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Thermal Hydraulic Phenomena Subcommittee

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CLOSED SESSION-pp 8-305
NOTE: Feb. 13, 1997 - Closed pp. 306-539

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

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4 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
5 THERMAL HYDRAULIC PHENOMENA SUBCOMMITTEE

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7 OPEN SESSION

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9 WEDNESDAY

10 FEBRUARY 12, 1997

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12 LOS ANGELES, CALIFORNIA

13 + + + + +

14 The Subcommittee met in President's Room B of
15 the Double Tree Westwood Hotel, 10750 Wilshire Boulevard,
16 at 8:30 a.m., Ivan Catton, Chairman, presiding.

17 PRESENT:

18	IVAN CATTON	Chairman
19	MARIO FONTANA	Member
20	THOMAS S. KRESS	Member
21	ROBERT L. SEALE	Member

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1 ACRS STAFF PRESENT:

2 PAUL BOEHNERT

3

4 ACRS CONSULTANT PRESENT:

5 VIRGIL SCHROCK

6

7 ALSO PRESENT:

8 GEORGE BANKOFF

9 DAVID BESSETTE

10 MARINO DI MAZZO

11 FAROUK ELTAWILA

12 JOE KELLY

13 WAYNE HODGES

14 JIM WOLF

15 GARY JOHNSEN

16 PAUL BAYLEN

17 GENE PIPLICA

18 JOSE REYES

19 GARY WILSON

20 WOLFGANG WULFF

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P-R-O-C-E-E-D-I-N-G-S

(8:35 a.m.)

CHAIRMAN CATTON: The meeting will now come to order.

This is a meeting of the ACRS Subcommittee on Thermal Hydraulic Phenomena.

I'm Ivan Catton, Chairman of the Subcommittee. The ACRS members in attendance are Mario Fontana, Tom Kress, Bob Seale.

The ACRS consultant in attendance is Virgil Schrock. Unfortunately Novak is ill, although I've talked at length with him on the phone, and at his request.

Dr. George Bankoff is attending this meeting as an observer for the NSRRC, the Nuclear Safety Research Review Committee.

The purpose of this meeting is for the Subcommittee to continue its review of the NRC RES program for demonstrating the adequacy of the RELAP5/MOD3 code to analyze the behavior of the Westinghouse AP600 passive plant design.

The Subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions as appropriate for deliberation by the full Committee.

Paul Boehnert is the cognizant ACRS staff

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1 engineer for this meeting.

2 With the exception of this opening session and
3 a brief closing session on Friday, February 14th, 1997,
4 this meeting will be closed to the public to discuss
5 Westinghouse proprietary information.

6 A transcript of the meeting is being kept. It
7 is requested that the speaker first identify themselves
8 and speak with sufficient clarity and volume so that they
9 can be readily heard.

10 We have received no written comments or
11 requests for time to make oral statements from members of
12 the public.

13 This morning is the beginning of the end of a
14 long interaction begun in about 1990. It began with a
15 series of reports produced by INEL that, in essence, said
16 that RELAP5 needed no change to predict the behavior of an
17 AP600.

18 RELAP5 is the tool of choice for NRC thermal
19 hydraulic calculations. At least it is now, and as such,
20 needs to be as good as we can make it, given its inherent
21 weaknesses.

22 There are three parts of the process. First
23 is the PIRT, which is really the organization of
24 engineering judgment; second, the scaling to enable us to
25 design a facility or, as in this case, to argue that a

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1 given facility will give us what we need to evaluate
2 phenomena highlighted by the PIRT and represent a full-
3 scale facility; and the third is the facilities
4 themselves.

5 It is an interactive process, and as we all
6 know, we have interacted. It appears as if they have all
7 come together.

8 In preparation for this meeting, I have
9 focused myself on the scaling report by Banerjee & Company
10 and that of Wolfgang Wulff. Overall I think this meeting
11 will be a pleasant one. There are a few questions I would
12 appreciate help with, however.

13 First, how was the decision made on phases of
14 the transient? Did both Banerjee and Wulff choose the
15 same? And is this critical?

16 I couldn't find a clear statement of what the
17 characteristic values of pressure, length, and time are in
18 the Banerjee report. Somewhere it would be helpful to the
19 reader if there were a discussion of the governing pi
20 groups. What are they? What do they stand for? Give us
21 some physical insight. What are the relationships to the
22 PIRT? In other words, what pi group is important to what
23 phenomena?

24 And lastly, there are distortions and then
25 there are distortions. It would be helpful if there were

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1 some discussion. For example, I don't care about the SPES
2 cold leg splitter plate if it only impacts long-term
3 behavior. Just listing distortions is not enough. If it
4 is important, it should be covered by another facility
5 and/or calculable with my available tools.

6 I think if these questions are addressed, and
7 they may already have been in the reports -- I just didn't
8 find them -- and the code evaluation is equally well done,
9 we'll be happy. Other than the long wait to get here, it
10 looks like a job well done.

11 Before I turn it over to RES, I would like to
12 give my colleagues a chance to comment. Virgil?

13 MR. SCHROCK: Well, I have pretty much the
14 same impression of the Banerjee report that you had. I
15 found it a little -- certainly a lot clearer than anything
16 we've read on this from INEL in the past. The, I guess,
17 questions remaining for me are those that you mentioned,
18 and I would maybe put a little more emphasis on the fact
19 that there is still some lack of clarity in the choice of
20 reference scales in general.

21 That discussion needs to be made more
22 complete. Other than that, there seem to be a couple of
23 places where things are left to be filled in at some
24 future date, and it's a little puzzling to me how that can
25 still be the case in 1997, February 1997, on a topic that

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1 was to have been wrapped up six or eight months ago.

2 CHAIRMAN CATTON: Thank you.

3 MR. SCHROCK: That's all I have.

4 CHAIRMAN CATTON: Well, I guess that's even
5 more unsettling when you consider that we started this in
6 1960.

7 Tom?

8 MR. KRESS: I think you pretty well covered
9 it, Ivan. I do share your assessment that this looks to
10 me like a job well done, and we are getting close to the
11 end.

12 CHAIRMAN CATTON: Mario?

13 MR. FONTANA: No comment.

14 CHAIRMAN CATTON: Well --

15 DR. BANKOFF: I --

16 CHAIRMAN CATTON: George.

17 DR. BANKOFF: I'm afraid I have some pretty
18 serious questions, and I think it may stretch out longer
19 than you might think as a result.

20 CHAIRMAN CATTON: Thank you.

21 I'll now turn it over to Mr. Eltawila.

22 (Whereupon, at 8:46 a.m., the open session was
23 adjourned, to reconvene immediately in closed session.)

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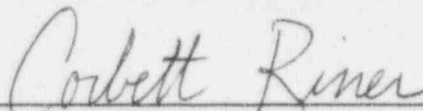
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Docket Number: N/A

Place of Proceeding: LOS ANGELES, CALIFORNIA

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