

5/29/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

METROPOLITAN EDISON COMPANY, ET AL.

(Three Mile Island Nuclear Station,  
Unit 1)

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}  
}  
}  
Docket No. 50-289  
(Restart)

AFFIDAVIT OF STEPHEN CHESNUT ON CLOSEOUT INSPECTION  
ON 30 HEALTH PHYSICS-EMERGENCY PLANNING  
SIGNIFICANT FINDINGS FROM INSPECTION 50-289/80-22,  
ON LICENSEE'S SHIFT MANNING USING ONE  
LICENSED SENIOR REACTOR OPERATOR RATHER THAN TWO  
AND ON CONTAINMENT HIGH RANGE MONITORS FOR EMERGENCY RESPONSE

STATE OF MARYLAND        }  
COUNTY OF MONTGOMERY    } SS

I, Stephen Chesnut, being duly sworn, depose and state:

1. I am a Nuclear Engineer assigned to the Emergency Preparedness Licensing Branch, Division of Emergency Preparedness, Office of Inspection and Enforcement of the U.S. Nuclear Regulatory Commission.

2. In this capacity, I am responsible for reviewing and evaluating the TMI-1 Emergency Plan for conformance with the planning standards and requirements of 10 CFR Part 50, Appendix E to 10 CFR Part 50 and the evaluation criteria of NUREG-0654/FEMA REP. 1, Revision 1, "Criteria for

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Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

3. Also in this capacity, I have:

(a) prepared and presented testimony in the captioned proceeding with regard to the Licensee's shift manning for emergency response purposes;

(b) accompanied Dale Donaldson, a Radiation Specialist in the Emergency Planning Section of Region I of the Office of Inspection and Enforcement, and assisted Mr. Donaldson, in the closeout inspection, conducted on May 4-7, 1981 with regard to the 30 health physics-emergency planning significant findings from inspection 50-289/80-22.

(c) reviewed the provisions for radiation monitoring inside containment to the extent that such monitoring may be used for emergency response purposes.

(a) Licensee's Shift Manning Using One Licensed Senior Reactor Operator Rather Than Two

4. At the hearing session on April 30, 1981, a question was raised as to the effect on the Staff's determination about the adequacy of onsite emergency response staffing of the fact that the Licensee may have only one licensed Senior Reactor Operator (SRO) onshift rather than two SROs as previously planned. Specifically, Dr. Little asked:

. . . The question is, when staff members as Mr. Chosnut and others who testified about the ability of the on-site personnel to respond in an emergency made their findings that everything -- you know, there was enough staffing, everything could be under control -- did they count on having two SROs in the control room, or did they know that it would be okay just to have one in there? (Tr. 20763). . . . The question has to be asked, then, whether or not the possibility that there will only be one SRO in the control room when an emergency starts has been considered in the staff's evaluation of on-site emergency response. . . . (Tr. 20764).

5. In response, I should point out that while it is not explicitly stated in my written testimony or in NUREG-0746, "Emergency Preparedness Evaluation for TMI-1," December 1980 (Staff Exhibit 5), which I prepared, I did assume, in preparing my testimony and NUREG-0746, that there would be two licensed SROs on shift because that was what was being planned for at the time. I did not rely, however, on the second licensed SRO as being a mandatory element of the Licensee's emergency organization and I did not view it as necessary that there be a second licensed SRO onshift for emergency response purposes. I looked at the key functions to be performed by the emergency organizations and compared the Licensee's plan to determine whether an adequate assignment of personnel resources had been made. In so doing, I reached the conclusion that the Licensee's plan had properly identified the key emergency functions and properly staffed the emergency organization to perform the functions. My conclusion in this regard was not dependent upon there being a second licensed SRO onshift.

6. In March 1981, I became aware that there could be an interim period during which the shift foreman may not be SRO-qualified -- that is, would not be a licensed SRO. I subsequently re-reviewed the emergency responsibilities assigned to the shift foreman to ascertain whether the shift foreman's emergency duties indicate a need for SRO qualification. Although SRO qualifications for the shift foreman would enhance, in general, the qualification level available in the control room, I determined that the emergency functions assigned to the shift foreman in assisting the shift supervisor do not require an SRO license. Additionally, NUREG-0654 criteria allow an

interim period, until July 1982, during which time staffing by a single SRO onshift is acceptable.

7. The TMI-1 Emergency Plan indicates that under some circumstances, i.e., when the shift supervisor becomes incapacitated or is otherwise unavailable, the shift foreman would perform the duties of the shift supervisor. During an emergency when no other TMI-1 licensed SRO is on site, these duties would include those of the Emergency Director. The TMI-1 plan and EPIP's call for the shift foreman to be trained to perform the duties of an emergency director and although the shift foreman may not be a licensed senior reactor operator, he would perform as the Emergency Director until relieved by the duty section personnel on call.

8. I am aware of the provision of the Licensee's Emergency Plan indicating that Operations Coordinator, if he is not a licensed SRO, will not be permitted to direct plant operations. In the event the Shift Supervisor, a licensed SRO, is incapacitated or unavailable, the Shift Foreman, who may not be SRO qualified, would be required to act as, among other things, the Operations Coordinator for a limited period of time. However, under the Licensee's Emergency Plan an Emergency Director and Operations Coordinator, as well as numerous support engineers at least one of whom would maintain SRO qualification would be augmenting the emergency organization within 30 minutes to one hour of an emergency. These augmenting personnel would relieve the shift foreman of his emergency duties upon arrival onsite. Thus a non-SRO licensed shift foreman might only be called upon to perform duties of the Emergency Director or Operations

Coordinator for the brief period prior to the arrival of the Onsite Emergency Organization.

9. I feel that since the chance of the shift supervisor being unable to perform his emergency duties is remote and since the shift foreman will be trained to perform emergency duties, the licensee's staffing provisions, whereby there may be only one licensed SRO on shift, are acceptable in the interim until July 1982, as provided for in NUREG-0737.

(b) Closeout Inspection on 30 Health Physics - Emergency Planning  
Significant Findings From Inspection 50-289/80-22

10. On May 4-7, 1981, I accompanied and assisted Mr. Dale Donaldson of Region I of the NRC's Office of Inspection and Enforcement in an onsite inspection of TMI-1. The purpose of the inspection was to determine what actions the Licensee had taken to rectify problems identified in the 30 significant findings on health physics - emergency planning matters from a health physics appraisal conducted from July 28 through August 8, 1981. The results of that health physics appraisal were reported in Inspection Report 50-289/80-22, November 25, 1980 and are set forth in Staff Exhibit 4, NUREG-0680, Supplement No. 1, "TMI-1 Restart," in Appendix B. The 30 significant findings with regard to Emergency Plan Implementation are set forth in Staff Exhibit 4, Appendix B, pp. 25-28.

11. The results of the May 4-7, 1981 inspection are set forth in Inspection Report 50-289/81-12, attached to this affidavit. I, along with



Mr. Donaldson, prepared this inspection report and it is true and correct to the best of my knowledge.

12. As indicated in the attached Inspection Report 50-289/81-12, we found that acceptable corrective actions had been implemented for 26 of the 30 significant findings so that those 26 matters are considered to be resolved and closed. The basis for the resolution of each of those 26 items is set forth in the attached Inspection Report.

13. The four unresolved significant findings are significant findings 80-22-64, 80-22-68, 80-22-82 and 80-22-83.

14. Significant finding 80-22-64 involved the need to complete at least one training iteration. This matter remains open because, while training has commenced and is in progress, one full training iteration has not been completed.

15. Significant finding 80-22-68 involves the need for the Licensee to determine and upgrade the audibility of reactor building evacuation alarm. This matter remains open because, while the Licensee has determined the need to upgrade the evacuation alarm and has proposed adequate modifications to the reactor building evacuation alarm to accomplish the needed upgrading, those modifications, scheduled for implementation in July 1981, have not yet been implemented.

16. Significant finding 80-22-82 involves the need to include high range noble gas monitors and radioiodine effluent analyses in the Licensee's accident assessment scheme. Significant finding 80-22-83 involves the need to formulate procedures for collecting and analyzing absorbent media for radioiodine in gaseous effluents under accident conditions. Significant finding 80-22-82 remains open and unresolved because the interim monitoring equipment needed for noble gas and radioiodine effluent analyses under accident conditions is not yet available onsite for installation and, consequently, has not been installed. In turn, inclusion of the high range noble gas monitors and radioiodine effluent analyses in the accident assessment scheme has not been accomplished. Significant finding 80-22-83 remains open because the procedures to be used for collecting and analyzing absorbent media for radioiodine in gaseous effluents under accident conditions depend on the equipment needed under significant finding 80-22-82. Since such equipment has not yet been received onsite and installed, the procedures in question have not been formulated.

(c) Containment High Range Radiation Monitor

17. At a hearing session on May 24, 1981, testimony was presented by the NRC Staff regarding the installation of new high range monitors inside containment. With regard to such testimony, Dr. Little stated, at the hearing session on May 15, 1981:

. . . yesterday when I was asking you when Mr. Chesnut first became aware or if he is aware that the containment high-range monitor might be installed until as late as 1/1/82, I would like to know if he received the information that Mr. Trowbridge sent on March 24, 1981. Licensee's response to NUREG-0737 TLL 6/80, dated January 23, 1981, Licensee's response to NUREG-0737 Revision 1 to LIL 033, dated February 6, 1981.

This did, in an attachment, contain a reference saying that the containment high-range monitor could go in as late as 1/1/81; 8/81 was an optimistic date. And a footnote to that indicated that this particular item represented a schedule change from previous Licensee and NRC correspondence. (Tr. 21500).

. . . I am particularly interested in whether when he was testifying on that ability of the Licensee to assess an accident, what he was relying on. (Tr. 21500-501).

18. In response to this Licensing Board inquiry, I relied for my testimony on the adequacy of radiation monitoring used for initial accident assessment on that monitoring equipment listed in Table 9 of Revision 3 (January 1981) of the Licensee's Emergency Plan. Specifically with regard to the containment area radiation monitor, I relied upon radiation monitor RM-G8 listed in Table 9, the Reactor Building High Range Monitor. That specific Reactor Building High Range Monitor is in-place in the TMI-1 containment. There is an existing, approved procedure for the use of that monitor in accident assessment and I have reviewed that procedure.

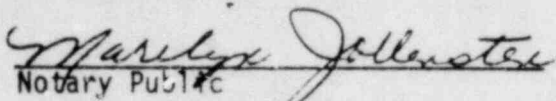
19. In contrast, the containment high range monitor referred to in the attachment to Mr. Trowbridge's document of March 24, 1981 and in Supplement 3 to NUREG-0680 is a new and different monitor than that listed in Table 9 of Revision 3 to the Licensee's Emergency Plan. I have been aware that new, in-containment high monitoring equipment might not be installed prior to restart since April 1981, when I reviewed a draft of Supplement 3 to NUREG-0680. The revised date for the installation of the final containment monitoring system (January 1982) has not affected my judgment regarding the Licensee's ability to make initial dose assessments since I was not relying on the installation of the long-term containment high-range monitoring instruments in my evaluation.



20. The foregoing statements are true and correct to the best of my knowledge.

  
Stephen H. Chesnut

Subscribed and sworn to before me  
this 24<sup>th</sup> day of May, 1981

  
Notary Public

My Commission expires: July 1, 1982

ATTACHMENT

OJE INSPECTION REPORT 50-289/81-12

MAY 27, 1981