator. Because most waste is from feed or tails the actual amount would need to be much greater. This supports the licensee's determination that such waste can be 'bulked' into unfavorable geometry 55-gallon drums, and does not require criticality safety controls.

The inspector determined that evaluations were independently reviewed by qualified NCS engineers, that subcriticality of the systems and operations was assured through appropriate limits on controlled parameters, and that double contingency was assured for each credible accident sequence leading to inadvertent criticality. The inspectors determined that NCS controls for equipment and processes ensured the safety of the operations; with the licensee relying primarily on SBD components for criticality prevention. The NCS analyses and supporting documents reviewed demonstrated adequate identification and control of NCS hazards to assure operations within subcritical limits.

c. Conclusion

No safety concerns were identified regarding the NCS program.

3.0 Nuclear Criticality Safety Event Review and Follow-up (IP 88015)

a. Scope of Inspection

The inspector reviewed several recent internally reported NCS conditions. There were no NRC reportable NCS events since the last NCS inspection. The inspector reviewed selected portions of the following documents:

- DCN-2013-002, "Install Condensate Evaporator Drip Pans at the UF6 SBM-1001, 1002, & 1003," date: Draft.
- ER-2012-3170, "Justification for Reduced Sampling of Roots Pump Insufficient," dated November 1, 2012.
- ER-2012-3203, "Tracking CR for PO 4500031233 SBD Verification," dated November 5, 2012.
- ER-2012-3240, "SBM1001 Product Station LTTS drip pan contains pump not previously approved – NCSAS-12-0002," dated November 7, 2012.
- ER-2013-17, "Pump Trap Set Rig for Cylinder Inspections in CRDB not identified in LBDs," dated January 3, 2013.

- ER-2013-44, “Tracking CR for Orifice Spools, IROFS C21,” dated January 9, 2013.
- ER-2013-86, “Tracking CR for Type A Chemical Traps,” dated January 16, 2013.
- ER-2013-141, “Tracking CR for PO 4500037858 Safe by Design Verification,” dated January 24, 2013.
- ER-2013-298, “Condensate Drip Pan Safe By Design Attribute Failure,” dated February 18, 2013.
- ER-2013-438, “Safe-By-Design Verification of Replacement Machines in 3.5,” dated March 5, 2013.
- ER-2013-588, “IROFS14a and IROFS14b Applicability,” dated March 26, 2013.
- ER-2013-727, “Work Order Approved Without Proper Signatures,” dated April 12, 2013.

b. Observations and Findings

The inspector reviewed internal NCS-related issues events that have occurred since the last NCS inspection. The inspector noted that since the last inspection the licensee has re-named the reports in its tracking system. Reports are now referred to as ‘Event Reports’ (ERs) instead of ‘Condition Reports.’ This change in terminology doesn’t affect the reporting, tracking, and disposition of such events. However, it does increase the possibility of confusing licensee internally reportable events with NRC reportable events. In the cases the inspector reviewed the licensee correctly determined that the events were not NRC-reportable. No concerns with the licensee’s determination of reportability were identified.

The licensee provided a list of event reports for internal events related to criticality safety that have occurred since the last NCS inspection. There were eighteen ERs; of which eleven appeared to relate to SBD components; and four others appeared to be minor documentation/editorial issues. The inspector selected a sample to review in more depth. Three of these that relate to configuration management and SBD attributes are discussed below.

In ER-2013-727, the criticality safety officer identified that a quality level three work order for a like-for-like replacement of a SBD component had been approved without the proper signature. The criticality safety officer identified the issue almost immediately and issued a properly approved work order to ensure a quality level one verification of the work. No problems were found with the work, and the situation was corrected by performing the required NCS review and verifying the SBD attributes before material was introduced to the system. The work order signature page lists ISA review and NCS review on the same line as an “ISA/NCS” signature block. In this case the operators interpreted this as ISA or NCS review, and the person who signed off on it was only qualified to perform the ISA review. In most cases the ISA and NCS reviewers are the same person because most of them are dual qualified. Because the work order was not reviewed by a qualified NCS engineer, it did not identify that like-for-like replacements of SBD components require their SBD attributes to be re-verified. The corrective actions proposed include separating the ISA and NCS review signature blocks into two lines to clarify that both an ISA and NCS review are needed. Also a memo documenting what ‘like-for-like’ replacement of SBD components should entail was proposed. The licensee determined that an extent of condition review should be performed to determine if a similar condition exists for other SBD components. This failure to follow procedures constitutes a minor violation not subject to enforcement, because it was identified and

corrected by the licensee while the work was in progress, before the system was returned to service.

In ER-2013-17, a safe-by-design verification was requested for a pump trap set rig that had been procured for use in the CRBD. However, no licensing basis documents discussed the use of a pump trap set rig in the CRBD, and no configuration change package had been created to analyze the potential change. The corrective action was to initiate a configuration change package to review the use of a pump and approve it if appropriate. The licensee has since decided not to use the pump trap set rig, so no change to the licensing basis documents is needed. This is a minor violation because the licensee's established process identified the problem prior to implementation (i.e.: installing an unapproved pump trap set rig); so that the event didn't affect any equipment or have safety consequences.

The inspector also followed up with an event (ER-2012-3240) that was reviewed during the last inspection, but remains open in the licensee's corrective action system. Since the last inspection another ER related to the same system was opened: ER-2013-298. In the recent event a drip pan had overflowed and spilled condensate water on the floor. No uranium was involved in either of these events; however, in the event of certain accident sequences the condensate water could contain uranium. The SBD attribute of the drip pans is the height, which limits the liquid depth to a safe slab. The inspector discussed these events with licensee staff and engineers. The drip pans are accumulating more water than originally expected, either due to higher than expected condensation, or lower than expected evaporation. To address this root cause the licensee is considering changing the design of the drip pans to provide more surface area for evaporation (DCN-2013-002). The procedure for reporting a spill was also revised to include a note about contacting the criticality safety organization if there is any fissile material suspected in a leak or spill.

c. Conclusions

No safety concerns were identified regarding NCS event reporting and problem resolution. No safety concerns were identified regarding the licensee's reportability determinations.

4.0 Nuclear Criticality Safety Audits and Inspections (IP 88015)

a. Scope of Inspection

The inspector reviewed the results of the most recent NCS self-assessment to assure that appropriate issues were identified and resolved. The inspector reviewed recent NCS weekly walkthroughs (Nuclear Criticality Safety Inspections), and a selection of recent Nuclear Safety Releases (NSRs), and selected portions of the following documents:

- CR-3-1000-02, "Criticality Safety Limit Postings," Rev. 4, dated October 17, 2011.
- CR-3-1000-03, "NCS Weekly Walkthroughs and Periodic Assessments," Rev. 10, dated May 22, 2012.
- ER-2013-330, "Internal Audit Recommendation – Revision Change bars would help focus review of changes/revisions," dated February 21, 2013.

- ER-2013-331, “Internal Audit Recommendation from Audit 2013-A-02-07 Nuclear Criticality Safety – Inconsistent Values used,” dated February 21, 2013.
- ER-2013-332, “Internal Audit Finding AFR-1 from Audit 2013-A-02-07 Nuclear Criticality Safety – Record of Revision log not consistently used,” dated February 21, 2013.
- ER-2013-771, “NRC Inspection Observation on ETC4189315-2 and SBDV Forms for SBM1003 Header Pipework,” dated April 18, 2013.
- ETC 4189315, “CSA of the UUSA SBM1003 Cascade Header Pipework and Contingency Dump Buffer Volume,” Issue 2.
- NCSI-12-0050, “SBM1001 UF6 Handling Area,” dated November 28, 2012.
- NCSI-12-0051, “Cascade 3.6 Pre-Operational Tour,” dated December 6, 2012.
- NCSI-12-0052, “SBM1001 UF6 Handling Area,” dated December 13, 2012.
- NCSI-12-0055, “SBM 1003 CAAS As built Verification,” dated December 31, 2012.
- NCSI-13-0003, “Cascade 3.8 Pre-Operational Tour,” dated February 1, 2013.
- NCSI-13-0010, “SBM1001 UF6 Handling Area, SCDT, SBD Drum Cabinet, CRDB,” dated March 37, 2013.
- NCSI-13-0011, “SBM1001 UF6 Area, 1S Bottle Decon, Cold Traps, CRDB 30B/48Y Storage Array,” dated April 3, 2013.
- QA Audit 2013-A-01-007, “Quality Assurance Internal Audit Report of UUSA Nuclear Criticality Safety (NCS),” dated February 22, 2013.
- SBDV-2012-079, “3.7 Cascade Header Pipe Work,” dated October 22, 2012.
- The inspector reviewed a large number of NSRs, including:
    - NSR-2012-020, “Assay 1, Cascade 1.9 through 1.12 Valve Frames,” Rev. 1.
    - NSR-2012-071, “Cascade 3.4 Centrifuges,” Rev. 1.
    - NSR-2012-073, “Cascade 3.5 Centrifuges,” Rev. 2.
    - NSR-2013-003, “Header Pipework for Cascade 3.8,” Rev. 0.
    - NSR-2013-007, “Header Pipework for Cascade 3.10,” Rev. 0.
    - NSR-2013-009, “Header Pipework for Cascade 3.11,” Rev. 0.
    - NSR-2013-014, “Process Gas Pipework for Assay 4,” Rev. 0.
    - NSR-2013-021, “Header Pipework for Cascade 4.1,” Rev. 0.
    - NSR-2013-024, “Cascade Valve Frames for Cascade 4.1,” Rev. 0.

b. Observations and Findings

The inspector reviewed the recent licensee quality assurance (QA) audit of the NCS program. They reviewed the NCS program against a checklist based on NRC Inspection Procedure (IP) 88015, “Headquarters Nuclear Criticality Safety Program;” IP 88016, “Nuclear Criticality Safety Evaluations and Analyses;” and IP 88017, “Criticality Alarm Systems.” They had two recommendations, which were documented in ER-2013-330, and ER-2013-331. They also had a finding which was documented in ER-2013-332. The finding was that not all of the nuclear criticality safety evaluations had a ‘record of revision’ section. This is contrary to the licensee’s procedures; however, it is a minor violation of essentially no safety significance.

The inspector also accompanied NCS staff on a routine weekly inspection (walkthrough) of the centrifuge test facility. In the centrifuge test facility Enrichment Technology Corporation (ETC) operators test centrifuges to confirm that they were constructed correctly, and are operating within the expected parameters. The walkthrough was conducted by a trainee NCS engineer under the supervision of the criticality safety officer and licensee management. Conducting the walkthrough was necessary to fulfill

NCS qualification requirements. The licensee NCS engineer interviewed two operators, discussed and walked down the process, discussed the controls and limits, reviewed records (i.e.: mass logs), and verified that the proper postings were present. The inspector did not identify any safety concerns with the conduct of the walkthrough, or the operations in the centrifuge test facility. The inspector noted that the walkthrough was conducted in accordance with procedure CR-3-1000-03, which the inspector reviewed prior to the walkthrough.

The NSRs are documented on Form CR-3-1000-01-F-1 "Nuclear Safety Release" of CR-3-1000-01, "Implementation of NCS Evaluations and Analyses," Rev. 5. These document that the SBD verifications are complete for the subject system. When the SBD components in a system are changed they need to be re-verified, which results in a revision to the original NSR; the NSRs retain their year number even when revised in a later year (e.g.: NSR-2012-020, which was revised on April 12, 2013). The SBD attributes are verified in Safe-By-Design Verfication (SBDV) documents which are referenced in the NSR. In a SBDV the SBD attributes (e.g.: diameter) are compared against those analyzed in the nuclear criticality safety analysis.

The inspector selected ETC4189315, which was the NCSA used for all the recent header pipework NSRs and SBDVs, to review in more detail. The inspector confirmed that the SBD attributes and acceptance criteria listed in the NSR for the header pipework matched those in the SBDV and NCSA; and that the as built values documented in the SBDV were bounded by the acceptance criteria. The inspector discussed with the Criticality Safety Officer how he had reviewed these documents when signing the NSR. However, the inspector noted that the as built piping diameter in SBDV-2012-079 was greater than the 'normal' and 'maximum' values listed in ETC4189315; but was bounded by the value analyzed in the NCSA and used as the acceptance criteria. The licensee documented this discrepancy in ER-2013-771. This discrepancy doesn't have any criticality safety significance because the as built pipe is bounded by the safety analysis.

c. Conclusions

No safety concerns were identified regarding licensee audits and inspections. However, the inspector identified a discrepancy in the header piping diameter.

5.0 Plant Operations

a. Scope of Inspection

In addition to the walkthrough in the centrifuge test facility the inspector performed walkdowns in the CRDB with the CSO, and licensee engineers from both NCS and operations, to support the upcoming operational readiness review. Specifically the inspector walked down the SCDT, and LECTS which are not yet operational and are being modified. The associated safety analyses aren't complete and the operating procedures haven't been developed. The inspector also observed components of the MFDT which are beginning to be installed; and the Chemistry Laboratory. During the walkdown the inspector confirmed that the locations of the criticality detectors matched that shown in CALC-S-00132, and would be able to detect a criticality in the systems being walked down. During and after the walkdown the inspector reviewed the drawings listed below.

- CALC-S-00132, “CAAS Placement in the CRDB – Bunkered Area,” Rev. 1.
- CH-3-3000-01, “Nu Plasma HR ICP-MS [Inductively Coupled Mass Spectrometry] Operation and Maintenance,” Rev. 1, dated January 23, 2012.
- DWG NO: LES-1100-P-PID-681-001-02-4, “Piping & Instrumentation Diagram Cylinder Receipt & Dispatch Building Liquid Effluent Collection And Treatment System,” Sheet 2, Rev. 4, dated November 28, 2012.
- DWG NO: LES-1100-P-PID-681-001-03-0, “Piping & Instrumentation Diagram Cylinder Receipt & Dispatch Building Liquid Effluent Collection And Treatment System,” Sheet 3, Rev. 0, dated November 14, 2012.
- ECR-7989, “LECTS SUMP PIPING CHANGE,” dated February 15, 2013; and the associated marked up DWG NO: LES-1100-M-B-101-03-6.
- NCS-CSE-007, “CAB NCSE,” Rev. 1.

b. Observations and Findings

The first system walked down was the SCDT; which is for decontaminating small components such as valve caps and sample bottles. This system’s exact configuration and controls have not yet been finalized, and its procedures haven’t been developed. The licensee’s overall approach to prevent criticality is to control ^{235}U mass to a safe mass. The licensee is considering applying two mass measurements on the components coming into the SCDT. Operators would weigh and inspect the components for uranium mass; and use the higher of the two measurements as the amount of uranium being added to the SCDT. The operators would maintain some sort of mass log of additions based on these measurements. However, the logs and procedures to be used haven’t been developed yet. The first step in the decontamination process would wash most of the uranium into a safe geometry vessel. When this vessel is full, as determined by level sensors, its contents would be automatically piped to the slab tanks in LECTS. At some point the mass log for the SCDT would exceed its action limit, and the SCDT would have its mass ‘zeroed’ by washing any uranium still present into the safe geometry vessel, and on to the slab tanks.

The line from the SCDT is currently connected to the line from the LECTS sump pump to the slab tanks; so a valve misalignment could potentially send liquid from the SCDT or slab tanks to the LECTS sump. However, ECR-7989 has been initiated to isolate the sump to a dedicated bulk storage tank.

LECTS is composed of two general systems, the slab tanks and the bulk tanks. As it is currently configured material from any tank can be pumped to any other. This is controlled by valve alignments. The licensee is considering changing the piping configuration to reduce the potential for inadvertent transfers.

Liquid from the SCDT or the MFDT is first routed to the top of a safe geometry slab tank. The bottoms of the slab tanks are sloped toward a recirculation/discharge line so as to reduce any accumulation of settled material. Each recirculation line has a pump that will run continuously to ensure that the liquid is homogenously mixed. The slab tanks are paired in groups of two. The recirculation line could also be used to recirculate liquid between the two tanks in a pair. The recirculation line is also connected to several different sample ports. The line has a number of valves which, if misaligned, could ‘valve off’ the recirculation line allowing settling and invalidating any samples taken at

this time. All treatment of the liquid will be done in the slab tanks; no treatment will be permitted in the bulk tanks. Before being transferred to the bulk tanks the liquid in the slab tanks will be sampled. Two samples will be pulled using different sample ports. These samples will then be sent to the chemical lab to determine the total uranium concentration and ^{235}U concentration of the liquid in the slab tank. The volume of the liquid in the slab tanks, possibly determined via a sight glass, will be multiplied by the concentration to get the mass of material to be sent to the bulk tanks. If this mass and the mass in the bulk tanks is less than the limit, then the transfer may proceed. This will be verified by two people.

A shared mass limit will be applied to all the bulk tanks that are connected to the slab tanks. The only bulk tank that is not counted is the one that will be dedicated for the sump. Because a common mass limit is used the potential for double batching and inadvertent transfers exceeding the limit is greatly reduced. In the future when the MFDT is brought online the licensee is considering the use of individual mass logs and limits for each bulk tank. The piping between the bulk tanks and the slab tanks is complicated with a large number of valves that, if misaligned, could easily result in an inadvertent transfer. Transfers out of the bulk tanks will be governed by the same set of controls as transfers from the slab tanks to the bulk tanks. The bulk tanks would also be 'zeroed' in a similar fashion as the SCDT. The licensee has not yet completed its analysis of possible hazards, and has not yet developed the operating procedures.

The inspector also toured the chemical lab, to walkdown the drains that are connected to LECTS; and to discuss the analysis of the samples with the lab personnel. The inspector reviewed operation of the equipment that will be used to analyze liquid samples from LECTS, and discussed them with a Lab Technician, and the Lab Supervisor. The procedures for use of some of the equipment are not yet complete, but the inspector was able to review
CH-3-3000-01.

c. Conclusions

No safety concerns were identified regarding plant operations. However, further in-office review will be required to complete the operational readiness review.

6.0 Exit Meeting

The inspector communicated observations and findings to the licensee's management and staff throughout the week of the inspection and presented the final results to the licensee's management during an exit meeting held on April 18, 2013. The licensee's management discussed the inspection with the inspector and acknowledged the results of the inspection.

SUPPLEMENTARY INFORMATION

1.0 Items Opened, Closed, and Discussed

Items Opened

None

Items Closed

None

Items Discussed

None

2.0 Event Reports Reviewed

None

3.0 Inspection Procedures Used

IP 88015	Headquarters Nuclear Criticality Safety Program
IP 88016	Nuclear Criticality Safety Evaluations and Analyses

4.0 Key Points of Contact

LES

A. Bridges	HS&E Criticality Safety Officer
J. Dahlin	HS&E Manager
R. Kohrt	Plant Engineering Supervisor
J. Laughlin	Chief Nuclear Officer and Head of Technical Services
R. Lehman	Plant Engineering Supervisor
J. Muth	Quality Assurance
Q. Newell	ISA/NCS Engineer
W. Padgett	ISA/NCS Supervisor
A. Riedy	ISA/NCS Engineer
C. Slama	Licensing

NRC

Timothy Sippel, Criticality Safety Inspector, NRC HQ

All attended the exit meeting on April 18, 2013.

5.0 List of Acronyms and Abbreviations

CRDB	Cylinder Receipt and Dispatch Building
CSO	Criticality Safety Officer
CTF	Centrifuge Test Facility
ETC	Enrichment Technology Corporation
HS&E	health, safety, and environment
IP	Inspection Procedure
ISA	integrated safety analysis
LECTS	Liquid Effluent Collection and Treatment System
MFDT	Multi-Function Decontamination Train
NCS	nuclear criticality safety
NCSA	nuclear criticality safety analysis
NSR	nuclear safety release
QA	quality assurance
SBD	Safe by Design
SBDV	Safe-by-Design Verification
SCDT	Small Component Decontamination Train