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NUCLEAR REGULATORY COMMISSION  
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

February 22, 1985  
DOCKETER  
USNRC

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In the Matter of:

METROPOLITAN EDISON COMPANY  
  
(Three Mile Island  
Station, Unit No. 1)

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Docket No. 50-289-SP  
(Restart Remand on  
Management - Training)

OFFICE OF SECRETARY  
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COMMONWEALTH OF PENNSYLVANIA'S  
PROPOSED FINDINGS OF FACT  
ON THE ISSUE OF LICENSED OPERATOR TRAINING

I. INTRODUCTION

On May 24, 1984, the Atomic Safety and Licensing Appeal Board issued its decision on the management phase of the TMI-1 restart proceedings. Metro-  
politan Edison Co. (Three Mile Island, Unit 1) ALAB-772, 19 N.R.C. 1193 (1984). In ALAB-722, the Appeal Board stated that the issue before the Licensing Board is: "is the instruction adequate to prepare the operators to operate the plant safely?" ALAB-722, 19 N.R.C. at 1232. The Appeal Board determined that the evidentiary record could not support an affirmative finding on this issue. In particular, the Appeal Board was concerned that: "[T]he deficiencies in operator training, as manifested by the cheating episodes, may be symptomatic of more extensive failures in the licensee's overall training program." Id. Therefore, it was necessary to reopen the record to take additional testimony from the Operator Accelerated Retraining Program ("OARP") Review Committee and others concerning the adequacy of the training program.

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In ALAB-722, the Appeal Board posed a number of questions for the Atomic Safety and Licensing Board to address:

1. Does the training program actually enhance the operator's knowledge or simply encourage memorization for test-taking purposes?
2. Are the Licensee and NRC examinations an effective way to measure an operator's ability to run the plant?
3. Do the format and content of the examinations encourage cheating?
4. How do the OARP Review Committee and other consultants assess the cheating incidents and Licensee's subsequent changes in its training and testing programs?
5. Are the future audits of the training program sufficient as a quality assurance check?
6. Are the candidates well trained to operate the plant?
7. How would the OARP Review Committee strike the balance between the positive and negative aspects of the retraining program?
8. Would the OARP Review Committee require even greater usage of simulators in training and testing?
9. Do the post-cheating changes in the training program adequately ameliorate the "lack of communication between top management and the operating crews"? 19 N.R.C. at 1,232-37.

The Licensee has an affirmative duty to answer each of these questions as a prerequisite to an ultimate finding that the training program adequately prepares the operators to operate the plant safely.

The Commonwealth agrees with the Appeal Board that "[T]he most significant issue requiring further hearing is training. Because the safe operation of the plant is so heavily dependent upon the operator's skill, the importance of training cannot be overstated. The cheating and related incidents call into question the adequacy and integrity of Licensee's entire training and testing program." ALAB-722, 19 N.R.C. at 1279.

The Commonwealth need not, and will not, address all the evidence presented on each of these questions. The Commonwealth will address particular problems in the testimony which illustrate weaknesses in the record. The Commonwealth will follow the order of the format used by Licensee to address particular subjects.

The Commonwealth believes that the record shows that the Licensee and its consultants have not conducted a sufficiently vigorous inquiry into the causes of the cheating incidents, and into the relevance of the cheating incidents on the licensed operator training program.

## II. PROPOSED FINDINGS OF FACT

### A. Licensed Operator Training at TMI-1

#### Impact of Cheating

1. The prepared testimony of Dr. Long (Vice-President of the Nuclear Assurance Division) asserts that management in general, and Dr. Long in particular, accepted "responsibility" for the cheating incidents. ff. Tr. 32,202 at 2-12.

2. There is evidence that a number of procedural changes have been made to make cheating less likely. ff. Tr. 32,202 (Long and Coe). The Board does not doubt that these procedural changes improve the training process and insure examination security.

3. There is no evidence, however, that the "primary cause" of cheating was the failure to provide full-time proctoring for written examinations, other than Dr. Long's statement in prepared testimony. ff. Tr. 32,202 at 3.

4. Dr. Long did not initiate, and management did not undertake, any formal study of the causes of cheating following the issuance of the Licensing Board's decision in 1982. Tr. 32,344-45 (Long). The Licensee also did not initiate additional research on the causes of cheating. Tr. 32,345 (Long). It is therefore presumptuous to assert, as Dr. Long did, that the primary cause of cheating was the failure to provide full-time proctoring for written examinations.

5. The record suggests other deep-rooted reasons for cheating. Among the causes may have been operator resentment of the re-examination process. Tr. 32,289-90 (Long). Another possibility is a lack of adequate preparation or training for the examination. Tr. 33,481-83 (Leonard).

6. The Board does not disagree with the management actions undertaken to prevent cheating in the future. ff. Tr. 32,202 at 5-12. However, these may only be "ministerial fixes," as noted by the Appeal Board in ALAB-772, n. 47. This Board does not believe that management has probed very deeply into the cheating incidents to determine the root causes of cheating. There is no competent evidence that supports the view that the causes of cheating at TMI were highly situational, as the prepared testimony suggests. ff. Tr. 32,202 at 4 (Long). Dr. Long, Dr. Coe, and Mr. Newton (Licensee's managers) do not have the education, experience or training to determine the root causes of cheating, and have offered no expert opinion concerning these causes.

#### Management Response to Cheating

7. Although management has improved the mechanisms for management/employee communications (Licensee Proposed Findings 67-70), Licensee's implementation of the measures falls short of complete and candid communications with licensed operators concerning significant events related to the cheating incidents.

8. A recent example of the inadequacy of management/employee communications is the treatment of Mr. Frederick. Mr. Frederick was the supervisor of licensed operator training, who was removed at the direction of Mr. Hukill (Vice President, Unit 1) in August, 1984. UCS Exhibit 1.

9. Licensee management did not formally communicate management action with respect to Mr. Frederick to the operators. No explanation or briefing was given to the operators for Mr. Frederick's removal from his position. Tr. 33,484-86 (Ross). Although the operators may have heard the reasons for Mr. Frederick's removal from the instructors, this method of communication does not contribute to effective management/employee relations.

10. As a result of the management action taken with respect to Mr. Frederick, the instructors in the licensed operator training program perceived some "unfairness" in the personnel action. Although this perception of "unfairness" was not specifically directed toward management, but toward the regulatory process, it is apparent that the entire basis for the action, as evident in UCS Exhibit 1, was not explained to the instructors. Tr. 33,489-94 (Newton). The record does not show what the perception of the operating crews were to this action.

11. The RHR Report ("Priority Concerns of Licensed Nuclear Operators at TMI and Oyster Creek and Suggested Action Steps") indicated operators were dissatisfied with the overall training program in 1983. In particular, the operators perceive the requalification licensing requirement as a heavy burden, and the operators are "turned off" by the training. UCS Exhibit 6, at 11.

12. Although the operator attitude survey performed by RHR represents a "data point" at a particular time, the survey showed a long history of problems in management implementation of remedial actions. In particular, the RHR Report notes:

### Implementation--A Chronic and Pivotal Issue

We strongly recommend that we have continuing dialogue with top management both directly and through its representatives in the planning and implementation of action steps.

Implementation is important now that expectations have been raised again by our recent interviews and survey. Operators in the small groups have been spontaneously inquiring whether anything will come of these interviews. They have been through several such meetings before. From some previous inquiries they have seen no action and from others, temporary action which quickly petered out. There is expressed pessimism that this intervention will lead to any lasting improvements in areas of their concern. Visible action steps are likely to hold down operator turnover just as lack of action is likely to increase it.

In terms of management credibility, this is a critical phase. It is also a critical phase because it is where previous efforts have stalled.

UCS Exhibit 6, at 15

Additionally, the RHR Report notes:

Only one in five [operators] believe that GPU Nuclear management is as concerned about its employees and organizational issues as it is about public relations and technical issues. Nine out of ten deny that their management work together as a team. Four out of five see management as not sufficiently in touch with what is going on at their level. This last is across all subcategories. Two out of three deny that management has committed to an accountable organization which resolves problems at the correct level. Even more disagree that management sees to it that there is cooperation between departments. Only trainees at TMI agree to this.

The small group discussions provide more insight into the operators' perception of management. This still leaves a lot to be understood which could not be gathered by talking to or surveying operators. One would have to explore this issue with managers themselves. There is always griping about management among the rank and file and a good deal of this cannot be taken at face value. Management is a convenient target. There is invariably a mixture of scapegoating on the one hand and of the workers accurate perception of some real deficiencies. These need to be disentangled.

UCS Exhibit 6, at 34

13. Whether Licensee management has corrected all the problems identified in the RHR Report is not entirely clear from the record. Dr. Long considered the findings of the RHR Report to be significant; but Dr. Long did not specifically address the findings of the RHR Report in his testimony. Tr. 32,347-48. Licensee management has prepared a formal response to the RHR Report recommendations. Licensee Training Exhibit 1. Dr. Long stated further that Licensee management has "addressed" 48 of the 50 findings in the RHR Report. Tr. 32,347. Nevertheless, there is no evidence from RHR, the OARP Review Committee, or others, that the problems identified in the 1983 RHR Report have been solved.

14. Whether Licensee management has paid serious attention to the RHR Report is an open question. Licensee management apparently did not believe the RHR Report was important enough to give a copy of the RHR Report to the OARP Review Committee or brief the Committee on the Report when the Committee met in May-June, 1984. However, Licensee management thought that its "response" to the RHR Report was important enough to have the OARP Review Committee review the "response" prior to testifying. Tr. 32,037-38; 33,293-297.

B. The Reconstituted OARP Review Committee's Assessment of the TMI-1 Licensed Operator Training Program

The Committee's Findings

15. ALAB-772 requests the OARP Review Committee to assess the cheating incidents. In its prepared testimony, the OARP Review Committee discusses cheating as an issue of personal morality. The testimony did not examine the causes of cheating. ff. Tr. 31,749 at 5-6.



16. The OARP Review Committee does not consider its views, as presented on pages 5-6 of its prepared testimony as expert testimony on the causes of cheating at TMI. Rather it is a "philosophic discussion" based on the extensive experience of the members of the Committee. Tr. 32,032 (Uhrig).

17. Indeed, none of the members of the Committee considered himself to be an expert on the subject of cheating. Tr. at 32,027-32. The Committee did not consult any persons with expertise on cheating incidents. Tr. at 32,027.

18. Dr. Christiansen, who is an experimental psychologist, stated that cheating is a response motivated by a need. He could not identify the "need" to cheat in the TMI context, other than a need to get the NRC certification. Tr. 32,033-37.

19. Dr. Regan, as a witness presented by UCS, has developed expertise in the areas of human engineering, educational psychology, and training system analysis. ff. Tr. 33,532; Tr. 32,782. Dr. Regan testified, in response to cross-examination by the Licensee, that it is possible that a person cheats because he has a perception that the material on which he is being tested is not relevant to his job. Tr. 32,772-73. Dr. Regan did not believe that people would cheat if they knew the answers to the question that they were cheating on. Tr. 32,771; 32,803-04. Dr. Regan also postulated that if cheating were fairly widespread and if it is winked on by lower management people, cheating would be easily rationalized in the trainee's mind. Tr. 32,771-73. His testimony supports the view that there could be institutional causes of cheating.

20. Based on the Board's review of direct testimony by managers of the TMI licensed operator training program, the Board does not share the conclusion

by the OARP Review Committee that strong and effective communication between company management and the persons involved in the licensed operator training program, has been instituted. See ff. Tr. 31,749, at 21-24.

21. The OARP Review Committee's members conducted extensive interviews to determine the trainees' attitudes and morale. ff. Tr. 31,749, at 31.

22. Dr. Gardner, Dr. Christensen, and Mr. Kelly conducted extensive interviews of operators and instructors between the preparation of the Special Report and the preparation of prepared testimony for this hearing. The purpose of these interviews was to elicit the opinions of personnel in the training program on the broad range of issues relating to attitude, perceptions, morale, and training instruction. The Committee members believe that the responses were honest and not evasive. See Licensee Proposed Findings 245.

23. Even in the most recent operator interviews, the OARP Review Committee members (Kelly and Gardner) report that attitudes were positive and morale high. Tr. 32,038-42.

24. It appears that the Committee members did not discover any attitude of resentment or any perception of "unfairness" in policy among the personnel in the training program. This impression by the Committee is contradicted by testimony by the managers of the training program (Ross, Newton, Leonard). See Tr. 33,480-508; 33,520-522; See Commonwealth Proposed Findings 7-14.

25. This discrepancy in testimony indicates that the interviewees were not being fully candid in their interviews with the OARP Review Committee. Moreover, this discrepancy indicates that the OARP Review Committee's conclusion

that there are no negative aspects of operator attitudes, morale, and perceptions is inaccurate. Tr. 32,040-042 (Kelly).

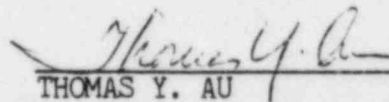
26. The Board believes that the OARP Review Committee's consideration of the cheating incident and related problems is the weakest part of the Committee's testimony. The Committee specifically avoided rendering any opinion concerning the causes of cheating. Tr. 32,035-36 (Uhrig). The Committee also did not offer an opinion concerning how the cheating incidents would have changed their earlier judgments: "The Committee determined that it would not be feasible or useful to attempt to determine what each member would have thought had they known that conditions existed that subsequently permitted cheating to occur on NRC and Licensee exams." ff. Tr. 31,749, at 5-6.

27. Due to this shallow examination of the cheating incidents, as well as the failure to detect any problems in operator morale, attitudes, or perceptions, one is led to the conclusion that the OARP Review Committee did not answer the question: are the deficiencies in operator training, as manifested by the cheating episodes, symptomatic of more extensive failures in the overall training program? Tr. 32,034 (Uhrig).

III. CONCLUSION

For these reasons, the Board should find that the Licensee and the OARP Review Committee have not fully addressed the significant issues posed to them by the Appeal Board in ALAB-772.

Respectfully submitted,



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THOMAS Y. AU  
Assistant Counsel  
Commonwealth of Pennsylvania

505 Executive House, P.O. Box 2357  
101 South Second Street  
Harrisburg, Pennsylvania 17120  
(717) 787-7060

Dated: February 22, 1985

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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BEFORE THE COMMISSION

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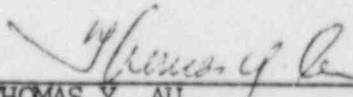
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 :  
(Three Mile Island Nuclear :  
Station, Unit No. 1) :

Docket No. 50-289  
(Restart)

OFFICE OF SECRETARY  
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CERTIFICATE OF SERVICE

I hereby certify that copies of the Commonwealth of Pennsylvania's Proposed Findings of Fact on the Issue of Licensed Operator Training have been served on the persons listed on the attached Service List by First Class U.S. Mail\* this 22nd day of February, 1985.

  
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THOMAS Y. AU  
Assistant Counsel

\* Addressees marked by "\*" are being served by Federal Express, next day delivery.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Commission

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METROPOLITAN EDISON COMPANY, )  
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Docket No. 50-289  
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SERVICE LIST

\*Docketing and Service Section  
Office of the Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

ANGRY/TMI PIRC  
1037 Maclay Street  
Harrisburg, Pennsylvania 17103

\*Ivan W. Smith  
Administrative Law Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Ms. Louise Bradford, TMI Alert  
1011 Green Street  
Harrisburg, Pennsylvania 17102

\*Sheldon J. Wolfe  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Michael F. McBride, Esquire  
LeBoeuf, Lamb, Leiby & MacRae  
133 New Hampshire Ave., N. W. Suite 1100  
Washington, D. C. 20036

\*Gustave A. Linenberger, Jr.  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

David E. Cole, Esquire  
Smith & Smith, P.C.  
2931 N. Front St.  
Harrisburg, Pennsylvania 17110

\*George F. Trowbridge, Esquire  
Shaw, Pittman, Potts & Trowbridge  
1800 M Street, N.W.  
Washington, D.C. 20006

Michael W. Maupin, Esquire  
Hunton & Williams  
707 East Main Street  
P.O. Box 1535  
Richmond, Virginia 23212

\*Jack Goldberg/Lois Finkelstein  
Office of the Executive Legal Director  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Joanne Doroshov  
The Christic Institute  
1324 North Capitol Street  
Washington, D. C. 20002

Ellyn R. Weiss  
Harmon & Weiss  
1725 Eye Street, N.W., Suite 506  
Washington, D.C. 20006

\*Nunzio L. Palladino, Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Henry D. Hukill, Vice-President  
GPU Nuclear Corporation  
P. O. Box 480  
Middletown, Pennsylvania 17057

Lynne Bernabei, Esquire  
Government Accountability Project  
1555 Connecticut Avenue, N.W.  
Washington, D.C. 20009

Ms. Marjorie M. Aamodt  
R.D. #5  
Coatesville, Pennsylvania 19320

\*Atomic Safety and Licensing Appeal Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555