PRELIMINARY

A TRIBAL PERSPECTIVE OF THE SITE CHARACTERIZATION QUALITY ASSURANCE PLAN

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I. Introduction

In the recent months there have been noticeable efforts to develop an adequate quality assurance program prior to the start-up of major site characterization activities. Such a program is supposed to ensure the quality of work and operations conducted by the U.S. Department of Energy and its participant contractors, as required by regulations of the licensing process and repository development. As an affected party under the NWPA, the tribal perspective demands that the term "quality" be defined in an objective and scientific manner. Objectivity means that independent oversight of the QA program should involve states and tribes, and scientific requirements should guarantee the affected parties' role in both the comment and the QA implementation periods.

II. Management Concerns

The DOE QA Plan utilizes the "living document" concept, and therefore will be updated from time to time as required to maintain the QA Program current with the mission objectives (Ref. 1). In this changing environment, the reasonable assurance concept applicable to quality control, as proposed by the NRC, is difficult to implement, and therefore causes the affected parties to have legitimate concerns. Unless they are allowed to observe the implementation of the QA Plan and its verification at major operational steps, the consistency, soundness, and legality of the plan will be questioned. The participation of an affected party in the QA process can be effective only if

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the interaction opportunities are given in a timely manner, and the comments are incorporated or debated in a systematic way.

To ensure the compliance with the federally mandated requirements, verifiability and traceability of the decision making process are necessary. The dissenting voices should be allowed to register and should be documented from within the DOE/contractors management, and available to the reviewer for a balanced assessment or evaluation. While the DOE/RW-0095 (OGR/B-3) QA document expresses its commitment at the central management and organization levels, and while the site-specific QA plan provides control details of the site characterization activities at the branch level, a large gap still exists in the integration of the two plans taking into adequate consideration of the affected parties. Their active review and comment role constitute the missing element for the implementation of the central and site specific plans.

III. Technical Concerns

An affected party can participate in the QA process by attending public meetings, reviewing and commenting on technical documents. However, if their qualified inputs are not taken seriously and responsible means are not provided to follow-up with their comments, the meaning of reliability of a QA plan would be lost. Our experience with the review process indicates that for the government to fairly treat the technical comments and concerns at the level protected by a QA plan, some post-comment interaction periods would be necessary. Such post-comment activities would enhance the technical flexibility and openness necessary for the qualification by consensus of the data base, especially in the determination of sufficiency of baseline conditions.

IV. Proprietary Computer Codes

One of the controversial issues to be settled among the involved parties is when and how the quality of a computer software can be established. Because the numerical modeling work is indispensable to the design of the engineered multibarrier system and the understanding of the pre-closure and post-closure hydrogeologic environment, one should be allowed to check and verify the simulated results. A proprietary code consists of computer software used for modeling geotechnical problems that is sold, leased, or used on a royalty basis. It has been claimed by the DOE that proprietary codes usually undergo a rigorous QA/QC process because no company wants to sell a simulator that is going to come back and haunt them. Let us assume for a moment that the above claim is believable (which it is not), there is still the problem of integration and compatibility between computer-aided design and execution of the design. Furthermore, all numerical simulators have inherent discretized errors associated with them, and this problem can become more serious when a number of computer codes are used in combination to solve a specific engineering problem. In this case, sensitivity analysis can be very difficult to perform for an interactive mode.

It has also been claimed that some of the proprietary codes will be made available if they are used as part of the support documents in the licensing process. This raises another important issue: it is possible that only computer results which appear to meet the management objectives will be released for review and verification by the affected parties. In other words, a reliable QA program should provide the reviewer not only the computer software selected by its user, but also an opportunity to understand the scientific reason for its selection among many comparable but different codes.

V. Self-Incriminating Nature of a QA Plan

Once the rules of a QA plan are set, at least with respect to certain technical objectives, their implementation can often be used by the management as a way to protect themselves from releasing unpopular information, data, or documents. Sometimes requested reports or data are not made available due to the reason that they still have to undergo further quality control by proper authority. In this sense, unless the participation role of an affected party is respected, the conflict between the responsibility of an independent reviewer and the right to comply with the QA plan by governmental agencies would damage the integrity of the whole QA program, and the confidence of the affected parties.

VI. Conclusions

The government must be sensitive to the role of the affected parties as intended by the NWPA in regard to the formulation and implementation of the QA program. Unresolved issues should be openly discussed in the course of the QA plan development, and participation opportunities be provided for the independent oversight of the compliance process. Furthermore, observation access to all the operational and engineering activities should be provided by the QA plan in order to guarantee its objectivity, trustworthiness, and success.

References

1. Quality Assurance Action Plan, SD-BWI-QAP-002, L. T. Murphy and R. K. Ramsgate, RHO/BWIP supporting document, January 85, Richland, 76 pages.

2. Draft Site Characterization Plan, Section 8.6: Quality Assurance Program, R. K. Ramsgate, December 86, Richland, 84 pages.

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