EagleRockPEm Resource

From: KAY Jim (AREVA) [Jim.Kay@areva.com]
Sent: Wednesday, April 13, 2011 10:33 AM
To: Reilly, Breeda
Subject: FW: AES Response to QAPD RAIs
Attachments: AES Response to discussion topics and QAPD Mark up.pdf

Breeda,

Attached are our responses to the additional RAIs on the QAPD. These responses supplement our previous responses and in one case (QAPD #4 relative to the scope of QA-FP) we revised our previous response based on our recent discussion. Also incuded are the revised QAPD pages. These will be incorporated into Rev. 5 of the QAPD which will come with Rev. 3 of the LA.

Please let me know as soon as you can if these responses meet your expectations based on our recent discussions. I hope to submit Rev. 3 of the LA (and QAPD Rev 5) later next week.

Jim

Jim Kay
Licensing Manager
Eagle Rock Enrichment Facility
AREVA Enrichment Services LLC
400 Donald Lynch Boulevard
Marlborough, MA 01752
Tel: 508-573-6554 (office)
508-641-5375 (cellphone)
Fax: 434-382-3722
jim.kay@areva.com

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AES Response to "Discussion Topics related to
AES Response to RAI for Revised QAPD (Letter dated March 1, 2011)"

Preface to AES responses to "Discussion Topics"

The following information is provided to supplement and clarify our previous submittal provided in AES-O-NRC-11-00840 as a result of our conference call on April 4, 2011. This supplemental response will be included in QAPD Revision 5 as submitted with AES' License Application Revision 3.

Based on our discussion on April 4, 2011, AES shall modify the definition QA Level Fire Protection from that submitted in QAPD Rev. 4, Section 2.0 to read as follows:

QA Level FP - QA Level FP items include credited 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.

RAI Response to QAPD 3:

Item 2:

AES states that "AES does not intend to verify the agencies. The agency approval process in use by Underwriters Laboratories (UL)/Factory Mutual (FM) to place specific vendors and products in the Fire Protection Equipment Directory and/or the FM Approval Guide are commercial grade and are considered adequate for QA level FP components"

> **Please clarify if supplier selection will be based, in part, on an evaluation of the supplier's capability to provide the items or services in accordance with the requirements of the sourcing documents. For example, how do the procurement documents verify the supplier has maintained proper storage and handling of items once they have left the manufacturer?**

AES Response: AES has revised Appendix A, Paragraph A.2.3, Section 4.0 Procurement Document Control as follows:

See AES response to Item 3, Bullet 3 below. Specifically, the 3rd bullet after "In addition, AES will require:"

Item 3:

Bullet 3 states: "QAPD Section 4.0, Procurement Document Control, with the exceptions as noted in Appendix A (as will be modified by this letter which indicates AES will revise Appendix A to indicate this criteria is applicable with the exception of paragraphs 4.2 and 4.3."

Bullet 14 states: "QAPD Section 16, Corrective Action, if nonconforming conditions identified as receipt, during installation, or testing indicate corrective actions are required, with the exception of 10 CFR Part 21 reportability as noted in Appendix A."

The language in these bullets regarding exception to reportability should be consistent with the outcome of discussion about the RAI response to QAPD 6.

Bullet 6 states: "QAPD Appendix A, Section A.2.6 which specifies QA level FP Items shall be receipt inspected"

The language in this bullet should be consistent with the outcome of discussion on Item 2 of the RAI Response to QAPD3.

AES Response:
Bullet 3 – AES has revised Appendix A, Paragraph A.2.3, Section 4.0 Procurement Document Control as follows:

"Section 4.0 is applicable with the exception of Paragraphs 4.2 and 4.3 which apply to QA Level 1 and QA Level 2 IROFS only. In lieu of Paragraphs 4.2 and 4.3, Paragraph 4.4 defines applicability of QA Level FP, as a "Basic Component" and Licensee responsibility for reportability in accordance with 10CFR Part 21.

In addition AES will require:

- Purchasing documents shall include requirements for appropriate certifications to applicable NFPA code/standard requirements (i.e., listed and/or approved)
- AES will evaluate potential suppliers during bid evaluation and will select suppliers on the basis of their ability to satisfy requirements of the sourcing documents. In performing this evaluation, AES will identify that the supplier or vendor (e.g., installation contractor) has a demonstrated track record of providing design and/or design-build fire protection work that includes selection of listed/approved (i.e., UL/FM) components from recognized manufacturers. AES will require that the supplier or vendor certifies that procured components conform to sourcing document requirements. Sourcing documents include, among other items, instructions for proper storage, handling, and shipping."

See response to QAPD 6 for wording of QAPD Paragraph 4.4

Bullet 14 – AES has revised Appendix A, Paragraph A.2.15 Section 16.0 Corrective Actions as follows:

"Section 16.0 of the QAPD is applicable. AES shall assume the responsibility for reportability in accordance with 10CFR Part 21 as defined in QAPD Section 4.0, Paragraph 4.4"

Bullet 6 – AES has revised Appendix A, Paragraph A.2.3, Section 4.0 Procurement Document Control in response to **Item 2,** as previously stated, to address the requirements for supplier evaluation.

AES has revised Appendix A, Paragraph A.2.6, Section 7.0, Control of Purchased Items and

Services to clarify AES methods of acceptance for QA Level FP procurements as follows:

Section 7.0 of the QAPD is not applicable.

The following shall apply:

- The procurement of QA Level FP items is controlled through procedures to assure conformance with specified requirements. These controls provide for the following, as appropriate: evaluation of objective evidence of quality furnished by the supplier, and examination of items or services upon delivery or completion.

- Vendor/installer design and component submittals shall be approved by personnel experienced in NFPA codes and standards. This will include approval by an individual who is an Idaho Registered Professional Engineer or who satisfies qualifications for Society of Fire Protection Engineers (SFPE) Professional Member status.

- Acceptance of purchased items shall be verified by receipt inspection and/or post installation testing. Receipt inspection will be performed to confirm:
  - Items are in compliance with procurement document requirements,
  - No substitutions have been provided without engineering approval,
  - Items were not damaged in shipment and
  - Certification of procured items as meeting applicable NFPA code/standard requirements (i.e., listed and/or approved).

- Receipt inspection shall be conducted by qualified personnel using checklists prepared from the procurement documents governing QA Level FP Items and the associated NFPA codes and standards, as applicable.

- Components required to be UL listed and/or FM Approved will be confirmed at receipt against current UL Fire Protection Equipment Directory or FM Approval Guides, as appropriate.

- Components not required to be UL listed and/or FM Approved (e.g., piping) will be confirmed at receipt against the applicable design and/or manufacturing standard (i.e., applicable ASTM, ISO, or other standard).

Post installation testing shall be performed, when needed, to verify specified performance requirements as defined in procurements documents have been satisfied. If post installation testing is required for final acceptance, receipt inspection will apply appropriate status indicators on the item as required by Section A.2.13 of this appendix to ensure the item is clearly identified as requiring “Post Installation Testing.”

RAI Response to QAPD 5:

AES states that "The QAPD will be modified accordingly to clarify this intent."

Please submit the markup pages for the modifications to the QAPD sections listed in this RAI Response (i.e., QAPD Sections 2.4, 3.4, 3.6, 11.5, 17.3, and 17.9)

AES Response:

The Marked up sections are attached for your information and will be incorporated into Rev. 5 of the QAPD.

RAI Response to QAPD 6:

AES states that "As described above, IROFS 100 is not needed to meet the performance requirements of 10 CFR 70.61 and is only credited to meet the purpose statement in 10 CFR 70.64(b); therefore IROFS 100 is not a basic component."

(1) The staff does not agree with the argument that the IROFS for the fire sprinkler system (IROFS 100) is not a basic component. IROFS100 was utilized in the revised ISA Summary tables to meet the performance criteria. Regardless, the staff believes that all IROFS are included in the definition of basic component. 10 CFR 70.61 establishes the criteria for identifying IROFS to meet performance requirements while 10 CFR 70.64 establishes the priority for selecting IROFS (i.e., preference for engineered controls over administrative controls).

(2) The staff suggests the need for a refinement of the definition of "basic component" to align it with the requirements of the nuclear power industry for fire protection and enable the direct procurement of basic components from a commercial entity. NRC has previously granted AES an exemption for the 10 CFR Part 21 definition for "basic component." Additional language is needed in the definition of "basic component" to address the fire protection IROFS. For example language, see the approval of LES license amendment request (ML103480356) for example language:

> **When applied to fire protection systems procured for facilities and other activities licensed under 10 CFR Part 70 of the chapter, basic component means a structure, system, or component, or part thereof, that affects their safety function, in which a defect or failure to comply with any applicable regulation in this chapter, order, or license issued by the Commission could create a substantial safety hazard. For fire protection systems designated as items relied on for safety, a basic component may be directly procured from a commercial entity by a Part 70 licensee if: (1) the system, structure or component is manufactured to an established, acceptable**

national code or standard that includes some independent product endorsements based on qualification testing or periodic testing of selected characteristics of the component; and (2) the acceptability of the item's manufacture, testing, and/or certification has been reviewed and verified by the licensee prior to use as a basic component. Once the acceptability of the item has been verified by the licensee and the item has been designated for use as a basic component, the licensee accepts responsibility for Part 21 reporting.

AES Response:

Based on our discussion of April 4, 2011, AES has incorporated the following statement for QA Level FP SSC's into Section 4.0, Paragraph 4.4 of the QAPD Rev. 5.

"For procurement of QA Level FP systems, structures or components (SSC) designated as Items Relied On for Safety (IROFS), a Basic Component may be procured by a Part 70 Licensee or a Licensee approved supplier directly from a commercial entity if: 1) the SSC 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 10CFR Part 21."

RAI Response to QAPD 8:

AES states: "If any "Special Processes" become necessary, AES would develop qualified procedures consistent with NFPA code requirements, approved by qualified QA and FP representatives prior to performance."

Please add AES's statement to the QAPD revision.

AES Response: AES has revised Appendix A, Paragraph A.2.8, Section 9.0 Control of Special Process as follows:

"Section 9.0 of the QAPD is applicable.

It is not expected that Special Processes will be required. However, if any Special Processes become necessary, AES will develop qualified procedures consistent with NFPA Code requirements, approved by qualified QA and FP representatives prior to performance."

RAI Response QAPD 13:

This response should be discussed in light of the discussion on the RAI Response to QAPD 6.

AES Response: AES has revised Appendix A, Paragraph A.2.15 Section 16.0 Corrective Actions as follows:

"Section 16.0 of the QAPD is applicable. AES shall assume the responsibility for reportability in accordance with 10CFR Part 21 as defined in QAPD Section 4.0, Paragraph 4.4"

2.0 QUALITY ASSURANCE PROGRAM

2.1 QA elements of this section are applied to IROFS and SSCs that could interact with IROFS due to a seismic event, to assure they will be available and reliable in performing their safety functions when needed. Subcomponents of QA items may be classified, through engineering procedures, at different QA Levels based on their critical attributes. This classification QA Levels are established as follows:

Level	Description
QA Level 1	QA Level 1 items include those items whose failure or malfunction could directly result in a condition that adversely affects public, worker and the environment as described in 10 CFR 70.61. The failure of a single QA Level 1 item could result in a high or intermediate consequence. For IROFS that contain a Safe-by-Design attribute, only the attribute (diameter, volume, slab thickness or physical arrangement) is considered to be QA Level 1.
QA Level 2	QA Level 2 items include those items whose failure or malfunction could indirectly result in a condition that adversely affects public, worker and the environment as described in 10 CFR 70.61. The failure of a QA Level 2 item, in conjunction with the failure of an additional item, could result in a high or intermediate consequence. All building and structure IROFS associated with credible external events are QA Level 2. QA Level 2 items also include those attributes of items that could interact with IROFS due to a seismic event, and result in high or intermediate consequences as described in 10 CFR 70.61.
QA Level 3	QA Level 3 items include those items that are not classified as QA Level 1 or QA Level 2. QA Level 3 items are controlled in accordance with standard commercial practices.
QA Level FP	QA Level FP items include credited 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.

2.2 The following applicable requirements are associated with each of the QA Levels as described below:

2.2.1 QA Level 1:

- Design documentation to verify review and approval of new designs and modifications to existing designs.
- Results of reviews, audits, and monitoring of work performance.
- Documentation to verify review and approval of qualified vendors.
- Procurement documents and material certifications from qualified vendors to verify

2.3 Compliance with QAPD requirements and associated procedures is mandatory. Questions on QAPD requirements are referred for resolution to the QA Manager, who is the final authority on QAPD requirements.

2.4 The terms used in the QAPD are as defined in 10 CFR 70.4, Definitions and utilizing American Society of Mechanical Engineers (ASME) NQA-1, Part I, Section 4, Introduction, 1994 edition, as guidance (not as a commitment). The term "design output" as used in this QAPD means "drawings, specifications, and other documents used to define technical requirements of IROFS."

2.5 Indoctrination and training of personnel performing or managing activities affecting quality is performed in accordance with approved procedures.

2.6 Quality Control personnel performing inspection and testing are qualified in accordance with approved procedures.

2.7 Personnel performing nondestructive examination are qualified in accordance with approved procedures.

2.8 Personnel performing audits are qualified in accordance with procedures.

2.9 Each manager is responsible for the applicable indoctrination, training, and qualification of their personnel.

2.10 Management of those organizations implementing the QAPD, or portions thereof, regularly assesses the adequacy of that part of the program for which they are responsible and will assure its effective implementation.

2.11 Responsible senior managers regularly assess the adequacy and effective implementation of the QA elements through methods such as review meetings, audit reports, and corrective action reports.

2.12 QA requirements for QA Level 1 and 2 items and activities are imposed on contractors and suppliers through the respective procurement documents for the particular scope of work contracted. Determination of the specific QA requirements, supplier evaluations, and proposal/bid evaluations are in accordance with the requirements of Section 4.0 and Section 7.0 of this QAPD.

2.13 QA requirements for QA Level FP items and activities are imposed on contractors and suppliers through the respective procurement documents for the particular scope of work contracted. Determination of the specific QA requirements, supplier evaluations, and proposal/bid evaluations are in accordance with the requirements of Sections A.2.3 and A.2.6 of Appendix A of this QAPD.

3.0 DESIGN CONTROL

3.1 Approved procedures provide for performing the design process in a planned, controlled and documented manner. The design control process includes the Integrated Safety Analysis and Management Measures.

3.2 Design inputs, such as design bases, performance requirements, regulatory requirements, codes and standards, are identified and documented as design requirements (e.g., primary requirements, functional requirements, and system requirements). Design requirement documents are reviewed and approved on a timely basis and to the level of detail necessary to permit the design activity to be carried out correctly and to provide a consistent basis for making design decisions, accomplishing design verification measures, and evaluating design changes. Changes, including the reason for the changes and whether or not prior U.S. Nuclear Regulatory Commission (NRC) approval is required to make the changes, are identified, approved, documented, and controlled.

3.3 Design process activities are planned on a timely basis and to the level of detail necessary to permit the design process to be carried out correctly, to permit verification that the design inputs are correctly translated into design documents; and to support interfacing design, procurement, fabrication, and operation. Appropriate quality standards are identified and documented. Changes from specified quality standards, including the reasons for the changes and whether or not prior NRC approval is required to make the changes, are identified, approved, documented, and controlled. Design methods, materials, parts, equipment, and processes that are essential to the function of IROFS or applicable SSCs are selected and reviewed for suitability of application. Assemblies, subassemblies and parts are clearly identified. Commercial grade items that have been modified or which need to meet special verification requirements are uniquely identified.

3.4 Design output documents, including changes thereto, are relatable to the design input by documentation in sufficient detail to permit design verification. Design outputs that consist of computer programs are developed, validated, and managed to utilize ASME NQA-1, 1994 edition, Basic Requirement 11 and NQA-1, Part II, Subpart 2.7, QA Requirements for Computer Software for Nuclear Plant Applications, as guidance (not as a commitment). Computer programs are controlled to assure that changes are documented and approved by authorized personnel. Where changes to previously verified computer programs are made, verification is required for the change, including evaluation of the effects of the change.

3.5 Design analyses documents (e.g., calculations) contain sufficient detail as to the purpose, method, assumptions, design input, references, and units such that a person technically qualified in the subject can understand the analyses and verify the adequacy of the results without recourse to the originator. Design analyses, performed with computer systems, will list the software and version; hardware; inputs and outputs; and evidence of computer program verification/validation or alternate verification of the results. Design analysis documents are identifiable-by subject, originator, reviewer, and date or by other identification such that the documents are retrievable.

3.6 Design verification is performed and documented in accordance with approved procedures by competent individuals or groups other than those who performed the original design. The extent and method of the design verification is a function of the importance to safety, the complexity of the design, the degree of standardization, the state of the art, past performance, and similarity with previous proven designs. Where changes to previously verified designs are made, design verification is performed for the changes, including an evaluation of the effects of the changes on the overall design and on any design analysis on which the design is based. Methods of design verification include any one or a combination of the following, utilizing Supplement 3S-1 of ASME NQA-1-1994 as guidance (not as a commitment) for design reviews, alternate calculations, or the performance of qualification tests. Verification by testing is performed when deemed necessary and demonstrates adequacy of performance under conditions that simulate the most adverse design requirements. Verification of computer programs includes appropriate testing and validation. Design verification is performed in a timely manner and is completed prior to relying upon the associated IROFS, applicable SSCs or computer program to perform its function.

3.7 Verifiers are knowledgeable in the areas to be verified. The verifier may be a supervisor, provided the supervisor was not directly responsible for the design (i.e., did not specify a singular design approach or rule out certain design considerations and did not establish the design inputs used in the design) or provided the supervisor is the only individual in the organization competent to perform the verification.

3.8 Changes to final designs, field changes, modifications, and nonconforming items dispositioned "use-as-is" or "repair," as described in Section 15.0 of this QAPD, are justified, documented, and subject to the design control measures commensurate with the original design. Design control measures for changes shall include provisions to ensure that the design analyses for the item are still valid. Changes are reviewed and approved by the person or group with assigned design authority.

3.9 Internal and external design interfaces are identified and controlled and design efforts are coordinated among participating organizations. Design information transmitted across interfaces is reviewed, approved, documented, and controlled.

3.10 Design documentation and records that provide evidence that the design and design verification processes were performed in accordance with this section are collected, stored, and maintained in accordance with Section 17.0 of this QAPD.

3.11 Design deficiencies discovered during the design process on subsequent design related activities that affect the design of IROFS or applicable SSCs are entered into the corrective action process in accordance with Section 16.0 of this QAPD. If these deficiencies caused constructed or partially constructed items to be deficient, the affected items are controlled in accordance with Section 15.0 of this QAPD.

3.12 Configuration management is maintained in accordance with the applicable procedures controlling changes to the various types of design documents.

4.2 For Procurement of QA Level 1 and QA Level 2 items, components or services meeting the definition of “Basic Component”, the requirements of 10 CFR 21, “Reporting of Defects and Noncompliance” as modified by Daniel H. Dorman (NRC) letter to James A. Kay (AES), “Approval of AREVA Enrichment Services Part 21 Exemption Request,” dated July 28, 2010 (Ref. 20.1) shall be invoked.

4.3 For Procurement of Commercial Grade Items to be dedicated for use as “Basic Components” in QA Level 1 and QA Level 2 applications, the “Dedicating Entity” as defined in 10 CFR 21 and modified by Daniel H. Dorman (NRC) letter to James A. Kay (AES), “Approval of AREVA Enrichment Services Part 21 Exemption Request,” dated July 28, 2010 (Ref. 20.1) shall assume the responsibility for the reporting of Defects or Noncompliance.

4.4 For procurement of QA Level FP systems, structures or components (SSC) designated as Items Relied On for Safety (IROFS), a Basic Component may be procured by a Part 70 Licensee or a Licensee approved supplier directly from a commercial entity if: 1) the SSC 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 10CFR Part 21.

4.5 Procurement documents and changes thereto are reviewed to ensure they include the appropriate requirements as listed above. The review and documented concurrence is performed by independent personnel having an understanding of the requirements and intent of the procurement document.

4.6 Changes to procurement documents, including changes made during bid review, contract negotiations or post award, are subject to the same control as the original document.

11.0 TEST CONTROL

11.1 Tests are performed as required to verify conformance with specified requirements, to demonstrate satisfactory performance, or to collect data. Test requirements are specified in written procedures (except as allowed by Section 11.3), in accordance with Section 5.0 of this QAPD, with provisions for documenting and evaluating the test results. Test personnel are qualified in accordance with Section 2.0 of this QAPD. Tests include design verification tests, acceptance tests, pre-operational tests, post-maintenance tests, and operational tests. Planning for tests may include mandatory hold points, as required.

11.2 Test procedures contain the following information as appropriate to the test:

- Test objectives, responsibilities, characteristics to be tested, hold points, test methods to be employed, and acceptance criteria;
- References and related documents;
- Provisions for ensuring that prerequisites for a given test have been met. These include, as applicable: calibrated instrumentation, appropriate equipment, trained personnel, condition of test equipment and the item to be tested, and provisions for data acquisition;
- Adequate instrumentation is available and suitable environmental conditions are maintained;
- Provisions for documenting and evaluating the test results for conformance with acceptance criteria; and
- Qualifications for test personnel.

11.3 In lieu of written test procedures, appropriate sections of related documents (i.e., American Society for Testing and Materials methods, external manuals, maintenance instructions, or approved drawings or travelers with acceptance criteria) may be used. If used, this information is incorporated by reference in the approved test or process procedure. Implementing documents must include adequate instructions to ensure the required quality of work.

11.4 Test records contain the following information: item tested, test date, tester, data recorder (as applicable), type of observation, test procedure, acceptance criteria, results and acceptability of characteristics tested, actions taken in connection with any nonconformances or deviations noted (as applicable), person evaluating the results, and identification of the measuring and test equipment (M&TE) used during the test.

11.5 Computer Program Testing is carried out utilizing ASME NQA-1-1994, Basic Requirement 11, Test Control, and Supplement 11S-2, Supplementary Requirements for Computer Program Testing as guidance (not as a commitment).

17.0 QUALITY ASSURANCE RECORDS

17.1 The QA records system ensures that records are specified, prepared, and maintained in a manner to provide retrievability and to provide protection against damage, deterioration, and loss. Design specifications, procurement documents, test procedures, operational procedures, or other documents specify the records to be generated, supplied, or maintained.

17.2 Documents that are designated to become records shall be legible, accurate and completed appropriate to the work accomplished. Records are considered valid when they are complete, identified, authenticated and legible. Documents are considered valid records only if stamped, initialed, or signed and dated by authorized personnel or otherwise authenticated. Records are indexed to ensure retrievability. Records and/or indexing systems provide sufficient information to permit identification between the record and the item or activity to which it applies. Lifetime records are entered into record storage after receipt or validation. Temporary storage in approved containers is provided until records are entered into lifetime storage. Records are classified for retention purposes as lifetime records or nonpermanent records in accordance with the criteria provided below.

17.3 Lifetime records are defined utilizing ASME NQA-1-1994, Supplement 17S-1, Section 2.7.1, Supplementary Requirements for Quality Assurance Records as guidance (not as a commitment). The applicable document that specifies the record indicates those to be forwarded for lifetime storage. In the case of specified records produced by suppliers, an agreement for records turnover is established.

17.4 Lifetime records are retained for the life of the item to which they apply or as required by a regulatory agency. An indexing system ensures the record can be retrieved. Storage is in a central location unless the applicable procedure specifies otherwise. Records may be originals, copies, or electronic format.

17.5 Nonpermanent records are those required to show evidence that an activity was performed in accordance with applicable requirements. Nonpermanent records are not retained for the life of a particular item. Nonpermanent records are retained by the responsible organization until they are no longer useful. The retention periods for nonpermanent records are established in writing by the responsible organization.

17.6 Corrections to records are reviewed and approved by the originating organization. The corrections include the date and the identification of the individual authorized to issue the correction.

17.7 Replacement, restoration, or substitution of lost or damaged records is performed in accordance with implementing procedures. These procedures provide for appropriate review and approval by the originating organization and any additional information associated with the replacement.

17.8 Custodianship responsibility is assigned for lifetime records storage. Custodianship includes receipt and status control; storage; preservation; and safekeeping using hard copy, microfilm, or electronic document management system.

17.9 Storage facilities protect against the risk of loss or deterioration of lifetime records. Hard copy or microfilm storage facilities utilizing ASME NQA-1-1994, Supplement 17S-1, Section 4.4, Supplementary Requirements for Quality Assurance Records as guidance (not as a commitment). For electronic storage, backups or duplicate files are generated. Lost or damaged records are replaced, unless deemed impractical with the concurrence of the QA organization.

APPENDIX A

Quality Assurance Requirements for Fire Protection Items Relied On For Safety

A.1 Quality Assurance program requirements provide assurance that QA Level FP IROFS are designed, fabricated, erected, tested, maintained, and operated so that they will function as intended.

Those fire protection structures, systems, and components (SSCs) designated as QA Level FP IROFS will be:

1. Designed, specified, procured, installed, and tested in accordance with requirements of the applicable NFPA code and/or standard(s) (see exceptions to IROFS commitments below)
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 code/standard (e.g., sprinkler piping is not required to be listed)
3. Inspected on receipt consistent with QAPD requirements to verify compliance to the criteria specified above.

A.2 The following elements of the EREF QAPD (with noted exceptions) will be implemented to satisfy Quality Assurance requirements for the designated QA Level FP IROFS:

A.2.1 Section 2.0 Quality Assurance Program

Section 2.0 of the QAPD is applicable.

A.2.2 Section 3.0 Design Control

Section 3.0 of the QAPD is applicable with the following exceptions:

Standard commercial design software may be used for performance of QA Level FP design activities. The guidance for design software to be compliant with ASME NQA-1, 1994 edition, Basic Requirement 11 and NQA-1, Part II, Subpart 2.7, “QA Requirements for Computer Software for Nuclear Plant Applications” is not applicable.

The guidance for design verification in accordance with ASME NQA-1, 1994 edition, Supplement 3S-1 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, is not applicable.

A.2.3 Section 4.0 Procurement Document Control

Section 4.0 is applicable with the exception of Paragraphs 4.2 and 4.3 which apply to QA Level 1 and QA Level 2 IROFS only. In lieu of Paragraphs 4.2 and 4.3, Paragraph 4.4 defines applicability of QA Level FP, as a “Basic Component” and Licensee responsibility for reportability in accordance with 10CFR Part 21.

In addition AES will require:

- Purchasing documents shall include requirements for appropriate certifications to

applicable NFPA code/standard requirements (i.e., listed and/or approved)

- AES will evaluate potential suppliers during bid evaluation and select suppliers on the basis of their ability to satisfy requirements of the sourcing documents. In performing this evaluation, AES will identify that the supplier or vendor (e.g., installation contractor) has a demonstrated track record of providing design and/or design-build fire protection work that includes selection of listed/approved (i.e., UL/FM) components from recognized manufacturers. AES will require that the supplier or vendor certifies that procured components conform to sourcing document requirements. Sourcing documents include, among other items, instructions for proper storage, handling, and shipping.

A.2.4 Section 5.0 Instruction, Procedures and Drawings

Section 5.0 of the QAPD is applicable.

A.2.5 Section 6.0 Document Control

Section 6.0 of the QAPD is applicable.

A.2.6 Section 7.0 Control of Purchased Items and Services

Section 7.0 of the QAPD is not applicable.

The following shall apply:

- The procurement of QA Level FP items is controlled through procedures to assure conformance with specified requirements. These controls provide for the following, as appropriate: evaluation of objective evidence of quality furnished by the supplier, and examination of items or services upon delivery or completion.

- Vendor/installer design and component submittals shall be approved by personnel experienced in NFPA codes and standards. This will include approval by an individual who is an Idaho Registered Professional Engineer or who satisfies qualifications for Society of Fire Protection Engineers (SFPE) Professional Member status.

- Acceptance of purchased items shall be verified by receipt inspection and/or post installation testing. Receipt inspection will be performed to confirm:
  - Items are in compliance with procurement document requirements,
  - No substitutions have been provided without engineering approval,
  - Items were not damaged in shipment and
  - Certification of procured items as meeting applicable NFPA code/standard requirements (i.e., listed and/or approved).

- Receipt inspection shall be conducted by qualified personnel using checklists prepared from the procurement documents governing QA Level FP Items and the associated NFPA codes and standards, as applicable.

- Components required to be UL listed and/or FM Approved will be confirmed at receipt against current UL Fire Protection Equipment Directory or FM Approval Guides, as appropriate.

- Components not required to be UL listed and/or FM Approved (e.g., piping) will be confirmed at receipt against the applicable design and/or manufacturing standard (i.e., applicable ASTM, ISO, or other standard).

- Post installation testing shall be performed, when needed, to verify specified performance requirements as defined in procurements documents have been satisfied. If post installation testing is required for final acceptance, receipt inspection will apply appropriate status indicators on the item as required by Section A.2.13 of this appendix to ensure the item is clearly identified as requiring "Post Installation Testing."

A.2.7 Section 8.0 Identification and Control of Items

Section 8.0 of the QAPD is applicable.

A.2.8 Section 9.0 Control of Special Processes

Section 9.0 of the QAPD is applicable.

It is not expected that Special Processes will be required. However, if any Special Processes become necessary, AES will develop qualified procedures consistent with NFPA Code requirements, approved by qualified QA and FP representatives prior to performance.

A.2.9 Section 10.0 Inspection

Section 10.0 of the QAPD is applicable.

Factory acceptance, installation and field acceptance testing and/or commissioning of QA Level FP IROFS will be conducted using written, approved procedures and incorporating the requirements of the applicable NFPA Code or Standard (i.e., NFPA 13, 20, 22, 24 and 72) for the component(s) under test or being commissioned.

On-going surveillance, inspection, test and maintenance of QA Level FP IROFS will be conducted using written, approved procedures following the requirements of the NFPA Code or Standard (i.e., NFPA 25 and 72) for the respective component(s) and at the NFPA specified frequencies.

A.2.10 Section 11.0 Test Control

Section 11.0 of the QAPD is applicable except for Paragraph 11.5 “Computer Program Testing”.

A.2.11 Section 12.0 Control of Measuring and Test Equipment

Section 12.0 of the QAPD is applicable.

A.2.12 Section 13.0 Handling, Storage and Shipping

Section 13.0 of the QAPD is applicable.

A.2.13 Section 14.0 Inspection, Test and Operating Status

Section 14.0 of the QAPD is applicable.

A.2.14 Section 15.0 Control of Nonconforming Items

Section 15.0 of the QAPD is applicable.

A.2.15 Section 16.0 Corrective Actions

Section 16.0 of the QAPD is applicable. AES shall assume the responsibility for reportability in accordance with 10CFR Part 21 as defined in QAPD Section 4.0, Paragraph 4.4

A.2.16 Section 17.0 Quality Assurance Records

Section 17.0 of the QAPD is applicable.

A.2.17 Section 18.0 Audits

Section 18.0 of the QAPD is applicable except Section 18.2 “External Audits” is not required but may be implemented at the discretion of AES.

A.2.18 Section 19.0 Provision for Changes

Section 19.0 of the QAPD is applicable.