

SAFETY EVALUATION REPORT
QUALITY ASSURANCE PROGRAM DESCRIPTION, REVISION 5
AREVA ENRICHMENT SERVICES LLC
EAGLE ROCK ENRICHMENT FACILITY

1.0 INTRODUCTION

By letter, dated September 10, 2010, AREVA Enrichment Services LLC, (AES or the applicant) submitted the revised AES Quality Assurance Program Description (QAPD), Revision 4, for the U.S. Nuclear Regulatory Commission's (NRC's) review and approval.

The staff reviewed Revision 4 of the QAPD and requested additional information by letter, dated February 2, 2011. AES submitted their response to the Request for Additional Information (RAI) on March 1, 2011. Subsequently, the staff and AES held a conference call to clarify the responses. AES submitted supplemental information by e-mail, dated April 13, 2011. AES incorporated its response to the RAI and the supplemental information into Revision 5 of the QAPD, submitted by letter, dated May 16, 2011. The revised AES QAPD includes: (1) changes that result from the approval of an exemption request from the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) § 21.3, Definitions; and (2) changes for the new Quality Assurance (QA) Level Fire Protection (FP) requirements.

2.0 REGULATORY EVALUATION

The applicant's QA program for design, fabrication, testing, operation and decommissioning is described in the AES QAPD. The QAPD identifies all the QA criteria that the applicant will use to satisfy the management measures requirements of other QA elements, as required by 10 CFR § 70.62. The changes to the QAPD predominantly include the updated information on Part 21 definitions as approved by NRC on July 28, 2010, and a new appendix with QA Level FP requirements for credited fire resistance-rated barriers and automatic pre-action fire sprinkler systems in areas containing uranic material.

NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility," Revision 1, establishes the criteria for other QA elements as part of the management measures that will provide reasonable assurance that an item relied on for safety (IROFS) will be available and reliable when needed.

3.0 TECHNICAL EVALUATION

3.1 Changes Incorporating Part 21 Exemption Request

The applicant added a new section, Definitions, which includes all the definitions as modified by the approved exemption request.¹ AES also revised Section 4.0, Procurement Document Control, to establish the requirements of 10 CFR Part 21 as modified by the approved exemption request as applicable to the procurement of QA Level 1, QA Level 2, and commercial grade items to be dedicated for use in QA Level 1 and QA Level 2 applications. In addition, the applicant committed, in docketed correspondence, dated May 20, 2011 (Agencywide Documents Access and Management System [ADAMS] Accession Number ML11140A122), to revise the definition of basic component to correct “would” to “could.”

The applicant modified several subsections of Section 7.0, Control of Purchased Items and Services, to update the definitions for commercial grade item and dedicating entity as modified by the approved exemption request. These modified sections also clarified that receipt inspection, will be one of the methods to verify the critical characteristics of commercial grade items.

The changes to Sections 4.0 and 7.0 adequately reflect the modifications that were approved by letter dated July 28, 2010, “Approval of AREVA Enrichment Services Part 21 Exemption Request,” and are acceptable.

3.2 Changes Incorporating New Quality Assurance Level Fire Protection

The applicant added the description and the summary of the requirement of the new classification QA Level FP to Section 2.0. QA Level FP will include fire resistance-rated barriers and automatic fire suppression systems located in buildings and/or over areas containing licensed material-at-risk, which—if released—could exceed 10 CFR 70.61; performance requirements. In addition, Section 2.2.4 was added to state that AES will require the QA Level FP items to be: (1) designed, specified, procured, installed, and tested in accordance with requirements of the applicable National Fire Protection Association (NFPA) code and/or standard(s); (2) listed and/or approved by an independent agency such as Underwriters Laboratories, Factory Mutual, or other acceptable agency except in cases where such listing/approval is not required by NFPA’s code/standard (e.g., sprinkler piping is not required to be listed); and (3) inspected on receipt consistent with QAPD requirements to verify compliance to the criteria specified above.

Section 2.13 was also modified to include a statement that the requirements for QA Level FP as described in Section 2.2.4 of the QAPD will be imposed on contractors and suppliers through procurement documents. The requirements will be imposed through procurement documents for the particular scope of supply to the specific contractor or supplier.

¹ On January 29, 2010, AES transmitted a “Request for Exemption from 10 CFR 21.3, Definitions, for Commercial Grade item, Basic Component, Critical Characteristic, Dedication, and Dedicating Entity” to the NRC for review and approval. In a letter, dated July 28, 2010, the staff found the exemption request acceptable.

The applicant added a new paragraph to Section 4.0, "Procurement Document Control," which clarifies that a basic component for QA level FP may be "procured by a Part 70 Licensee or a Licensee-approved supplier directly from a commercial entity if: 1) the SSC [structures, systems, and components] is manufactured to an established, acceptable national code or standard that includes one or more independent product endorsements based on qualification testing or periodic testing of selected characteristics of the component except in cases where such listing/approval is not required by code/standard; and 2) the acceptability of the SSC safety function can be confirmed by the Licensee or Licensee-approved supplier via performance of receipt inspections, in-process installation inspections and functional testing of active components prior to use as a basic component. Once the acceptability of the SSC has been determined and the SSC has been designated for use as a basic component, the licensee accepts responsibility for reporting under the requirements of 10 CFR Part 21."

3.2.1 Appendix A: Quality Assurance Requirements for Fire Protection Items Relied On For Safety

The applicant added Appendix A to the QAPD to prescribe the requirements for QA Level FP. Appendix A specifies the various portions of the QA Level FP requirements that will be in accordance with the QL-1 QAPD requirements. The QAPD sections that will be applicable without exceptions to QA Level FP items are: Section 1.0, "Introduction and Organization;" Section 2.0, "Quality Assurance Program;" Section 5.0, "Instructions, Procedures, and Drawings;" Section 6.0, "Document Control;" Section 8.0, "Identification and Control of Items;" Section 10.0, "Inspection;" Section 12.0, "Control of Measuring and Test Equipment;" Section 13.0, "Handling, Storage, and Shipping;" Section 14.0, "Inspection Test and Operating Status;" Section 15.0, "Control of Nonconforming Item;" Section 16.0, "Corrective Action;" Section 17.0, "Quality Assurance Records;" and Section 19.0, "Provisions for Changes."

QAPD Section 3.0, "Design Control," will be applicable with some exceptions as stated in Section A.2.2 of Appendix A to the QAPD. The guidance used in Section 3.0 for the requirements for design control to be compliant with ASME NQA-1, 1994 edition, Basic Requirement 11; and Nuclear Quality Assurance (NQA-1), Part II, Subpart 2.7, "QA Requirements for Computer Software for Nuclear Plant Applications," will not be applicable. In addition, the requirement for design verification to be in accordance with NQA-1, Supplement 3S-1 as guidance for methods of design verification including any one or a combination of the following, as defined in design reviews, alternate calculations, or the performance of qualification tests, will not be applicable.

QAPD Section 4.0, "Procurement Document Control," will be applicable with exceptions to Paragraphs 4.2 and 4.3. A new paragraph will be added to define the applicability of QA Level FP as a basic component and licensee responsibility for reportability under 10 CFR Part 21. In addition, the applicant added requirements for purchasing documents to include appropriate certifications of applicable NFPA codes and standards and for evaluation of potential suppliers during bid evaluation. Supplier selection will be based on their ability to satisfy the requirements of the sourcing documents.

QAPD Section 7.0, "Control of Purchased Items and Services," will not be applicable and will be replaced with the requirements prescribed in Section A.2.6 of Appendix A to the QAPD. The control of purchase items and services requirements include provisions for (1) procedures to control for the evaluation of objective evidence of quality and examination of items upon delivery of completion, (2) appropriate certifications within purchase documents to applicable NFPA

codes/standards, (3) review and approval of purchase documents by the appropriate personnel and (4) acceptance of items including receipt inspection or post-installation testing to confirm certification of the items.

QAPD Section 9.0 will be applicable. However, the applicant does not expect any special processes to be required. In the event that special processes are required, procedures consistent with NFPA codes will be developed and approved by AES prior to performance.

QAPD Section 11.0, "Test Control," will be applicable except for subsection 11.5, "Computer Program Testing," which includes the use of ASME NQA-1 1994 as guidance for computer program testing.

4.0 CONCLUSIONS

The NRC staff evaluated the changes in QAPD Revision 5 and found that they were acceptable. Specifically, the applicant included the changes that resulted from the approval of an exemption request from the requirements of 10 CFR § Part 21.3, Definitions; and the changes for the new Quality Assurance Level Fire Protection requirements which included the addition of Appendix A, "Quality Assurance for Fire Protection Items Relied on For Safety."

5.0 PRINCIPAL CONTRIBUTORS

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