

SAFETY EVALUATION

1. INTRODUCTION

The U. S. Department of Energy (DOE) established the Yucca Mountain Project (YMP) to investigate whether Yucca Mountain is a suitable site for the high-level radioactive waste repository. All YMP organizations (i.e., Yucca Mountain Project Office (YMPO), Nevada Test Site (NTS) Support Contractors and Participating Organizations) must meet the requirements described in the Nevada Nuclear Waste Storage Investigations Quality Assurance Plan, NNWSI/88-9, Revision 2 (88-9 QA Plan) and incorporate them into their QA Program Plans (QAPPs) and procedures.

The U. S. Nuclear Regulatory Commission (NRC) staff reviewed the 88-9 QA Plan for the YMP and concluded that (see Linehan/Stein letter and Safety Evaluation (SE) dated December 30, 1988) it contains adequate requirements and planned and systematic controls to address the requirements of 10 CFR Part 60, Subpart G and Appendix B to 10 CFR Part 50, in an acceptable manner. The detailed NRC staff analysis of the 88-9 QA Plan approaches for meeting the requirements of Appendix B to 10 CFR Part 50 are contained in the 88-9 QA Plan SE. Those approaches approved in the 88-9 QA Plan which have been adopted by Reynolds Electrical & Energy Co. Inc. (REECo) are not reevaluated in this SE. The 88-9 QA Plan can serve as an adequate framework for DOE/YMPO and its project participants to develop specific policies, plans, and procedures to implement the QA Program for the YMP. The NRC review criteria used in evaluating the 88-9 QA Plan are contained in the "NRC Review Plan for High-Level Waste Repository Quality Assurance," Revision 2, dated March 1989 (NRC Review Plan).

This SE documents NRC's review of the REECo QAPP, 568-DOC-115, Revision 8, which commits to comply with the requirements of the 88-9 QA Plan. This SE describes the regulatory criteria against which the REECo QAPP was reviewed, provides a basis for NRC staff acceptance, and describes the differences from the 88-9 QA Plan and/or the NRC staff's review criteria.

2. BACKGROUND

DOE forwarded the REECo QAPP, Revision 7 (see Appel/Linehan letter dated February 21, 1989), for NRC review and acceptance. The NRC staff reviewed the REECo QAPP to determine whether it contained adequate requirements and planned and systematic controls to address the applicable criteria of Appendix B to 10 CFR Part 50 which apply to REECo for the DOE YMP. Selected procedures prepared by REECo to implement the QAPP were also reviewed by the NRC staff as a part of its evaluation of the QAPP.

As a result of the review of the REECo QAPP, the NRC staff generated six comments which were discussed with DOE and the State of Nevada, on May 4, 1989 (telephone conversation) and May 10, 1989 (meeting at NRC Headquarters in Rockville, Maryland). DOE revised the REECo QAPP to resolve the NRC comments and resubmitted it for NRC staff review and acceptance on August 11, 1989.

3. STAFF EVALUATION

The following sections of the REECo QAPP are in accordance with the 88-9 QA Plan and meet the applicable criteria of Appendix B to 10 CFR Part 50.

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3.1 REECo QAPP Sections in Accordance with the 88-9 QA Plan and Appendix B, 10 CFR Part 50

- a. Section 1, "Organization" (Criterion I)
- b. Section 2, "Quality Assurance Program" (Criterion II)
- c. Section 4, "Procurement Document Control" (Criterion IV)
- d. Section 5, "Instructions, Procedures, and Drawings" (Criterion V)
- e. Section 6, "Document Control" (Criterion VI)
- f. Section 7, "Control of Purchases, Items, and Services" (Criterion VII)
- g. Section 8, "Identification and Control of Items, Samples, and Data" (Criterion VIII)
- h. Section 9, "Special Processes" (Criterion IX)
- i. Section 10, "Inspections" (Criterion X)
- j. Section 11, "Test Control" (Criterion XI)
- k. Section 12, "Control of Measuring and Test Equipment" (Criterion XII)
- l. Section 13, "Handling, Storage, and Shipping" (Criterion XIII)
- m. Section 14, "Inspection, Test, and Operating Status" (Criterion XIV)
- n. Section 15, "Control of Nonconforming Items" (Criterion XV)
- o. Section 16, "Corrective Action" (Criterion XVI)
- p. Section 17, "Quality Assurance Records" (Criterion XVII)
- q. Section 18, "Audits" (Criterion XVIII)

3.2 REECo QAPP Section Areas Differing from 88-9 QA Plan, and/or 88-9 QA Plan Areas not Applicable, Plus NRC Acceptance Rationale

The following sections of the REECo QAPP describe those areas that differ from the 88-9 QA Plan and/or those areas of the 88-9 QA Plan that do not apply to the REECo QAPP and, where applicable, why the NRC finds them acceptable:

3.2.1 "Scientific Investigation Control and Design Control" (Criterion III)

REECo is the primary support contractor providing support for subsurface construction, drilling, mining, and procurement. It has no responsibility for exploratory investigations associated with the site characterization program. Consequently, REECo has no responsibility in the preparation of study plans other than participating in the documented technical review when requested. Also, REECo has no specific designated responsibility for design in the YMP or work breakdown structure. Should REECo be assigned any of the aforementioned responsibilities, its QAPP will be revised and approved to meet the requirements of the 88-9 QA Plan. The NRC staff finds this acceptable.

4. CONCLUSION

Based on the its evaluation, the NRC staff concludes that the REECo QAPP, Revision 8, meets the requirements of 10 CFR Part 60, Subpart G and the applicable criteria of Appendix B to 10 CFR Part 50. The provisions to meet these requirements are contained in the NRC Review Plan, Revision 2, dated March 1989 and in the following, which are referenced in the Review Plan:

- o ANSI/ASME, NQA-1, "Quality Assurance Program Requirements for Nuclear Facilities," 1986.

- U. S. Nuclear Regulatory Commission, Generic Technical Position "Peer Review for High-Level Nuclear Waste Repositories," NUREG-1297, 1987.
- U. S. Nuclear Regulatory Commission, Generic Technical Position "Qualification of Existing Data for High-Level Nuclear Waste Repositories," NUREG-1298, 1987.
- U. S. Nuclear Regulatory Commission, "Technical Position on Items and Activities in the High-Level Waste Geologic Repository Program Subject to Quality Assurance Requirements," NUREG-1318, 1988.
- U. S. Nuclear Regulatory Commission, "Final Technical Position on Documentation of Computer Codes for High-Level Waste Management," NUREG-0856, 1982.

The REECo QAPP complies with the 88-9 QA Plan which the NRC staff accepted December 30, 1988. The NRC staff review of the REECo QAPP concludes that it meets the aforementioned guidance and NRC staff positions or has provided acceptable alternatives.

On the basis of its detailed review and evaluation of the REECo QAPP, the NRC staff concludes that it contains adequate requirements and planned and systematic controls that address each of the applicable criteria of Appendix B to 10 CFR Part 50 in an acceptable manner.