U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. M85-397

Docket No. 50-271

License No. DPR-28 Priority -- Category C

Licensee: Vermont Yankee Nuclear Power Corporation
1671 Worcester Road
Framingham, Massachusetts 01701

Facility Name: Vermont Yankee Nuclear Power Station

Meeting At: NRC Region I, King of Prussia, PA

Meeting Conducted: September 4, 1985

Prepared by: W. J. Pasciak — Jan 14, 1986
W. J. Pasciak, Chief, Effluents Radiation Protection Section — date

Approved by: Ronald R. Bellamy — January 16, 1986
R. R. Bellamy, Chief, Emergency Preparedness and Radiological Protection Branch — date

Meeting Summary: Enforcement Conference at NRC Region I, King of Prussia, Pennsylvania, on September 4, 1985 to discuss the findings of Special Inspection 50-271/85-21. The topics discussed during the meeting were an unplanned whole-body exposure of a technician on August 8, 1985 and licensee corrective actions.

The meeting was attended by NRC and licensee management and lasted about 1-1/2 hours.

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DETAILS

1. Principle Participants

Vermont Yankee Nuclear Power Corporation

W. Murphy, VP & Manager of Operations, VYAPC
J. Pelletier, Plant Manager, VYAPC
B. Leach, Chemistry and Health Physics Supervisor, VYAPC

U.S. Nuclear Regulatory Commission

T. E. Murley, Regional Administrator
R. W. Starostecki, Director, Division of Reactor Projects (DRP)
W. J. Raymond, SRI, DRP
R. R. Bellamy, Chief, Emergency Preparedness and Radiological Protection Branch, DRSS
W. J. Pasciak, Chief, ERPS EP&RPB, DRSS
H. Bicehouse, Radiation Specialist, ERPS, EP&RPB, DRSS

2. Purpose

The Enforcement Conference was held at the request of NRC Region I to discuss the August 8, 1985, unplanned whole-body exposure that a Chemistry-Health Physics Technician received as a result of entry into the TIP Room. The discussions at the meeting focused on the circumstances surrounding the entry, the training and experience of the individual who received the unplanned exposure, and licensee corrective actions.

3. Discussion

NRC Management stated that this enforcement conference was requested to discuss the findings of the special radiation protection inspection conducted on August 9, 1985, (Report No. 50-271/85-21). The licensee was asked to provide his perception of the findings presented in Report No. 50-271/85-21; provide additional qualifying information; and provide the status of his corrective actions.

4. Licensee Presentation

Licensee management emphasized its commitment to thoroughly understand the causes that resulted in this unplanned exposure. Licensee management indicated that the circumstances described in Inspection Report 50-271/85-21 were accurate. Licensee management elaborated on the events described in Inspection Report No. 50-271/85-21.

On August 8, 1985, at approximately 6:05 p.m., a request was made by the Senior I&C Engineer of the on-shift Chemistry & HP Technician that a radiological survey of the TIP room was needed. The survey was initially requested to determine whether dose rates were low enough to allow access to the room for repair work. (Licensee management indicated at the meeting that it was still not clear what was the purpose of the entry.) At approximately 6:10 p m. the technician met the Assistant I&C Foreman at the checkpoint. The technician stated that the Assistant I&C Foreman requested an RWP and that the TIP room would be entered that night.

In an attempt to determine the proper procedure to follow to enter the room, the technician tried to call several Chemistry & HP Assistants but was unable to contact them. The technician called the Chemistry & HP Supervisor at home and was told that exposure rates could be as high as 1000 R/hr and to go and enter the room and perform the survey. The technician was not given specific precautionary instructions indicating at what dose levels the survey should be terminated. On the way to the TIP room the technician met a Chemistry & HP Assistant who told him that he once observed exposure rates as high as 450 R/hr in the TIP room. The Chemistry & HP Assistant did not provide clear instructions to the technician regarding specific numerical dose levels at which the survey should be terminated.

The TIP room was entered by the technician while an auxiliary operator stood by the door entry way. The technician estimated that the entire time period he was in the TIP room was about 2 minutes. The dose on the technician's TLD (1.3 rem) is consistent with this and the description of his activities while in the TP room. Licensee management provided extensive details of activities of the technician while in the TIP room.

Upon leaving the TIP room area the technician's self-reading dosimeter (500 mrad full-scale) was offscale and the Auxiliary Operator's self-reading dosimeter read 270 mrad. Processing of the technician's TLD indicated a whole-body dose of 1.3 rem. The technician's whole-body dose is likely not to be significantly different from his extremity dose because the highest sources were a considerable distance away from where he was standing during all of his activity in the area.

The Chemistry & HP Technician had approximately 7 months job experience at the facility as an HP technician and prior to this he had no in-plant HP experience. Before beginning his activities as a Chemistry & HP Technician he spent several months full-time in the VY training program.

Licensee management described the immediate corrective actions implemented as a result of the unplanned exposure. Those actions were also presented to the inspector on August 9, 1985, and included:

-- Requested the Nuclear Service Department to perform a detailed study of doses received by the technician and the Auxiliary Operator who entered the TIP room.

-- A whole-body count to be made of the two individuals.

-- Read the TLD of the Auxiliary Operator who entered the TIP room.

-- Relieve the technician of HP duties until the status of his readiness to perform HP duties is formally reassessed.

-- Determine if the enclosed space entry provisions apply to the TIP room. If they do, properly post the room. If they don't, remove the stenciling which suggests that they apply. This shall be done prior to any further TIP room entries.

-- The following administrative controls regarding TIP room entry were immediately applied:

- An RWP shall be required for all TIP room entries.

- The RWP shall be signed by the Chemistry and Health Physics Supervisor, the Shift Supervisor and all Department Heads who have personnel involved in work under the RWP. The Chem. & HP Supervisor shall assure that the RWP specifies in detail the nature of the activities to be performed, the expected dose rates and the action to be taken if specified higher dose rates are encountered. The Shift Supervisor's signature will indicate his approval to do the specified work, will indicate that he has verified that the TIPs have not been used in the core in the last 24 hours and will indicate that the TIP machines have been White tagged to disable any movement of the TIPs. The other department heads signatures shall indicate that they have assured themselves that their personnel working under the RWP are keenly aware of the potential dose rates that can be encountered in the room, that they understand the limitations to the work they can perform under the RWP and that they understand the actions to be taken if the specified higher dose rates occur.

- Any TIP Room access will include a "rescue man" available at the doorway to assist in an emergency.

- The key to the TIP Room will be kept by the Chem. & HP Supervisor and not released for use until he is satisfied all the above conditions are met.

-- A report will be generated to thoroughly document and analyze this event and to provide recommended long term corrective actions. This report should also consider the corrective actions mentioned above and make recommendations regarding them as may be appropriate.

The licensee stated that long term TIP Room entry procedures were being dispositioned.

5. Concluding Statements

Licensee management concluded by stating their belief that adequate corrections had been made or would be made to address the safety issues identified.

NRC management acknowledged that interim plans and actions were adequate. NRC Region I management stated that the licensee would be informed of the need for and nature of appropriate enforcement action relative to the apparent violations at a later time.