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July 26, 1985

TMI Program Office
Attn: Dr. B. J. Snyder
Program Director
US Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Snyder:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Fuel Handling Senior Reactor Operator Training

On July 17, 1985, a phone conversation was held between Dr. W. Travers and Mr. J. Buzy of the NRC and Mr. S. Newton of my staff concerning the Fuel Handling Senior Reactor Operator (FHSRO) Training Program. During this conversation, the NRC requested specific information to aid them in their review of the FHSRO Training Program. The attachment to this letter contains the NRC requests for information and the GPU Nuclear responses. This information, provided in support of the NRC's on-going review of the FHSRO Training Program, supplements the original submittal of January 14, 1985.

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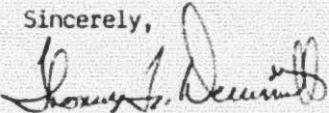
Dr. B. J. Snyder

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If there are any questions regarding the responses, please contact Mr. B. Leonard, Operator Training Manager, at (717) 948-8046.

Sincerely,


F. R. Standerfer
for Vice President/Director, TMI-2

FRS/JCA/eml

Attachment

cc: Operator Licensing Branch - Division of Human Factors, Mr. B. A. Boger
Section Chief - Reactor Projects Section 1C, Mr. R. A. Keller
Chief - Projects Branch I, Mr. H. B. Kister
Regional Administrator - Offices of I&E, Dr. T. E. Murley
Deputy Program Director - TMI Program Office, Dr. W. D. Travers

TMI-2 Fuel Handling Senior Reactor Operator Training Program

1. Comment: Explain the rationale behind the program prerequisite of three years experience in operations or support of operations at a nuclear power plant in light of the requirement for four years of responsible power plant experience established in Section I.A.2.1 of NUREG 0737.

Response: The regular TMI-2 Senior Reactor Operator (SRO) Training Program meets the four year power plant experience requirement of NUREG 0737. The FHSRO position is significantly reduced in scope and responsibility from that of the SRO such that a lesser experience prerequisite, which is consistent with that of a Reactor Operator (RO), is both justifiable and logical. However, the FHSRO experience requirement is more stringent than that of an RO in that there is no provision for substitution of experience by academic or related technical training. Incidentally, all the current FHSRO candidates meet the four year power plant experience requirement of Section I.A.2.1 of NUREG 0737.

2. Comment: Please describe the length and content of on-shift training.

Response: The programmatic requirement for FHSRO candidates to serve as an extra man on-shift is thirty days. This on-shift requirement is compatible with that for the normal SRO upgrade program. In actuality, the time allotted to complete the initial On-the-Job Training (OJT) section of the program, as detailed in the program description previously submitted, was approximately two months. This portion of the OJT consisted of the candidates preparing for and obtaining checkouts on appropriate administrative procedures (including switching and tagging), radiological controls procedures, plant systems interfacing with defueling activities and emergency and abnormal procedures.

As the actual defueling systems have been developed, additional OJT has been developed for the following subject areas:

- Coordination Center
- Early Defueling Lines/Debris Vacuuming System
- Defueling Water Cleanup System
- Long Handled Tools and Auxiliary Equipment
- Service and Jib Cranes
- Canister Handling Bridge and Transfer Systems
- Canister Positioning System
- Defueling Viewing System
- In-Vessel Dewatering System
- Shielded Work Platform
- Control Systems

The final portion of this additional OJT is still in progress and it is anticipated that the time frame for its accomplishment is approximately three weeks from the date of this letter, including mock-up training on the Defueling Test Assembly.

Additionally, various FHSRO candidates have been involved in the development and vendor testing of much of the special defueling equipment (e.g., the shielded work platform, the fuel handling bridge, and the debris vacuum system).

Finally, the FHSRO candidates and the currently existing SRO's have participated in three days of training at Pennsylvania State University's Braezeale Reactor. This training is discussed in more detail below.

3. Comment: How does the training program address requirement A.2.c.3 from Section I.A.2.1 of NUREG 0737 so as to provide increased emphasis on both reactor and plant transients?

Response: The OJT training on applicable abnormal and emergency procedures addresses this area to some degree. However, the training at Pennsylvania State University's Braezeale Reactor was specifically designed to address possible transients involving the reactor core in its present state. Five experiments were conducted to simulate conditions for the following topics:

1. Criticality safety concerns at a high boron concentration with a controlled deboration
2. Reactor response during a fuel collapse
3. Movement of fuel within the vessel
4. Loading of fuel fragments into a canister
5. Draining of the reactor vessel

The training afforded at the Braezeale Reactor at Pennsylvania State University allows for in-depth reactor transient response for a degraded core. Coupling reactor theory classroom instruction with criticality calculational instruction, as well as "hands on" experience afforded by the Defueling Test Assembly, has provided the FHSRO candidate a superior knowledge of anticipated reactor transient response.