DATE ISSUED: 5/6/81

ACRS-1847

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5/6/81

MINUTES OF THE
ACRS SUBCOMMITTEE MEETING ON
REGULATORY ACTIVITIES
APRIL 7, 1981
WASHINGTON, D.C.

The ACRS Subcommittee on Regulatory Activities held a meeting on April 7, 1981 at 1717 H Street, N.W., Washington, D.C. Mr. Sam Duraiswamy was the Designated Federal Employee for the meeting.

ATTENDEES:

ACRS: C. P. Siess (Subcommittee Chairman), M. W. Carbon, J. J. Ray, D. A. Ward, W. M. Mathis

Principal NRC Speakers: W. Morrison, W. Anderson, E. Wenzinger, A. Hintze, G. Arndt, C. Tan

INTRODUCTORY STATEMENT BY THE SUBCOMMITTEE CHAIRMAN

Dr. Siess, the Subcommittee Chairman, convened the meeting at 8:45 a.m. and indicated that the purpose of the meeting was to discuss the following items:

1. Regulatory Guide 1.142, Revision 1, "Safety Related Concrete Structures For Nuclear Power Plants" (post comment).
2. Regulatory Guide 1.68.3 (Formerly Regulatory Guide 1.80), "Preoperational Testing of Instrument And Control Air Systems" (post comment).
3. Office of Standard Developments response to ACRS comments delineated in its letter of March 18, 1981 with regard to Regulatory Guide 1.97, Revision 2, "Instrumentation For Light-Water-Cooled Nuclear Power Plants To Assess Plant And Environs Conditions During and Following An Accident".

Dr. Siess indicated that the Subcommittee had received neither written comments nor requests for time to make oral statements from members of the public.

REGULATORY GUIDE 1.142, REVISION 1, "SAFETY RELATED CONCRETE STRUCTURES FOR NUCLEAR POWER PLANTS (POST COMMENT)

Mr. Arndt provided a brief preamble to this Guide, indicating that it endorses, with certain exceptions, the American Concrete Institute Standard, ACI 349-1976, "Code Requirements For Safety Related Concrete Structures" and its 1979 Supplement. He pointed out that in those areas where the NRC Staff finds provisions of the referenced Code insufficient for licensing purposes, Supplementary guidelines are given in the regulatory positions of this Guide. A previous version of this Guide was reviewed by the Regulatory Activities Subcommittee at the January 4, 1978 meeting and was issued for public comment in April 1978. The current version of this Guide reflects consideration of public comments received.

Mr. Arndt informed the Subcommittee that five new regulatory positions have been added subsequent to the public comment period of this Guide to take care of some of the recent changes in the ACI 349 Code. Since this Guide will be updated at intervals of about one year to include, as appropriate, the changes in the Code that are usually made at intervals of about six months, the Subcommittee and full Committee will not be asked to concur in these updated positions unless they are determined to be significant and/or controversial. The Subcommittee agreed to this procedure, but suggested that the NRC Staff keep the Subcommittee informed of all the future changes to this Guide.

Mr. Arndt informed the Subcommittee also that the NRC Staff was given to understand that ANSI N101.6 Standard, which is referenced in this Guide to provide information on the radiation shielding aspects of structures, is likely to be withdrawn; if it is withdrawn prior to the issuance of this Guide for industry use, the reference to that Standard in Regulatory Guide 1.142 will be deleted.

Dr. Siess commented that since the five new Regulatory Positions that were added subsequent to the public comment period were not discussed in the Discussion Section of this Guide, it is difficult to follow why they were added. He commented also that the Discussion Section of this Guide does not have an one-to-one relationship with the Regulatory Positions and this sort of arrangement would make it difficult to follow this Guide. He suggested that certain modifications to rectify these type of problems prior to issuing this Guide for industry use would be helpful.

The NRC Staff indicated that they would give consideration to the suggestion made by Dr. Siess.

With regard to Regulatory Position 8 which states that the effects of differential settlement should be included in certain load combinations, Dr. Siess commented that since creep, shrinkage and differential settlement are all deformation stresses and are thus self-limiting, it is not at all clear why the differential settlement is added to the load combinations but not the creep and shrinkage.

Mr. Anderson said that creep and shrinkage are self-limiting and separate guidance have been provided for handling these effects. However, he believes that it will be difficult to predict the differential settlement.

Dr. Siess commented again that since it would be difficult to predict the differential settlement, he believes that consideration should be given to include an appropriate load factor to take care of this effect.

With regard to the guidelines provided in Regulatory Position C.5 for the frequency of compressive strength of concrete testing, Dr. Siess commented that these guidelines are not based on any probabilistic type data. It is not sure whether taking samples for each 100 cu. yd of concrete placed is much better than for 150 or 200 cu.yd of concrete placed. He believes that it might be possible to develop beter guidelines if someone comes in with some quantitative data.

With regard to the guidelines for load factors provided in Regulatory Position C.6, Dr. Siess commented that the 10% increase (over the value specified in ACI-349) included in this Position for seismic load factors lacks strong justification. Mr. Arndt stated that the believes that the ongoing research programs that are investigating the various load factors would provide some help in resolving issues like this.

Dr. Siess stated that if the research program could provide answers to some of the issues associated with load factors within a year, it would be very helpful to find out whether we are moving in the right direction.

With regard to Regulatory Position C.1 and the associated Discussion Section that specifies that structures required to be maintained certain leak tightness will be reviewed in accordance with the requirements of ASME Section III, Division 2, Dr. Siess commented that, since ACI 349 includes crack control provisions, it would be appropriate to review the leak tightness of structures in accordance with this Code instead of ASME Section III, Division 2 which does not have such crack control provisions.

Dr. Siess reiterated his earlier comment that the NRC Staff keep the Subcommittee informed of all future changes to this Guide.

After further discussion, the Subcommittee indicated that it would recommend this Guide to the full Committee for concurrence in the Regulatory Positions during the 252nd (April 9-11, 1981) meeting, subject to the changes suggested by the Subcommittee and agreed to by the NRC Staff.

REGULATORY GUIDE 1.68.3 (FORMERLY REGULATORY GUIDE 1.80), "PREOPERATIONAL TESTING OF INSTRUMENT AIR SYSTEMS" (POST COMMENT)

Mr. Hintze provided a preamble to this Guide, indicating that it replaces Regulatory Guide 1.80 "Preoperational Testing of Instrument Air Systems" which was issued in June 1974. The scope of Regulatory Guide 1.80 was limited to preoperational testing of instrument air systems; however, the scope of Regulatory Guide 1.68.3 has been expanded to include control air systems. He mentioned that subsequent to the issuance of Regulatory Guide 1.68.3 for industry use, Regulatory Guide 1.80 will be withdrawn.

Mr. Hintze indicated that this Guide was reviewed by the Regulatory Activities Subcommittee during the February 8, 1978 meeting and was issued for public comment in November 1980. The current version of this Guide reflects consideration of public comments received.

Mr. Hintze reviewed briefly the changes made to this Guide as a result of public comments, indicating that the most significant change to this Guide is the addition of Regulatory Position C.11 to include provisions for functional testing of instrument and control air systems to assure that credible failures that result in an increase in pressure in the supply system will not cause peak transient pressures above the design pressure of the system components.

With regard to a comment by Mr. Counsil from Northeast Utilities that "implementation of Regulatory Guide 1.68.3 will dwarf the most complex integrated tests presently being performed in the industry", Drs. Carbon and Siess suggested that the NRC Staff try to discuss this comment with Mr. Counsil to understand the exact nature of his concern.

The Subcommittee also commented that the NRC Staff's responses to some of the public comments are inadequate and not to the point.

Mr. Ray asked whether there is any Regulatory Guide that includes provisions for surveillance testing. The NRC Staff responded that surveillance testing is normally handled through technical specifications.

Mr. Ray commented that although the NRC Staff's response to certain public comments seem to imply that the instrument and control air systems are important to safety, it is not made explicit anywhere in this Guide that these systems are important to safety. He believes that any Guide which includes provisions for pre-operational testing of instrument and control air systems should make it clear that these systems are important to safety.

Dr. Siess said that this Guide provides testing requirements for the instrument and control air systems irrespective of the safety classifications of these systems. He believes that by merely adding a statement in this Guide to specify that these systems are important to safety is not going to help much. The issues such as whether a system is important to safety and what level of quality assurance should be applied to a specific system have to be settled through appropriate changes to the Regulations.

The Subcommittee suggested several editorial changes, provided suggest[illegible] clarification and guidance for improvement in several areas of this Guide [illegible] indicated that it would recommend this Guide to the full Committee for concurrence in the Regulatory Positions during the 252nd (April 9-11, 1981) ACRS meeting subject to the incorporation of certain changes proposed by the Subcommittee and agreed to by the NRC Staff.

DISCUSSION OF THE OFFICE OF STANDARD DEVELOPMENT'S RESPONSE TO ACRS COMMENTS ON REGULATORY GUIDE 1.97, REVISION 2 LISTED IN THE MARCH 18, 1981 ACRS LETTER

The Subcommittee discussed briefly the Office of Standard Development's response to ACRS comments on Regulatory Guide 1.97, Revision 2 included in its March 18, 1981 letter. A copy of the Staff's response is attached.

The Subcommittee did not have any objection to the Staff's proposal to modify the Implementation Section of Regulatory Guide 1.97, Revision 2 so as to resolve the ACRS concern on the adequacy of the Environs Radiation Monitors.

With regard to the implementation schedule for NUREG-0696, the Subcommittee commented that the operational date of October 1, 1982 specified for the final Emergency Response Facilities would be very difficult to meet.

FUTURE MEETING

Regulatory Activities Subcommittee meeting scheduled to be held on May 5, 1981 has been cancelled. Another meeting is scheduled to be held tentatively on June 2, 1981.

Dr. Siess thanked all participants and adjourned the meeting at 3:25 p.m.