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JUL 17 1979

MEMORANDUM FOR: Victor Benaroya, ASB-DSS  
John D. Buchanan, EPSB-SD  
Alan S. Hintze, RSSB-SD  
Leonard Soffer, AAB/DSE-NRR

FROM: E. C. Menzinger, Chief  
Reactor Systems Standards Branch  
Office of Standards Development

SUBJECT: INSTRUMENTATION TO ASSESS NUCLEAR POWER PLANT CONDITIONS  
DURING AND FOLLOWING AN ACCIDENT

I have been given the assignment of being in charge of an effort to produce a proposed revision to Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident". This assignment is detailed in the memorandum from H. R. Denton to R. E. Minogue, on this subject, and is dated July 12, 1979. A copy of the memo is enclosed.

Each of you (addressees) has been assigned to work on this task.

As I envision this job, there are several goals:

1. Prepare a proposed revision, with supporting bases, to the Regulatory Positions of R.G. 1.97 for review by the Regulatory Requirements Review Committee (R<sup>2</sup>C). This effort is to be completed in approximately two months. The essential portions of the submittal to the R<sup>2</sup>C will be a proposed listing of instruments for use in assessing conditions during and following an accident for PWR's and BWR's. This list should include those instruments recommended by the Lessons Learned Task Force as documented in NUREG-0579 "TMI-2 Lessons Learned Task Force Status Report and Short Term Recommendations", dated July 1979. The list we recommend to R<sup>2</sup>C will be limited to current state-of-the-art equipment.

We are attempting to obtain assistance in completing our task from ANS. The ANS, with assistance from the AIF is putting together an ANS Standards writing committee whose aim will be to produce a national consensus standard on this topic. The idea is for the NRC and the ANS to work together over the next two months to produce the basic list of instruments with supporting bases. A longer term effort will be needed to complete the national consensus process to obtain an ANS standard. Hopefully, we will be able to endorse that standard in a future revision of R.G. 1.97.

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2. We will identify any long term instrument development efforts considered necessary. Long term instrument development matters which we identify will be deferred for further study pending results from longer term investigations and decisions flowing from TMI.

Mr. Hintze will be the SD Task Leader whose assignment will be to produce the finished revision to Regulatory Guide 1.97 that incorporates the list we have produced. I expect that this effort should only require a minimum of one month or so of additional time to edit, get formal concurrences and print the guide for public comment.

Mr. Buchanan will have overall responsibility for radiation monitoring. Mr. Morrison and I have spoken with Mr. Goller and we understand that Mr. Walter Cool (OHSB) will be made available to aid Mr. Buchanan in the area of in-plant radiation monitoring.

Mr. Benaroya will be responsible for plant nuclear and process systems instruments.

Mr. Soffer will be responsible for accident definitions, defining source terms, plant conditions during accidents and helping evaluate instrument performance requirements.

We will use as our principal inputs:

- (a) Previously proposed revisions of Reg. Guide 1.97. (See memo to R. F. Fraley from R. B. Hinogue dated April 18, 1974 with Draft 1 of R.G. 1.97p dated April 12, 1974.)
- (b) The current version of Reg. Guide 1.97 (Rev. 1, dated Aug. 1977).
- (c) IEEE Std. 497, "IEEE Trial-Use Standard Criteria for Post Accident Monitoring Instrumentation for Nuclear Power Generating Stations", dated 1977.
- (d) ANSI Proposed Standard N320/D6, "Performance Specifications for Reactor Emergency Radiological Monitoring Instrumentation", dated March 30, 1978.
- (e) Draft Report of Completion of Generic Activity A-34, "Instrumentation for Monitoring Radiation and Process Variables During Accidents", distributed by R. C. DeYoung in a Memo to R. J. Mattson, et al, dated March 28, 1979.
- (f) Our own individual ideas.

I have given each of you a copy of items (a) through (e) above.

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Mr. Benaroya has prepared a draft list of instruments for the plant and process systems which we will review on Thursday July 19, in my office.

Mr. Buchanan is preparing a list of radiation monitors which we will review next week.

Mr. Soffer should be prepared next week to propose how to get source term and other plant conditions defined.

With regard to the assistance from ANS and AIF, we will meet with an ANS standards writing-working group with the aim of producing a mutually acceptable list of instruments with supporting bases. AIF is assisting ANS in obtaining members for the working group. The plan is to meet with key members of the ANS group as soon as it is formed to plan our mutual activities. A working (drafting) meeting will then be held, at which time a mutually agreeable draft will be produced. I expect the initial meeting to occur next week. The working meeting will take place soon after. The place for the working meeting will be away from NRC and any of the other participants' offices, but at a place where administrative assistance will be available. I will let you know of the time and place as soon as I get this information. Our responsibility with regard to producing a proposed list of instruments with supporting bases for RSC consideration in approximately two months, will not be dependent on the satisfactory completion of the ANS standard writing effort.

You can charge your time on this activity, for NPS purposes, to Task RS-917-4.

If you have any questions or need any guidance or assistance on this high priority task, please contact me immediately. I am located in Room 316 at 5050 Nicholson Lane. My phone number is 443-5920 or 443-5913.

*Original signed by*

E. C. Wenzinger, Chief  
Reactor Systems Standards Branch  
Office of Standards Development

Enclosure: As stated.

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|-------------------|-----------------|-----------------|-----------------|
| bcc: H. R. Denton | R. J. Mattson   | W. E. Kreger    | DISTRIBUTION    |
| R. B. Minogue     | R. L. Tedesco   | R. W. Houston   | CENTRAL FILE    |
| G. A. Arlotto     | Frank Schroeder | E. F. Conti     | SD ALPHA SD RD  |
| W. M. Morrison    | V. A. Moore     | W. S. Cool      | RSSB WR         |
| K. R. Goller      | R. C. DeYoung   | R. E. Alexander | RSSB RD         |
|                   |                 | E. C. Wenzinger | RSSB SUBJ: 6097 |

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TASK NO. RS 917-3

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