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SECOND ACNW WORKING GROUP MEETING OCTOBER 10, 1989

The 2nd meeting of the Advisory Committee on Nuclear Waste Working Group was co-chaired by Dr. Dade W. Moeller and Dr. William J. Hinze. The meeting was convened by Dr. Moeller at 1:00 p.m., Tuesday, October 10, 1989, at 7920 Norfolk Avenue, Bethesda, Maryland.

[Note: For a list of attendees, see Appendix I. ACNW member, Dr. William J. Hinze was present. Also present were ACNW consultants, Drs. Bruce Marsh and Paul Pomeroy.]

Dr. Moeller said that the agenda for the meeting had been published. He also identified the items to be discussed. He stated that the meeting was being held in conformance with the Federal Advisory Committee Act and the Government in the Sunshine Act, Public Laws 92-463 and 94-409, respectively. He also noted that a transcript of some of the public portions of the meeting was being made, and would be available in the NRC Public Document Room at the Gelman Building, 2120 L Street, N.W., Washington, D.C.

[Note: Copies of the transcript taken at this meeting are also available for purchase from the Heritage Reporting Corporation, 1220 L Street, N.W., Washington, D.C. 20005.]

INTRODUCTION (Open)

[Note: Dr. Sidney J. S. Parry was the Designated Federal Officer for this portion of the meeting.]

This meeting had a dual purpose. Its principal purpose was to continue the NRC staff's presentation on the draft Technical Position on Tectonic Models which had been the topic of an extended presentation by the NRC staff at the 13th ACNW meeting on September 14, 1989. This had been followed by a technical exchange between the DOE and NRC staffs on September 26, 1989. Drs. Hinze, Pomeroy, and Parry attended that meeting also. The intent of this meeting was to provide additional clarification to the many questions that had been raised by representatives of DOE, the State of Nevada, the U.S. Geologic Survey (USGS), and the ACNW.

The second purpose of the meeting was to provide a venue for Dr. Marsh to present his early thoughts on the question of volcanism at the Yucca Mountain Site.

Part I - Volcanogenesis

Dr. Bruce Marsh presented his qualifications and present responsibilities. In summary, he is currently a professor in and Chairman of the Department of Earth and Planetary Sciences, Johns Hopkins University. He has been working in the area of magmagenesis for 18 years.

He gave a detailed presentation on volcanogenesis, describing the processes involved. Dr. Hinze asked if all the volcanic processes discussed were

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likely at the Yucca Mountain Site, and Dr. Marsh indicated that he would address that point later in his talk. Dr. Moeller asked if it was possible to obtain representative samples of magma. Dr. Marsh stated that magma was a highly uniform material and that samples were generally very uniform and representative of the main magma body. Dr. Marsh described the possibility of geographic predisposition for a series of volcanoes, and the problems with dating specific volcanic events. He discussed various testing procedures in the entire area of volcanogenesis in response to questions from Drs. Hinze and Moeller.

Dr. Marsh used several specific examples of field tests as illustrations. He commented on the recent advances in the study of volcanism and the interactive nature of these studies across disciplines. He referenced Dr. John Trapp's, NMSS, hypothesis as an example of this approach to the problem of predicting volcanism.

Dr. Marsh suggested that an interdisciplinary approach to the question of the potential for volcanism by a group of prominent scientists under the aegis of an unaligned body, such as the National Academy of Sciences (NAS), could reach a consensus on the testing program to be proposed to DOE. This general suggestion concluded Dr. Marsh's formal remarks and a general discussion ensued.

Dr. Philip Justus, NMSS, addressed Dr. Marsh's suggestion relative to assembling a group of experts to develop a program of investigation of volcanogenesis. While he supported the approach, Dr. Justus took the position that such a project was the responsibility of DOE. The following discussion was joined by a number of the attendees. The general conclusion was that the program would be well served if such a group were assembled and requested to examine the current state of the technical knowledge in this area and proposed a testing program for the DOE to follow. Dr. Kimball, DOE, commented that the general comments were of value and interest, but that DOE did have three study plans in preparation that addressed the question of volcanism.

Part II - Draft Technical Position on Tectonic Models (Open)

[Note: Dr. Sidney J. S. Parry was the Designated Federal Officer for this portion of the meeting.]

This portion of the session was opened by Dr. Hinze requesting Ms. Charlotte Abrams, ACNW staff member, to describe the process whereby topics are chosen to become technical positions (TPs), how the TPs are developed and their schedule of development defined. Ms. Abrams indicated that the development process for choice of topics was not structured. It was pointed out that topics could be upgraded or downgraded in status as deemed appropriate. Dr. Justus noted that his section and branch did not deal with DOE directly on these items, but that such contacts were handled by the Division of High-Level Waste Management, NMSS. An extended discussion of the process utilized in developing the TPs and other staff positions followed.

Dr. Pomeroy asked Dr. Justus if the draft TP clarifies the questions surrounding tectonic models. Dr. Justus acknowledged that based on the comments received, that the TP was unclear. He noted that commentors had not said that the staff was inaccurate, just unclear. Dr. Pomeroy pointed out that the State of Nevada had, in fact, questioned the need for the TP. Dr. Justus deferred the question to Mr. Keith McConnell, NMSS, to answer later. Under questioning by Drs. Moeller and Hinze, Dr. Justus acknowledged that, based on the comments received, revision or clarification of Part 60 may be desirable. He included the need for redefining some technical terms, such as "tectonic" and "significant quaternary fault." He indicated that this type of clarification was being attempted by the use of technical exchange meetings. Dr. Hinze and Dr. Justus continued their dialogue on the impact and implementation of TPs and alternative regulatory documents.

Dr. Pomeroy noted that the entire content of the TP itself is stated on one page of the document and asked that Dr. Justus and/or Mr. McConnell comment on and differentiate between the material contained on one page of the draft TP and the comments made in the Site Characterization Analysis (SCA). Dr. Justus gave a limited response.

Dr. Parry questioned Dr. Justus as to the authorship of revisions to Part 60. Dr. Justus indicated that this was the responsibility of the Office of Research. Dr. Justus acknowledged that consideration is being given to a revision. Dr. Moeller complimented the staff on the quality of Part 60. He noted that it still provides an excellent basis for regulation. Dr. Pomeroy inquired about the inclusion of the EPA Standard in Part 60. It was indicated that it is expected that the EPA Standard would be included by reference, when it is revised.

Dr. Justus noted that the Center for Nuclear Waste Regulatory Analyses (the Center) had reviewed Part 60 for items that required clarification. However, in response to a question from Dr. Parry, he was unable to identify any items that the Center raised, or that had been previously unreported or considered.

In response to a question by Dr. Moeller on the need for the TP, Dr. Justus and Mr. McConnell stated that it was the responsibility of the staff to coordinate the TPs and rulemakings to ensure the continuity of the logic and coverage of the regulations.

Mr. McConnell summarized events surrounding the TP's development. He noted that the TP had been initiated as a result of staff comments on the consultation draft SCP and DOE/NRC meetings. He stated that preparation of this TP, and others, is the first step in the development of a license application review guide.

Dr. Hinze asked about the breadth of the position. Mr. McConnell noted that the State of Nevada was concerned about the lack of specifics in the TP. He pointed out that the NRC staff had attempted to make the TP generic, rather than being site specific.

Dr. Hinze noted a problem with use of the terms "deterministic" and "probabilistic." Dr. Justus voiced the opinion that DOE was in error in this comment. Mr. McConnell indicated that the matter would be addressed in the final version of the TP. Mr. McConnell went on to explain that the identification of anticipated processes and events (APEs) was a two-step process which uses first, deterministic considerations, and then, probabilistic evaluations in the second stage.

Dr. Hinze asked if the revision of the TP was going to be substantive. Mr. McConnell indicated that, based on the breadth and extent of the comments by DOE, the State of Nevada, and the ACNW, he expected the revision to be extensive. Dr. Hinze asked if the ACNW would have an opportunity to comment on the revision. Dr. Justus commented that the ACNW's comments on this draft would be considered. Dr. Parry restated Dr. Hinze's question, and Dr. Justus indicated that no further opportunity to comment would be provided. Dr. Parry took exception to this position. Dr. Moeller also questioned the proposed staff action. Dr. Parry asked if the staff had a schedule that they were required to meet. Dr. Justus acknowledged that there was a schedule. He indicated that the staff had expected to receive the Committee's comments and then proceed.

In closing, there was a general discussion between Drs. Moeller, Hinze, and Pomeroy as to possible Committee action. In response to a question by Dr. Moeller, Dr. Justus stated that the staff would prepare a document responding to the comments received, but not until after the final document was released.

The meeting was adjourned by Dr. Hinze at 5:20 p.m.