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WM Record File

WM Project 10

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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MEMORANDUM FOR: Robert E. Browning, Director  
Division of Waste Management

FROM: F. Robert Cook, Senior On-Site Licensing  
Representative, Basalt Waste Isolation Project  
BWIP

SUBJECT: BWIP SITE REPORT FOR WEEKS OF APRIL 29 and  
MAY 06, 1984

1. I completed about half of the documentation of my comments on the "Draft NRC Review Plan Quality Assurance Programs for Site Characterization of High Level Nuclear Waste Repositories". Those comments completed as of May 09, 1984 were forwarded on that date.

2. I initiated a review of the "Draft Generic Technical Position on Design Information Needs at the Time the Site Characterization Plan is Submitted". My major comments on this document follow:

a. I would make changes to the definitions to make them consistent with usage in 10 CFR 60 and 10 CFR 21 and to generally "tighten" them up. See the attached marked up copy attachment A of the TP for examples in this area.

b. I would avoid the use of the term "Conceptual Design" except as quoting the laws and regulations. There is a large difference among people as to what they understand to be "conceptual design". Hence there can be a tendency to do extensive design activities under the guise of doing "conceptual design" and to avoid the application of appropriate design controls and other QA program requirements. The last sentence in Section 4.2 (page 11) is important to retain in the technical position, since it identifies that design activities are subject to QUALITY ASSURANCE program requirements. However the sentence should not be stated as a requirement, but should refer to the appropriate rule, i.e., 10CFR60.151, which states that QA applies to design and design activities. Also eliminate the inference in this sentence that the QA program is only applicable after the SCP is submitted. Appropriate QA programs should be in operation for any data collection, design activities etc., if the information being generated is or may be used in evaluating a license application. I consider we do a disservice suggesting anything

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else.

c. As noted in the attached markup a definition of "design" is needed. See the Atomic Energy Act of 1954, Section 111, for a good definition. Note it includes research and development, explorations and other activities which have been going on for some time at BWIP and clearly predate issuance of a conceptual design.

d. For DDE, conceptual design may be interpreted to mean design information normally presented to obtain Title I funding. Design detail in such a design package may go way beyond that which is necessary to determine simple technical feasibility, since in their case feasibility is generally related to some budgetary constraint. The tighter the constraint the more design activities will be accomplished, and hence the more detailed the conceptual design will be.

e. (Also see RHO comments on the TP, attachment B. I just now received them and did not know what they contained when writing the comments above.)

f. As a result of reading RHO's comments I conclude that they do not interpret the NWPA as requiring completion of a conceptual design for the SCP, given their understanding of the meaning of the term. In fact RHO has noted to me recently that their plans call for not completing a conceptual design (i.e., that needed to obtain Title I funds) until a year or more into site characterization for the Basalt Site.

3. I initiated a review of BWIP's planning for justification of instrumentation being used in the groundwater monitoring activities currently ongoing--this being the major technical investigation currently ongoing at BWIP pertinent to the natural component of their system. I briefly reviewed some of the history of the wells being monitored. DC-1 was the first one I looked at since it has one of the deepest piezometers (head measurement) that BWIP is looking at. A set of geophysical logs from that hole along with a couple other logs from the same document (ARH-ST-137) are attachment C. Note the temperature changes at 3200, 4000 and 4800 feet and below. It looks as if there may be circulation between those zones. This potential evidence of circulation raised a question in my mind as to how accurate piezometer head measurements may be if tubes have temperature differentials (heat sources and sinks) as may be caused by water circulation around a grouted tube (or maybe an ungrouted tube).

I am currently pursuing this question and intent to further review the pressure instrumentation design and its intended and proven accuracy.

As an additional note, while reviewing the recent head data from DC-1 from the deepest piezometer--see the attachment C--I noted

a 9 foot head drop during a 4 or 5 day period. I was informed that this drop occurred at the same time air-mist drilling was in progress on DC-20. The probable cause of this drop has not been identified by BWIP. I will attempt to obtain the data and see if there is a correlation with any significant events, and in particular, the drilling operations.



F. R. Cook  
Senior On-Site Licensing  
Representative

attachments: as

cf: JOBunting  
HJMiller  
MRKnapp  
JMHoffman  
TRVerma  
PTPrestholt  
JKKennedy  
JTBreeves  
RJWright  
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