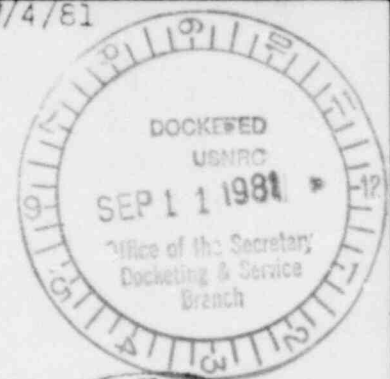


United States of America  
Nuclear Regulatory Commission

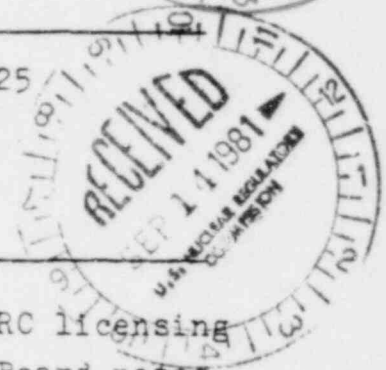
Before the Atomic Safety and Licensing Board

In the Matter of Metropolitan Edison Company  
Three Mile Island Nuclear Generating Station, Unit 1

Docket 50-289



Aamodt Responses to Board Orders August 20 and 25  
Relative to Submission of Views on the  
Investigation of Cheating and the  
Appointment of Professor Milhollin to  
Assist in Investigation of Cheating



The NRC reports of TMI personnel cheating on NRC licensing examinations are incomplete and inconsistent. The Board notes that the cheating incident raised broader issues than the cheating of two individuals. These issues are the integrity of Licensee's management and personnel, the quality of personnel, the adequacy of the numbers of Licensee's operators to man the plant, Licensee's training and testing programs, and NRC's licensing program. While the investigations of the Office of Inspection and Enforcement<sup>1</sup> and the Office of Inspector and Auditor<sup>2</sup> established that two shift supervisors cheated on the NRC licensing examinations, these investigations did not resolve the other important issues that the cheating incident raised. In fact the investigations themselves raised these issues, through innuendo, and left them unresolved. All the issues raised by the cheating incident need to be resolved prior to any fair and final decision of the Board relative to management. The Aamodts, as intervenors pro se, motion that the record be reopened for that purpose.

The Board requested that parties who motion for a reopening of the record should identify why they believe the NRC investigations are inadequate, what they would seek to prove in the hearing, how they would go about proving it, and recommendations to the Board for further investigation.

1. The NRC investigations have failed to exonerate licensee's management and other personnel. The NRC only interviewed two management officials who were not directly connected with training

1 of August 6 and August 11 (served August 14), referred to as IE - 8/6 and IE - 8/11.

2 of July 31 (served August 7), referred to as IA - 7/31, numbered 1-13

and testing, while training management who testified in the hearing were not interviewed. There was only a sample of the licensing candidates interviewed. Only eleven of the other 34 candidates were interviewed. IE - 8/11 at 7, 8, 19 - 40. None of the candidates were asked if they had cheated or cooperated in the cheating of others. They were primarily asked to describe and analyze the conditions under which they took the licensing examinations. Further, the candidates appeared to lack candor in their descriptions of the proctoring. While the proctors reported three to four hour periods when they were out of the with no stand-in, the candidates tested in those sessions related that there was continuous proctoring. IA-7/31 at 8; IE - 8/11 at 25, 27, 31, 39. The candidates were not under oath to speak the truth. NRC has no reason to believe that the candidates' descriptions are truthfull since the two candidates who finally admitted cheating did so only after a third interview and persistence by the NRC that the candidates sign a statement of the interviews.

Action Required: Training management, specifically Dr. Long, Dr. Knief, and Mr. Newton, as well as Mr. Ross who recommends candidates for licensing, should be cross-questioned under oath. The remaining 34 candidates should be interviewed in depth, required to sign their statements and cross-questioned under oath where indicated. Any lesser procedure is not likely to produce self-incriminating evidence.

2. The IE report claims that a comprehensive review of the NRC examinations failed to reveal any further obvious similarities of the kind detected in the examinations of the two operators who cheated. Id. at 16. This claim does not provide assurance that the other operators did not cheat. The task of making a comparison of 34 tests is exhaustive as implied by the NRC consultant. IA - 7/31 at 2. The Office of Inspection and Enforcement had only been in possession of the examinations since July 24 when their report issued on August 11. NRC graders had previously missed obvious and numerous similarities on an initial grading of the examinations of the two operators who cheated. Id. at 1, 5. NRC either lacks expertise to the kind of job the private consultant did, or worse yet, may have planned not to notice signs of cheating.

Id at 9, paragraphs 2, 3. NRC failure to be thorough is further evidenced by their review of the mock examinations (on which the two operators also cheated. NRC reviewed only 14 of the 36 RO mock examinations and 12 of the 20 mock SRC examinations. IE - 8/11 at 17.

Action Required: All NRC licensing examinations and mock licensing examinations (given by ATT and PQS, April 1980 following the OARF) should be reviewed by experienced independent auditors and this evidence examined in the hearing.

3. There are a number of references in the NRC reports to the possible use of "crib sheets". Although the NRC inspector would not discount the possibility and an operator declined to comment, the NRC investigation did not pursue this method of cheating. Id. at 13, 39. The consultant who graded some of the examinations proposed that management may have provided answers on slides or screens. IA - 7/31 at 5. The consultant appeared to have curtailed further review of the examinations after discovering cheating, concentrating instead on the comparison of the two clearly suspect examinations. He may well have noticed indications of widespread irregularities to have made such a sweeping statement. Two operators noted that some of the questions on the licensing examinations had been asked in prior tests. IE - 8/11 at 21, 31. Were the NRC examinations made available to the ATT auditors?

Action Required: The NRC consultant should be questioned on his statement regarding possible management complicity. The candidates, proctors and training management should be cross-questioned relative to "crib sheets" or other reference material available during the examinations. The ATT audit (and PQS audits) should be compared to the NRC examinations for similarity of questions.

4. One of the two operators (who admitted cheating) indicated that the option of cheating was suggested by the other operator. Id. at 7, 37 and Enclosure 5. The motivations and actions of this individual need to be examined. This individual also supplied answers in a cheating incident in July 1979. Id. at 7, 8. In an investigation of that earlier incident, management stated that this individual was a "person of unquestioned integrity" and that

Id.  
 there was no "malfeasance on his part". Management again supported this individual after his confession of cheating on July 31, 1981, not firing him as they did the other individual who confessed. In fact, management indulged one individual to allow the matter of his termination to wait until vacation plans were completed and, subsequently, allowing him to resign rather than be fired. Letters of R. C. Arnold to Victor Stello, Jr. August 4 and 10. This individual may be management's tool. He persisted in lying on the third interview and sworn statement, according to the conclusions of NRC. Whereas NRC notes that the operators had clearly "conspired to cheat", this individual denied that. IE - 8/ 11 at 1, Enclosure 4 at 6, 7, 8. This individual also denied cheating on the ATT audit in conflict with the statement of the other candidate who cheated. Id. This favored individual also lacked candor relative to first awareness of rumors of cheating on July 27. Id. at 3. NRC notes the striking differences in the statements of these candidates who cheated, however NRC failed to discern any significance. Id. at 1, 2. NRC also deleted the file on the earlier cheating incident.

Action Required: The file of the earlier cheating investigation should be made available. The candidates and others should be cross-questioned.

5. The NRC investigation did not question management's certification (for eligibility to sit for the licensing examination) of operators who persistently and readily engaged in cheating. NRC testified that management's involvement, knowledge and subsequently, certification of their operators was a requirement to assure competent personnel. The operators who cheated were employees of long-standing in the company, therefore management had adequate opportunity to be acquainted with the personal characteristics of these individuals. The certification of an individual who had recently aided and abetted the cheating casts serious doubt on the capability of management. Since the positions for which the two operators were certified were that of shift supervisors, management's responsibility is to be questioned. Further, management heard rumors of cheating and failed to follow-up on them. Id. at 8.

Action Required: The requirement of certification for eligibility to sit for the NRC licensing examination and licensee's capability to select suitable operator candidates must be established

through cross-examination. Mr. Arnold's (and other management's) failure to investigate rumors of cheating must be examined.

6. The NRC did not inquire into the contribution that inadequate training made to cheating on the NRC examination. There was extended training of operators over a two year period, informal study sessions (shift and individual), and intensive coaching prior to the NRC examinations. However, the operators continued to fail audits on mock-ups of the NRC examination; only 11 of the 29 operations candidates passed an audit two weeks before the licensing examination. Why didn't the extended training and testing since the TMI-2 accident adequately prepare the candidates to confidently and consistently pass testing? The NRC testified that they would require candidates for licensing to pass audits on their training to be eligible to sit for the examination, however NRC dropped these pre-examination requirements according to testimony given shortly after the licensing examinations were administered.

Action Required: Inquiry should determine why an employee of long-standing in the position of shift supervisor had not received training to adequately and confidently prepare him so that he would have no inclination or need to cheat in order to retain his job. Why did NRC administer licensing examinations to candidates who failed to pass tests given after training, and then allow testing sessions to go unproctored or be casually proctored, thereby creating a situation conducive to cheating? Why did Licensee certify candidates who failed or cheated on mock-ups of the NRC examinations. Cross-examination of Licensee management and NRC licensing personnel is needed as well as Licensee's experts who reviewed Licensee's training.

7. NRC did not investigate cheating on prior tests given to Licensee personnel, other than a partial review of ATT audits. The cheating incident puts prior testing, including that of non-licensed and contractor personnel, in question. The Board has expressed interest in the propriety of other testing. Board Order - 8/20 at 3. The Aamodts have been aware (since the cheating incident) of other cheating <sup>in tests</sup> at TMI-1 since the TMI-2 accident.

Action Required: The Aamodts are prepared to present a witness

to testify to management's involvement in cheating of personnel on a test given at TMI-1 since the accident. All tests given at TMI-1, particularly since the accident, should be reviewed by competent and independent consultants for evidence of cheating.

8. The IE report of the test room arrangements is not consistent with the IA report. The latter stated that seating arrangements were "shoulder to shoulder". Did management have a part in planning arrangement of the testing rooms to facilitate cheating and in planning activities which drew the proctors away from the testing rooms? The IE report focuses on the length of the tables and does not indicate whether management made appropriate arrangements or was a party to hindering proctoring. IE - 8/11 at 6.

Action Required: Cross-examination on this issue.

9. The NRC fails to address the impact the resignations of the two shift supervisors who cheated will have on the capability of the Licensee to meet the shift manning requirements and overtime restrictions required for restart, and particularly for July, 1982. Licensee had only six shift supervisors and planned to use a six shift rotation. As of July 1982, NRC will require two SROs on each shift. Licensee had 13 operations candidates for SRO licensing, however the cheating incident reduced that number to 11. NRC found a five shift rotation acceptable, however the number of candidates does allow for attrition or failure on the examination. (Two failed the SRO examination, however the NRC reports are not clear; these failures may have been attributed to the other seven candidates for SRO licensing, while failure (six) on the RO examination may have involved SRO candidates. IA - 7/31 at 7.

Action Required: The potential for Licensee being able to meet manning requirements for restart and for July 1982, less than a year away, needs to be examined.

10. The NRC reports fail to identify the individuals who cheated or those others who were interviewed. The consideration afforded by shielding of those who have admitted cheating is not justified. Did either of these individuals testify in hearing?

11. The NRC has called for retesting of all the remaining candidates...Although this is essential, it does not respond to the unanswered questions regarding the integrity of licensee management and other personnel, and other issues discussed ... above. NRC also fails to explain how they will assure valid and reliable retesting.

In response to Board Memorandum and Order relative to the appointment of Professor Gary L. Milhollin as a technical interrogator, special Master and informal assistant, the Aamodts do not oppose.

Respectfully submitted,

Marjorie M. Aamodt

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Norman O. Aamodt

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September 4, 1981

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

Service of Aamodt Responses to Board Orders August 20 and 25, 1981  
Relative to Submission of Views on the Investigation of Cheating  
and the Appointment of Professor Milhollin to Assist in Investi-  
gation of Cheating was serviced by U. S. Mail, September 8, 1981.  
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