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November 30, 1979

Dr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Dresden Station Units 1, 2 and 3
Quad-Cities Station Units 1 and 2
Zion Station Units 1 and 2
Commitments to Meet Near-Term Requirements of the Lessons Learned Task Force
NRC Docket Nos. 50-10/237/246, 50-254/265, and 50-295/304

References (1): H. R. Denton letter to all operating plants dated October 30, 1979

(2): C. Reed letter to D. G. Eisenhut dated October 18, 1979

(3): D. G. Eisenhut letter to all operating plants dated September 13, 1979

(4): C. Reed letter to H. R. Denton dated November 21, 1979

Dear Dr. Denton:

The enclosed supplementary response should be incorporated into our October 18, 1979 letter on Lessons Learned commitments

One (1) signed original and seventy-nine (79) copies of this transmittal are provided for your use.

Very truly yours,

Cordell Reed
Manager of Nuclear Operations

enclosure

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ADD: LTR ENC
J. BEARD / /
F. Skroski / /
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D. VERRELLI / /

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Supplement our response to Section 2.2.1.b with the following:

Based on discussions with the Staff, the information provided in the October 30, 1979, Harold Denton letter and our internal review, it appears that clarification is needed regarding our approach to requirements of Section 2.2.1.b.

Following is a discussion of our plans in this area and differences that we perceive between the Staff's requirements and our approach with justification for the difference.

Long-Term Approach

Our ultimate goal is to provide on each shift, a technical graduate licensed at the Senior Reactor Operator (SRO) level. This individual will have the training necessary to perform the accident assessment function and will be in excess of the minimum shift SRO requirement identified in current plant Technical Specifications. We expect to fill these positions no earlier than mid-1981.

Interim Approach

Until our long-term goal can be met, we will provide the accident assessment function by the following interim approach.

For those stations which carry more SROs on shift than are required by current plant Technical Specifications the accident assessment function will be fulfilled by one of the shift SROs who has completed an augmented training program or one of the shift SROs who is a technical graduate.

For those stations which do not carry extra SROs on shift, the accident assessment function will be provided by a technical graduate assigned to the shift.

Either interim approach will provide an individual, on shift and able to report to the control room within 10 minutes, to advise the shift supervisor during an accident. This interim approach will be implemented by January 1, 1980.

STA Degreed Engineer Requirement

It is the staff's position that the STA individual required to be functioning by January 1, 1980, have a Bachelor's Degree or equivalent. This position is outlined on Page 55 of the attachment to the October 30, Denton letter which indicates that a degreed person is acceptable without specification for any additional minimum training for the near term (i.e., 1/1/80 to 1/1/81). Our interim approach is to provide augmented training to at least one of the shift SROs not all of whom will have an Engineering Degree. The following discussion illustrates how the augmented SRO, coupled with the SRO training, accomplishes the equivalency requirement.

The object of the SRO augmentation program was to provide our operating shifts with an additional measure of capability to deal with off-normal events and to do so within a time frame that is relatively short compared to that required for more permanent solutions.

The content of the SRO augmentation training is four modules:

1. Crisis Management

2. Applied Science

3. Plant Instrumentation Design and Response

4. Plant Transient and Accident Behavior

Supplement our response to Section 2.2.1.b with the following: (Continued)

The duration of the respective modules is:

Module	BWR	PWR
1	2 Days (16 Hrs.)	2 Days (16 Hrs.)
2	3 Days (24 Hrs.)	4 Days (32 Hrs.)
3	2 Days (16 Hrs.)	3 Days (24 Hrs.)
4	2 Days* (16 Hrs.)	4 Days* (32 Hrs.)
TOTALS	9 Days (72 Hrs.)	13 Days (104 Hrs.)

*Includes 1 Day (8 Hrs.) on Simulator

Module 1 - Crisis Management Consists of:

a. Objective: To present the trainee with a method of sorting, attaching significance to and processing information, and taking potential problems into account in order to arrive at quality decisions while under time pressure.

b. Application: The techniques learned here (and practiced in Module 4) will help the trainee make better and faster decisions in all types of problem situations, especially those where groups of people are involved.

Module 2 - Applied Science Consists of:

a. Objective: To give the trainee a practical feel for heat and mass flow, reactor behavior, material properties, and plant chemistry, all as directly applied to plant operations, without a confusing amount of pure theory.

b. Application: Having a working feel for plant theoretical concepts is a valuable asset when evaluating off-normal plant conditions and considering alternatives for action. This is especially true when the situation invclves combinations of problems that are not within the scope of prior training or station procedures.

Supplement our response to Section 2.2.1.b with the following: (Continued)

Module 3 - Plant Instrumentation Design and Response Consists of:

a. Objective: To refresh the trainee on the design and function of important plant instrumentation systems, giving an idea of how these systems may respond under abnormal conditions.

b. Application: Blind faith in instrumentation may lead to trouble under certain abnormal circumstances. Knowing when not to take an instrument reading at face value will help the trainee assess problems more quickly and accurately.

Module 4 - Plant Transient and Accident Behavior Consists of:

a. Objective: To give the trainee additional guidance and practice in handling abnormal operating situations, especially for multiple small failures, while applying the crisis management techniques learned earlier. The role of the SRO, rather than that of the RO, is emphasized.

b. Application: It is not expected that the trainee will have to deal with the exact combinations of problems presented. However, learning how to handle certain types of events and, most importantly, practicing the thought process used to make quality decisions will help the trainee handle whatever abnormalities actually do occur.

In evaluating the appropriateness of this interim measure in satisfying the intent at hand, attention should be drawn to the final product -- the augmented SRO.

Commonwealth Edison's nuclear operations training program has been accredited by Joliet Junior College toward an Associate of Applied Science Degree, and accredidation toward a four-year degree at Governor's State University is currently in progress with favorable results expected. The credits given for various phases of our training can be used as guidelines.

Supplement our response to Section 2.2.1.b with the following: (Continued)

General Area	Source	Equivalent Credit Hours
(Used in 9-13-79 Eisenhut Letter)		
Mathematics	SRO Training	N.A.
	SRO Augmentation	0
Reactor Physics	SRO Training	160
	SRO Augmentation	24
Reactor Thermodynamics	SRO Training	64
	SRO Augmentation	8
Electrical Engineering & Rx Control Theory	SRO Training	80
	SRO Augmentation	24
Reactor Operations	SRO Training	320
	SRO Augmentation	0
Transient and Accident Response	SRO Training	36
	SRO Augmentation	8-24
Other	SRO Training	100
	SRO Augmentation	32
	TOTAL	856 Credit Hours

856 Credit Hours = 42.8 Semester Hours

(An Associate Degree Requires 67 Semester Hours)
(A Four-Year Degree Requires 128 Semester Hours)

It can be seen that the augmentation program strongly addresses 4 of the 6 areas of training recommended for the STA. Mathematics is covered, to some degree, in SRO training but is not accredited as such and could not be evaluated in terms of credit hours.

In summary, the final augmented trained SRO has an equivalent 42.8 semester hours. Further, the SRO program without the augmentation phase has already been accredited for 38 technical semester hours towards an Associate Applied Science Degree at Joliet Junior College. Thus, it's our opinion that the augmented trained SRO who will be utilized until we can implement the long-term phase of degreed SROs is sufficient to cover

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the equivalent requirement. The only technical courses not covered in the 67 semester hours required for a full Associate Applied Science Degree are 8 semester hours in technical mathematics.

Operating Experience Assessment Function

The previous discussion addressed how we intend to meet the accident assessment function requirement of the STA. It is not our intent to have the STA conduct the operating experience function. Instead, evaluation of operating experience at our seven operating nuclear units is performed by the Off-Site Review Group, a part of the Nuclear Licensing Department. The Off-Site Review Group is staffed full-time with experienced operators and engineers (all college graduates) many of whom hold or have held Senior Reactor Operators licenses. These personnel visit the stations to communicate with station management and to assess the equipment and personnel interactions which are reflected in operating experience assessment. Procedures are being developed to ensure the timely transmittal of operating experience assessment to station operations personnel. These procedures will be implemented by January 1, 1980.

Summary

In summary, we have been developing an approach that will address the concerns identified at TMI in parallel with the NRC efforts. Whereas both the staff and Commonwealth Edison identified the same concern, our approach is slightly different than that outlined by the staff. The concern we both are trying to address is assurance that a well-trained individual will be dedicated during a transient, specifically to maintenance of core cooling and more generally to the overall safety of the plant. In our view, Commonwealth Edison's approach is better in that it utilizes our available personnel more efficiently, ensures that the individual providing the accident assessment function has the experience and knowledge to react quickly with respect to correcting any errors made by the operator, and ensures the advisor has the credibility necessary to carry out his role.