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February 9, 1981

Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2
BWR Scram Discharge
System, Supplement 1 to
Generic Safety Evaluation Report
NRC Docket Nos. 50-237/249/254/265

References (a): Generic Safety Evaluation Report, BWR Scram Discharge System dated December 1, 1980

(b): T. A. Ippolito and D. M. Crutchfield letters to J. S. Abel dated January 9, 1981

(c): D. G. Eisenhut letter to All BWR Licensees dated January 23, 1981

Dear Mr. Eisenhut:

Reference (c) transmitted the subject Supplement 1 to the Generic Safety Evaluation Report of Reference (a). This supplement included a statement of the degraded air system problem, the basis for continued operation and comments on the human factors considerations of the problem.

Although comments on the supplement were not requested, we find ourselves in disagreement with much of the content of the supplement and its conclusions concerning the necessity for an air dump system, and feel obliged to provide the following comments.

First, the stated basis for determining that a problem exists is not factually correct. In Section 2 of the supplement it states, "The scram discharge volume can then fill with water before the air pressure decreases enough to open the scram inlet valves and cause control rod movement". At elevated reactor pressures, no

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scram inlet valve motion is required at all for the control rod to move. In fact, at reactor operating pressures with only the scram outlet valve open, the control rod drive will scram at its normal scram rate (3 seconds full travel)[1].

Second, pages 3 and 4 of the supplement provide a statistical evaluation of the degradation event and potential consequences. The evaluation estimates a probability of a degraded air event based on only one previous event and assumes another probability for a serious ATWS scenario due to a degarded air event based on no previous events. This evaluation can hardly be called rigorous or conclusive, yet is used as part of the basis for determining that a problem exists.

Third, the one degraded air event is referenced as occurring at Quad Cities in 1977. The supplement states that when this event occurred "...it was determined that the scram discharge volume partially filled with water prior to a successful reactor scram". The supplement neglects to state that the source of water was at least partly due to control rods drifting in when the scram outlet valves opened. It also fails to mention that the successful scram was manually initiated by the operator after receiving alarms for control rod accumulator level/pressure trouble and control rod drifts. Obviously the operator was not so distracted by other events caused by the low air pressure that he was unable to scram the reactor in a timely fashion.

Fourth, Section 3 of the supplement provides comments on the human factors of this issue. The human factors evaluation indicates that differences exist between the plants investigated concerning loss of air annunciators, other alarms activiated and their location relative to the low air pressure annunciator, and other alarms activated and their location relative to the low air pressure annunciator for different events. The evaluation does not conclude or even suggest whether or not these differences are of any significant concern. With no evaluation of the differences, the human factors effect of the differences cannot be determined. Item 4 on page 6 of the supplement states that "The requirement to carry out an immediate manual scram with a loss-of-air annunciator is a unique requirement, i.e., no other single annunciator requires such action." In addition, the need for manual scram will be further reinforced by annunciation of multiple rod drifts and the recently

[1] Dresden Station Units 2 and 3 and Quad Cities Station Units 1 and 2 FSAR's

installed scram discharge volume high water level alarms which also require immediate manual scram. Assuming that an operator would ignore all these diverse and unambiguous alarms seems to be inappropriate.

Finally, the human factors evaluation concluded that a unique and distinctly audible alarm associated with the loss-of-air annunciator would satisfy the stated concerns. The generic safety evaluation report and its supplement apparently ignored this conclusion when they required instead the installation of an automatic air dump system.

As stated above, based on the actual operating characteristics of the control rod scram system and other factors associated with loss of air events, we conclude that the scram air dump system installations required by the NRC will provide no significant improvement in reactor safety. In our judgement, these installations will unnecessarily expend manpower and company finances. In addition, since much of the installation will be in radiation areas, additional personnel exposure will be accrued. Since the postulated need for this modification will be eliminated by proposed longer term modifications to the scram discharge volume, it is particularly difficult to understand the need for further interim actions beyond the manual scram in the event of low air pressure.

Although we strongly disagree with the scram air dump system installations, the requirements of the Orders transmitted by Reference (b) leave us no alternative but a hearing which would divert our Staff from productive activities. We have committed to full compliance with the Orders.

Please address any questions concerning this matter to this office.

Very truly yours,

Robert F. Janecek

Robert F. Janecek
Nuclear Licensing Administrator
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