

OUTLINE

NRC STAFF TESTIMONY OF DALE DONALDSON AND STEPHEN CHESNUT ON LICENSEE'S RESPONSE IN JUNE 2, 1981 EXERCISE AND NRC STAFF'S EXERCISE REPORT

This testimony, with the attached NRC Staff Exercise Report, addresses the Licensee's performance and response in the June 2, 1981 TMI-1 exercise. The onsite accident scenario utilized for the exercise is described and the functional areas of onsite emergency response tested during the exercise are identified. The adequacy of the Licensee's emergency response as well as the Licensee's provisions for correcting response deficiencies are addressed.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
METROPOLITAN EDISON COMPANY, <u>ET AL.</u>)	Docket No. 50-289
(Three Mile Island Nuclear Station,)	(Restart)
Unit 1))	

NRC STAFF TESTIMONY OF DALE DONALDSON
AND STEPHEN CHESNUT ON LICENSEE'S RESPONSE IN
JUNE 2, 1981 EXERCISE AND NRC STAFF'S EXERCISE REPORT

Q.1. State your names and positions with the NRC.

A. (Witness Donaldson). My name is Dale Donaldson. I am a Radiation Specialist assigned to the Emergency Planning Section, Region I, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission. My statement of professional qualifications was attached to my testimony of February 9, 1981 and was admitted into evidence following Tr. 17354 when I testified in this proceeding on April 3, 1981.

(Witness Chesnut). My name is Stephen Chesnut. I am a Nuclear Engineer assigned to the Emergency Preparedness Licensing Branch, Division of Emergency Preparedness, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission. My statement of professional qualifications was attached to my testimony of February 9, 1981 and was admitted into evidence following Tr. 15007 when I testified in this proceeding on March 11, 1981.

Q.2. What is the purpose of this testimony?

A. The purpose of this testimony is to address and present information on the Licensee's response and performance in the June 2, 1981 emergency response exercise for TMI-1.

Q.3. What were your roles in that exercise?

A. (Witness Donaldson). The NRC's observation, evaluation and critique of the Licensee's performance and response in the exercise was carried out by an NRC Exercise Evaluation Team made up of ten individuals from NRC Region I and NRC Headquarters. I was the team leader for this NRC Exercise Evaluation Team.

(Witness Chesnut). I was a member of the NRC Exercise Evaluation Team. In this capacity, I monitored and observed specific assigned aspects of the Licensee's response during the exercise, evaluated that response and participated in the post-exercise critiques.

Q.4. Have you prepared a report on the NRC Exercise Evaluation Team's findings with regard to the Licensee's response and performance in the exercise?

A. (Witness Donaldson). Yes. Based on the Team findings, I prepared an exercise report on the Licensee's performance. That report, Inspection Report No. 50-289/81-15, issued on June 11, 1981, is attached to this testimony and is incorporated herein. It is true and correct to the best of my knowledge and belief.

Q.5. Briefly summarize the onsite scenario for the exercise conducted on June 2, 1981.

A. The exercise scenario was initiated at 5:15 a.m. on June 2, 1981 at TMI-1 which, for purposes of the exercise, was simulated to have been at 100% power for eight days. Initial indications of a developing abnormal condition were provided by simulating increased radiation levels and an alarm on radiation monitor RMA-5, the condenser off-gas monitor, an indication of a possible steam generator tube leak. The RMA-5 radiation levels exceeded the Emergency Action Level (EAL) for an Unusual Event. This condition was allowed to worsen until the operators determined the reactor coolant system leak rate, which was computed to exceed technical specification limits and required plant shutdown. The condenser off-gas monitor continued to increase to the point of exceeding the Alert EAL. Due to simulated power grid limitations, the plant was ramped down in power at a rate of 2%/minute.

While actions were being taken to assess the events and initiate a controlled plant shutdown and cooldown, a faulty waste gas compressor seal was simulated, requiring a demonstration of emergency corrective actions to isolate the compressor.

The control room operators were subsequently given indications of an increased steam generator leak rate and activity levels, increased condenser off-gas monitor readings, and increasing primary letdown monitor (RM-LI) readings. These indicators were designed to trigger the declaration of a Site Emergency. During a site accountability operation, two persons were simulated to be missing, requiring search and rescue operations. During a subsequent evacuation of non-essential personnel, five individuals were simulated to be contaminated, and required monitoring and decontamination at Crawford Station.

To evaluate the Licensee's ability to handle an individual who became contaminated and injured, an auxiliary operator who was dispatched to investigate an increasing bearing temperature was simulated to slip after breaking a pressure sensing line, breaking his leg and becoming unconscious. This required a response by offsite medical and transportation support.

There was a simulated fire in the circulating water pump house. This fire was fought by the onsite fire brigade as well as offsite fire companies. The fire caused the loss of circulating water flow, loss of condenser vacuum, and the need to steam to the atmosphere to continue plant cooldown. During this process, major fuel damage was simulated to occur with offsite dose rates which would trigger declaration of a General Emergency and protective action recommendations.

In summary, this was a comprehensive and detailed scenario, escalating from an Unusual Event to the General Emergency category. The scenario called for very little simulation - information on plant parameters and conditions was provided to participants only after those actions which would be required under actual accident conditions to obtain or produce such information had been taken by the exercise participants. This satisfied the NRC scenario objectives for the emergency exercise.

Q.6. What functional areas of the Licensee's emergency response organization were tested by the exercise?

A. During the June 2, 1981 exercise, the following functional areas were tested and were observed and critiqued by the NRC Exercise Evaluation Team:

- (1) Operation staff actions in detection, classification, and operational assessment of the accident;

- (2) Notification of offsite agencies, notification and call-up of licensee personnel and communications;
- (3) Radiological dose assessment and projection and protective action decision-making;
- (4) Licensee personnel assembly and accountability;
- (5) Security;
- (6) In-plant, onsite and offsite radiological surveys;
- (7) First Aid and rescue;
- (8) Interface with the NRC response organization;
- (9) In-plant radiation protection;
- (10) Technical support;
- (11) Public information;
- (12) Repair/corrective actions; and
- (13) Direction and coordination of the response.

For the NRC's part, the NRC regional emergency response, consisting of Region I inspectors and the NRC TMI site organization, was activated and participated in the exercise.

Q.7. From the standpoint of onsite emergency response and Licensee's emergency preparedness, what were the results of the exercise?

A. The Licensee demonstrated an ability to carry out its own approved procedures, to coordinate its response with that of offsite agencies, and to respond to the emergency simulated by the exercise scenario. No shortcomings or deficiencies which would degrade the sufficiency or effectiveness of the Licensee's emergency response in any of the functional areas were observed.

A number of minor or insignificant problems were observed, however, none of those resulted in a degradation of the emergency response. These items were identified by the exercise monitors of the NRC's Exercise Evaluation Team and by the Licensee's own exercise monitors during post-exercise critiques. Those minor deficiencies for which a corrective action is appropriate will be entered into the Licensee's action tracking system until action is completed.

Q.8. Explain the mechanism whereby deficiencies noted during exercises or drills will be corrected.

A. Deficiencies noted or action required as a result of drills and exercises are assigned to an action item tracking system by the Licensee's Supervisor, Emergency Preparedness. Under this system, responsibility for modifications to plans, procedures, equipment, or training is assigned and tracked weekly until the corrective action or resolution is completed.

Q.9 How will the Office of Inspection and Enforcement assure that problem areas identified during the exercise are corrected?

A. As part of the emergency preparedness appraisal program as well as the routine inspection program, items identified from the exercise are followed until they are resolved. The Office of Inspection and Enforcement verifies through this process that, regardless of the significance of an item, Licensee's management has reviewed the matter and has initiated and completed improvements where necessary or desirable to improve emergency response capabilities.

Q.10. What can you conclude on the Licensee's emergency preparedness program from this exercise.

A. The Licensee demonstrated the ability to implement its emergency plan during the joint exercise on June 2, 1981. Although there were areas where improvements to procedures or future training should be considered, these areas did not significantly degrade any of the key functional areas of the Licensee's emergency response. The Exercise Evaluation Team observed no shortcomings or deficiencies in Licensee's emergency response that would degrade the sufficiency and effectiveness of that response. Based on the exercise, the NRC Staff position is that the provision for the Licensee's participation in an emergency exercise as required by the August 9, 1979 Commission Order and as provided for in the new emergency planning regulations has been met. FEMA will report on performance of the offsite response organizations during the June 2, 1981 exercise.