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Changes in Revision 4 of MOX Project Quality Assurance Plan

12 January 2004



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General Changes

- Replaced Duke Engineering & Services (DE&S) with Duke Project Services Group, Inc.
 - Revised document to reference activities and phases of the project
 - Included activities related to the start-up and operation in the Scope of the QA Program
 - Revised paragraph structure to present requirements in indentured outline format.
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Introduction

- The Introduction provides background material on the QA Program development and implementation philosophy.
 - Descriptions from Rev. 3 Paragraph 2.1.2 Use of Subcontractor QA Programs and Paragraph 2.2 Graded Quality Assurance were added to the Introduction.
 - Requirements for continuing QA were moved from the Introduction in Rev. 3 to Paragraph 1.3.6.
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Section 1 - Organization

- The Project Manager is replaced with the DCS President/Chief Executive Officer.
 - The Engineering and Construction functions were separated
 - Start-up and Operations interfaces were added
 - Paragraph 1.3 of Rev. 4 contains the requirements from Rev.3 Paragraphs 1.3, 1.4, 1.5, and 1.6 and the requirements for continuing QA from the Rev. 3 Introduction.
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Section 2 – QA Program

- The table of NQA-1 Part II Subparts in Paragraph 2.1 of Rev. 3 removed. Subpart 2.7 is specifically addressed in Paragraph 3.2.7.
 - Paragraph 2.1.1 Program Basis was revised to include activities related to start-up and operation. The definition for quality affecting was changed to: “deeds, actions, processes, tasks or work which influence the achievement or verification of quality requirements and objectives necessary for 1) fabrication and delivery of MOX fuel assemblies to the mission reactors and 2) Quality Level 1 and 2 structures, systems and components (SSCs) and their associated activities.”
 - Paragraph 2.1.2 Use of Subcontractor QA Programs in Rev. 3 moved to the Introduction.
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Section 2 – QA Program (Continued)

- Paragraph of 2.2, Rev. 3 overview is condensed in Rev. 4 Paragraph 2.1.2 Graded Quality Assurance, with the specific requirements from Revision 3 addressed in Revision 4.
 - Paragraph 2.2.1 is a new section addressing the Application of QA Controls for Product.
 - The definitions for QL-1a and QL-1b have been revised for clarity of application, all IROFS remain Quality Level 1.
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Section 2 – QA Program (Continued)

- Paragraph 2.2.3 addresses Identification of QA Controls for MFFF, including the requirements for QA grading from Rev. 3 Paragraph 2.2.2.
 - Paragraph 2.2.4 addresses the requirements for the Application of Graded QA Controls from Rev. 3 Paragraph 2.2.3.
 - Paragraph 2.2.5 addresses Feedback Mechanisms and Reassessing Safety Significance, including the requirements from Rev. 3 Paragraph 2.2.4.
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Section 2 – QA Program (Continued)

- Paragraph 2.2.6 addresses *Personnel Indoctrination, Training, and Qualification*, combining and expanding the requirements from Rev. 3 Paragraphs 2.3, 2.5, and 2.6.
 - Paragraph 2.2.7 addresses *Management Assessments*, replaces Rev. 3 Paragraph 2.4. This revision expands the requirements implementing criteria addressed in NUREG 1718 Section 15.6 and providing a linkage between the audit and assessment activities.
 - Paragraph 2.2.8, *Quality Assurance Program Status Reporting*, addresses the requirements from Rev. 3 Paragraph 2.7.
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Section 3 – Design Control

- Divided Rev. 3 Paragraph 3.2.2H. into 3.2.2H. and I. to emphasize these as two distinct requirements.
 - Moved and revised Rev. 3 Paragraph 3.2.4G.3 to 3.2.2J. ensuring it applies to QL-1&-2 SSCs.
 - Revised Paragraph 3.2.3D. to more clearly reflect the requirements of NQA-1.
 - Revised Paragraph 3.2.7 to more clearly reflect the requirements of NQA-1 Subpart 2.7.
 - Minor Editorial Changes
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Section 4 – Procurement Document Control

- Added requirement 4.2.1B.4
 - Revised 4.2.1C. to clarify that flowdown of 10CFR50 Appendix B requirements and defect reporting requirements in accordance with 10CFR21 apply to QL-1 procurements.
 - Deleted final sentence from Rev. 3 Paragraph 4.2.2B.
 - Editorial clarifications
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Section 5 – Instructions, Procedures, and Drawings

- Approval of procedures is assigned to the DCS Manager responsible for the activity.
 - Other minor Editorial Changes
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Section 6 - Document Control

- Entire section reformatted
 - Paragraph 6.2.6 addresses the requirements from Paragraph 6.2.5 of Rev. 3, adding clarification of specific requirements for controlled distribution where access to the Electronic Data Management System is not available.
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Section 7 – Control of Purchased Material, Equipment, and Services

- Paragraph 7.2.2E. was deleted.
 - Paragraph 7.2.11 revised to reflect NQA-1.
 - Paragraph 7.2.13 added to address the process for procuring QL-2 SSCs.
 - Paragraph 7.2.14 address requirements from Rev. 3 Paragraph 7.3
 - The term ‘supplier’ was replaced with ‘supplier/subcontractor’ throughout the document.
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Section 8 – Identification and Control of Material, Parts, and Components

- The general requirements in the second paragraph of 8.1 apply to both QL-1 and QL-2 items.
 - The detailed requirements of Paragraph 8.2 are identified for QL-1 only.
 - Other editorial corrections.
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Editorial Corrections

- Section 9 – Control of Special Processes
 - Section 10 – Inspection
 - Section 13 – Handling, Storage, and Shipping
 - Section 14 – Inspection, Test, and Operating Status
 - Section 15 – Nonconforming Materials, Parts, or Components
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Section 11 – Test Control

- Paragraph 11.2.6 was revised to define the requirements for qualification of test personnel.
 - Editorial Corrections
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Section 12 – Control of M&TE

- Added “when practicable” to end of Paragraph 12.2.1C
 - Paragraph 12.2.4 was revised to include damaged M&TE and reference Section 15 for the evaluation.
 - Editorial Corrections
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Section 16 – Corrective Action

- The 10CFR21 reporting considerations (Rev. 3 Paragraphs 16.2.1.2 C. and D.) are revised in Paragraphs 16.2.1B.3), 4), and 5).
 - Paragraph renumbering
 - Other Editorial Corrections
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Section 17 – Quality Assurance Records

- Entire section reformatted
 - Retention requirements from Rev. 3 Paragraph 17.2.2.1 were consolidated in Paragraph 17.2.6, *Retention of Records*.
 - Rev. 3 Paragraph 17.2.2.2E. was deleted. This requirement is addressed in Paragraph 4.2.1F.
 - Removed the references to the specific records storage area location. Paragraph 17.2.4A. (both Rev. 3 and Rev. 4) requires this level of detail to be addressed in an approved QA Procedure.
 - Editorial Corrections
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Section 18 - Audits

- Entire section reformatted
 - Paragraph 18.2 lead in revised to provide linkage between the audit and assessment activities.
 - Paragraph 18.2.1 revised the frequency for internal audits to be based on performance and extend the periodicity to three years. This approach involves the use of Management Assessments to supplement the audit process and requires annual evaluation of quality affecting activities in conjunction with Paragraph 2.2.7.
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Section 18 – Audits (Continued)

- Paragraphs 18.2.7, 18.2.8, and 18.2.9 were revised to reference Section 16 *Corrective Action* for addressing conditions adverse to quality.
 - Moved technical specialist qualifications to the end of Paragraph 18.2.9.
 - Combined and revised Rev. 3 Paragraphs 18.2.9 A through E with Paragraph 18.2.9.2 C to reflect NQA-1.
 - Rev. 3 Paragraph 18.2.10 was converted to Figure 18-1.
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