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Louisiana Energy Services, LLC
NRC Docket Number: 70-3103

Subject: Commercial Grade Dedication Activities for Cascades 3 through 8

Reference: Letter from LES to NRC, LES-10-00225-NRC, Operational Status of Cascades 1 and 2, October 18, 2010

As recently discussed with NRC personnel, URENCO USA (UUSA) is in the process of addressing quality concerns identified by the Commercial Grade Dedication (CGD) process with cascades authorized to operate (Cascades 1 and 2) and cascades pending future NRC approval to operate (Cascades 3 and forward). The referenced letter describes actions UUSA will implement prior to commencing production, i.e., introduction of UF6 feed inlet, for Cascades 1 and 2. This letter outlines below our actions and commitments regarding CGD efforts for future cascades (Cascade 3 and beyond) in support of demonstrating IROFS41 functionality and for NRC authorization as required by our license.

CGD packages were previously submitted for NRC review for Cascades 1 and 2 and authorization to enter production was subsequently received on June 10, 2010 and July 21, 2010, respectively. The CGD package for Cascade 3 was initially submitted for NRC review at the end of July, and an in-office review was conducted on August 2 thru 6, 2010 (NRC Inspection Report 70-3103/2010-013). As a result of this inspection, UUSA received a notice of violation (NOV) for failure to adequately review and verify specific critical characteristics of Cascade 3 indentified in the CGD Plan.

As a result of this inspection and NOV, UUSA undertook two efforts in parallel to resolve the identified issues:

- A team was assembled to perform a root cause evaluation and respond to the NOV, looking at extent of condition and actions to prevent recurrence, and
- A second team was formed that developed a detailed cross reference matrix to re-verify critical characteristics were supported with test results, surveillances, etc. and that sampled lots were selected of sufficient size to cover the various parts (welds, bolts, etc.) of the assembled cascades. The objective of this effort was to establish a rigorous process for going forward that aligns critical characteristics down to the individual items and associated test and other verification documentation; provide a roadmap for future NRC inspections, and confirm, as a result of the NRC in-office review findings, that

issues were fully identified and addressed on Cascades 1, 2 and 3 as applicable (part of the extent of condition review).

The root cause analysis identified a number of reasons for why Cascade 3 documentation was insufficient including management involvement and oversight; ineffective transition of CGD Team responsibilities as roles evolved and changed over time; insufficient quality oversight/involvement, and insufficient documentation to define/direct inspection activities. A number of causes and contributors were noted.

Quality Assurance and Quality Control had some involvement but was not solely responsible. They perform an independent verification function, but the responsibility for quality resides in the design and manufacturing performed by others as should be verified through the CGD process.

With regards to the matrix development on Cascades 1 thru 3, we believe this effort was effective in identifying areas where inspection methods and/or sampling quantities were not sufficient to demonstrate full conformance. As each issue was identified and documented on Condition Reports (CRs), we performed reviews for applicability and operability impact on Cascades 1 and 2 which were both operating at that time. We eventually removed Cascade 1 from service in order to perform planned maintenance. Cascade 2 was subsequently removed from service upon identification of turnbuckle weld indications during this matrix review as described further in the referenced letter. We intend to implement this verification approach going forward on future cascades.

Regarding the turnbuckle issue specifically, we have completed pull tests of the welds and demonstrated they would have performed their intended design function on Cascades 1 and 2 during the period of time they were in operation. However, a question has been raised by one of our engineers with respect to the possibility that over time a crack could develop and propagate such that operability is challenged. To address this question, we have sent samples of the welds that have indications of lack of fusion to a metallurgist for analysis. We will utilize the results of this analysis to develop the plan for the turnbuckles in cascades 3-8.

Upon completion of the root cause evaluation and specific corrective actions, UUSA submitted our response to the NOV and provided the date by which Cascade 3 CGD packages would be ready for re-inspection. The NRC performed a follow-up inspection during the week of October 4th. The inspection included the above areas, construction activities, and other CGD activities. The NRC also interviewed a number of personnel involved in the dedication of cascades. At the inspection exit meeting the NRC identified some potential violations, including one related to verification of test data on Cascade 3 for which a related issue had been documented but not yet evaluated through our Corrective Action Program (CAP). The NRC summarized the results of their interviews with our staff that they appeared to be consistent with those we identified in our root cause evaluation.

Since the NRC exit meeting on October 7, 2010, we have continued our efforts to complete the matrix reviews, evaluate NRC identified issues and concerns, and evaluate issues (including causes and extent of condition) documented in our CAP. As a result, UUSA intends to perform the following actions going forward relative to NRC cascade authorization requests:

- Complete the revision of CGP Plans for Cascade 3 and future cascades to clearly focus the list of critical characteristics and verification methods to only those required to support IROFS41 functionality.

- Complete the matrix development on future cascades to confirm critical attributes were properly verified and provide as a roadmap to support our independent verifications and those of the NRC for authorization requests.
- Resolve all known operability and conformance concerns identified from the matrix reviews performed on Cascades 1 through 3 that have applicability to any future cascades through our CAP.
- Complete the implementation of corrective actions to prevent recurrence resulting from our root cause evaluation of the NOV on Cascade 3.
- Address any NRC identified concerns from the recent follow-up inspection on October 4th that impact CGD activities on Cascades 3 and forward through our CAP.
- For Cascade 3, complete an Operations authorization review using a restart checklist similar to the one prepared and in use to support commencing production of Cascades 1 and 2. Depending upon the results of this review, reviews of future cascade submittals may also be performed using this process and/or on a sampling basis.

In addition to our efforts, Enrichment Technology Corporation (ETC) has begun performing increased independent inspections of their own based on lessons learned to date. These increased inspections, including 100% weld checks in some areas, are being performed on Cascades 6 thru 8 prior to signing the Certificate of Conformance. This will help ensure our future inspections are sufficient when performed on a sampling basis for these three cascades assuming no issues are identified that would require an increased sample size.

For Cascades 9 and beyond, many of the verifications have shifted to the source (i.e., Europe) where the inspections and corrections (as needed) should occur prior to shipment. This is the result of applying different methods for dedication. Continued authorization reviews by operations of the magnitude involved in Cascades 1 through 3 is not expected as we move the inspections, surveillances and any required corrective actions closer to the initial manufacturing source and away from extensive onsite inspections.

Relative to current plant status, the first 5 cascades are now fully commissioned. Cascades 3 through 5 await the revision/development of final CGD Plans and supporting packages with verifications. Upon completion of these packages, review by Operations, and resolution of any outstanding NRC concerns, we will be ready to request review of our documentation for future cascade authorizations. We anticipate being ready for such requests in November.

In closing, UUSA is committed to dedicating IROFS41 successfully and consistently. We will complete the above actions prior to future cascade authorization requests and keep the NRC informed of our progress. Should there be any questions concerning this submittal, please contact me at 575.394.5215 or Gary Sanford, UUSA Director of Quality and Regulatory Affairs, at 575.394.5407.

Sincerely,

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