

TVERMA/7/1/88

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MEMORANDUM FOR: Joseph O. Bunting, Chief  
Systems Engineering & Evaluation Branch  
Division of High-Level Waste Management

FROM: Ronald L. Ballard, Chief  
Technical Review Branch  
Division of High-Level Waste Management

SUBJECT: REVIEW OF CNWRA QA MANUAL

As requested in your memo of June 17, 1988, Tilak Verma and Kien Chang of my staff have reviewed the CNWRA QA Manual. Their comments are attached for your consideration. A marked-up copy of the CNWRA QA Manual is also attached.

*low*

*Mypore Nataraja*

Ronald L. Ballard, Chief  
Technical Review Branch  
Division of High-Level Waste Management

Attachments:  
As stated

cc: M. Delligatti, HLSE

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## Review Comments on Center QA Manual

T. Verma

1. The Center QA Manual should be divided into two parts: QA Program at the Center and Implementation of the QA Program. The first part should provided a brief description of the QA Program, its objectives and the criteria it is based on. Major emphasis should be on certain criteria, such as "Peer Review," "Document Control" and "Design Control" for software, "Auditing," etc., because of their significance in the overall QA Program. The second part should provide details of implementing the QA Program.
2. The manual should provide a listing of TOP's and QAP's that are to be used for implementing the QA Program.
3. The QA Program should not be used to control or monitor activities or work. Instead, its purpose should be to assure that all the activities are conducted as planned and in a systematic way.
4. It is not clear from the manual (pages 2.1 - 2.3), how the graded QA approach is to be incorporated in the QA Program.
5. What is the role of the Quality Assurance Committee (QAC) in the QA Program and how it enhances the implementation of the QA Program.
6. The Center activities are divided into four categories (page 1.1). Each of these categories would have different QA requirements. The QA Program should be designed to meet these requirements.

## Review Comments of Center QA Manual

K. Chang

1. The subject of QA of computer software programs is discussed in Section 3.5, Design Analysis. The NRC has a NUREG report on this subject, namely, "QA Plan for Computer Software Supporting the U.S. NRC's HLWM Management Program," NUREG/CP-4369, January 1986. Another NUREG report, "Documentation of Computer Codes," NUREG/CR-0856 48FR31761, June 1983, also contains requirements on software. We suggest that these two NUREG's be reviewed to make sure QA requirements discussed in the Manual are compatible with those specified in the NUREG's.
2. Verification of computer programs needs to be better defined in Section 3.5(3)(a). It is difficult to define what solutions are correct solutions for repository applications because of the complexity involved. In-situ experiments and experiments which provide bounding values for the correct solutions are the closest we can think of to define correct solutions.