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February 26, 1985

Administrative Judges  
Ivan W. Smith, Chairman  
Sheldon J. Wolfe  
Gustave A. Linenberger, Jr.  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

DOCKET NUMBER  
PROD & UTIL FAC

SD-2895P

Dear Judges Smith, Wolfe and Linenberger:

Enclosed are copies of the Union of Concerned Scientists Proposed Findings of Fact and Conclusions of Law on the Issue of Licensed Operator Training at TMI-1 as requested. Shortly, you should be receiving bound copies of this same document which was mailed yesterday.

There are three pages missing from these bound copies, so we are sending you copies of those pages also. We are also serving those pages on all other parties.

I regret any delay or inconvenience.

Sincerely,

William S. Jordan, III

Enclosures

cc: TMI service list

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identify what aspects of particular subjects are to be discussed on the examination, nor do they assure that examiners will ask the same questions of each candidate. It is left to the judgment of the individual administering the examination how to grade the issues that he is to cover. Leonard Tr. 32,611.

222. Remarkably, there are no standards by which to determine whether an individuals' grade on an oral examination constitutes passing or failing. There are three categories of grades on particular subject areas: satisfactory, marginal, and unsatisfactory. There is no requirement, however, that a candidate achieve any particular number or percentage of satisfactories in order to pass, nor are there any criteria requiring particular performance within the categories covered on the oral examination. Indeed, 60% right and 40% wrong could be a pass. At one point in his deposition, as he later admitted in his testimony, Mr. Ross indicated that a majority, which he undoubtedly understands to be anything greater than 50%, might be sufficient to pass the examination. Ross, Tr. 32,603-618. Thus, whether an individual passes or fails is totally subjective and within the discretion of the examiner.

223. The significance of the percentage figures to which Mr. Ross testified is not that we believe the Licensee will pass all trainees who obtain a bare majority on the oral examination. Rather, it demonstrates the utter subjectivity of the process and the decision. As explained by Mr. Ross, the oral examiner makes a judgment whether the individual knows 80% of the material being tested. Ross, Tr. 32,618. Thus, under the current system,

226. Mr. Ross also testified that he found it desirable to have supervisory personnel administering the oral examinations, as opposed to using qualified but non-licensed personnel, despite the fact that Licensee believed the latter to be fully qualified. He said that operators were violently opposed to the use of non-licensed personnel, and were eager to demonstrate their knowledge to their supervisory personnel. Ross, Tr. 33,068-078, 33.456-458.<sup>29</sup>

227. As we discussed earlier, Dr. Regan was extremely critical of the use of oral examinations unless they meet exacting requirements, including particularly standardization of subjects and questions in order to minimize the subjective nature of the effort. Dr. Regan revealed freely on cross-examination that he was not familiar with many aspects of the Licensee's oral examinations. Regan, Tr. 32,708-725, 32,792-797. Thus, it is possible that Licensee's oral examinations are designed in such a way or used for such a purpose that his criticisms do not apply. We find quite the contrary. These oral examinations serve a crucial role of validating the other examinations used by Licensee. They are not narrow inquiries into specific identified subjects. Rather, as Mr. Ross emphasized, they permit in-depth discussion and probing in to the candidate's understanding of the

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<sup>29</sup> The supervisors who administer the examinations are from other shifts. Ross, Tr. 33,078. They remain, nonetheless, supervisory personnel to the individuals taking the examinations.

facility. Moreover, most of the oral examinations, particularly in the requalification program, are administered by operations personnel with no training in administering oral examinations. And those very people are also supervisors of the candidates, although they may not be supervising the particular shift at the time they give the exam.

228. The oral examinations thus suffer from precisely the problems that Dr. Regan clearly identified. The examiner may be influenced by the comparison, favorable or unfavorable, between the performance of one candidate and the performance of the previous candidate. An examiner who is not well trained in oral examinations, or at least in interview technique, will tend to do too much talking. The examiner may be influenced by the "halo effect" in which he may misjudge the overall performance because an individual does very well in one particular area. And, significant here, there is the problem of co-workers administering the examinations, which may result in the intrusion of extraneous personal considerations, as when a congenial personality results in a higher grade than justified by a candidate's knowledge. In light of these considerations, the lack of standardization of the questioning, and the arbitrary nature of the grading, we conclude that the Licensee's oral examinations are of no use in validating other examinations or in determining or predicting operator performance with any reasonable precision.

229. Perhaps consistent with that conclusion, Licensee itself has never undertaken a systematic effort to compare performance on oral examinations to performance on the job.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
 )  
METROPOLITAN EDISON COMPANY ) Docket No. 50-289  
 ) (Restart Remand on  
(Three Mile Island Nuclear ) Management)  
Station, Unit No. 1) )  
 )

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