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February 19, 1985

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

In the Matter of
Metropolitan Edison Company
(Three Mile Island Nuclear Station, Unit No. 1)
Docket No. 50-289 (Restart - Remand)

Dear Chairman Smith and Administrative Judges Wolfe and
Linenberger:

In accordance with our practice of notifying the Licensing Board and the parties of information of interest to them on issues under consideration, Licensee hereby provides a letter dated February 12, 1985 from Dr. Robert Uhrig to Mr. Philip Clark transmitting the Final Summary Report of the Reconstituted OARP Review Committee. The Final Summary Report summarizes in one location the Committee's activities, relying on the Special Report and the testimony of the Committee during the remanded proceeding on training.

Respectfully submitted,

Deborah B. Bauser

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Counsel for Licensee

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Enclosure
cc: Service List

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

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February 12, 1985

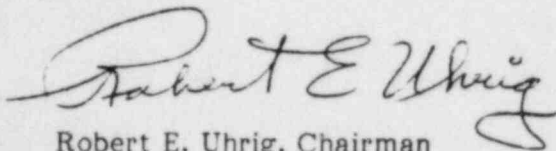
Mr. Philip R. Clark, President
GPU Nuclear Corporation
100 Interpace Parkway
Parsippany, NJ 07054

Dear Mr. Clark:

Enclosed is a Final Summary Report of the activities of the Reconstituted OARP Review Committee. The purpose of the report is to summarize in one location, and provide references that document the activities of the Committee throughout its active lifetime.

With this report, I feel the Committee has concluded its activities which began in May of 1984 following the remand by the Atomic Safety and Licensing Appeal Board in the matter of restarting Three Mile Island Generation Station Unit # 1. The Committee has scheduled no further activities; indeed, it is our sincere wish that no additional activities of this Committee will be necessary. However, should subsequent events dictate the need, I am sure that I speak for all the Committee members in saying that we will do everything possible to rearrange our personal and professional schedules to assist in any way we can.

Sincerely yours,



Robert E. Uhrig, Chairman
Reconstituted OARP Committee

REU:ema

Enclosure

cc: Ms. Deborah Bowser, Esq.
Dr. Julien M. Christensen
Dr. Richard P. Coe
Dr. Eric F. Gardner
Mr. Frank P. Kelly
Dr. William R. Kimel
Dr. Robert L. Long

FINAL SUMMARY REPORT

RECONSTITUTED OARP REVIEW COMMITTEE

On May 24, 1984, the Atomic Safety and Licensing Appeal Board issued a decision in the matter of restarting Three Mile Island Nuclear Generating Station Unit #1. In that decision, the Appeal Board remanded the issue of Licensed Operator Training to the Licensing Board for additional hearings. The Appeal Board specifically indicated that the Licensing Board should have sought additional testimony in light of the cheating incidents at TMI from the OARP Review Committee, "whose views the Board previously found so persuasive".

The OARP Review Committee was reconstituted by substituting Mr. Frank Kelly, President of PQS, Incorporated, for Mr. Richard Marzec who was not available. The other four members, Dr. Julien M. Christensen, Dr. Eric F. Gardner, Dr. William R. Kimel and Dr. Robert E. Uhrig were available and agreed to participate in the Reconstituted OARP Committee.

COMMITTEE ACTIVITIES AND DOCUMENTATION

The Committee's activities can, in general, be divided into three separate phases:

1. First, there was the preparation of the Special Report transmitted to Mr. Philip Clark, President of GPU Nuclear, under letter dated June 28, 1984. The Committee produced a draft report in approximately two weeks that was based almost entirely on meetings, orientations and documents supplied to the Committee by GPU Nuclear personnel. An iterative process among Committee members over a ten-day period was used to obtain a final report acceptable to all Committee members. This "quick response" was considered necessary and appropriate in view of the then pending June Nuclear Regulatory Commission meeting to consider a restart of TMI-1. All activities associated with the preparation of this report took place in the late May to late June time-frame. The Special Report is the only document produced by the Committee during this time period.
2. The second phase of the Committee's activities was an in-depth review of various aspects of the Licensed Operator Training Program, with a view to evaluating first hand, the facts presented in their report. In effect, this was a form of quality assurance, applied to the information provided to the Committee in both written and verbal form by the GPU Nuclear Staff. In the August to November 1984 time-frame, Committee members spent numerous days attending classes for operators and instructors, visiting the simulators, talking to plant personnel, and reviewing procedures for preparing and giving examinations, for preparing and using lesson plans and for preparing classroom

material. The Committee's primary concern was to determine whether there were any discrepancies between their views expressed in the Special Report and how the actual situation was observed by the Committee members during their subsequent review activities. As a result of this extensive review, the Committee reaffirmed the findings and conclusions stated in its Special Report. Many of the details regarding the Committee members' activities were described in the third phase documentation provided in preparation for the hearings.

In conducting this review, the Committee was keenly aware of its obligation to correct any misunderstandings or errors existent in the special report after completing its first-hand review of the Licensed Operator Training Program. The Committee had no changes to make in its general observations and conclusions. However, there were three specific facts that required clarification which were introduced into the official record of these proceedings by the Committee Chairman, Dr. Robert E. Uhrig, in his summary of testimony statement at the opening session of the ASLB hearing on December 19, 1984. Basically these were:

- o The Special Report does not indicate that Mr. Edward Frederick failed an NRC, SRO license exam in March of 1984.

At the time of the report's issuance, Mr. Frederick was the Supervisor of Licensed Operator Training. He subsequently has been replaced in that position by Mr. Ronald Maag.

In the Special Report, the Committee noted that Mr. Frederick had an SRO license for TMI-2. One member of the Committee recalls being told, during the preparation of the Special Report, that Mr. Frederick was going to be spending full time preparing for a TMI-1 SRO examination. However, none of the Committee members recalled being told that Mr. Frederick had just failed an NRC, SRO exam on TMI-1.

Had the Committee appreciated this fact they would have stated it in the Special Report.

- o The Special Report on page 40 refers to the inclusion of a performance measurement system as part of the replica simulator. However, this will not be the EPRI's performance measurement system, which is the specific system referred to on page 103 of the 1980 Committee report.
- o On page 56 of the Special Report, reference is made to more than one person proctoring examinations. The procedure requires a proctor present at all times, which means that arrangements are made for relief proctors, to ensure proctoring 100 percent of the time.

3. The third phase of the Committee's activities, which overlapped with the second phase, consisted in preparing its Testimony and Rebuttal Testimony, as well as answering interrogatories and giving depositions regarding the Committee member's earlier activities. This phase also included the actual participation as witnesses in the ASLB hearings. These activities occurred between mid-August 1984 and early January 1985. The documentation of these activities includes the following:

A. Testimony of the Reconstituted OARP Committee, dated November 1, 1984.

B. Rebuttal Testimony of the Reconstituted OARP Committee, dated November 28, 1984.

C. Depositions by:

1) Robert E. Uhrig, dated October 23, 1984.

2) Eric F. Gardner, dated October 25, 1984.

3) Frank P. Kelly, dated November 5, 1984.

- D. Answers to interrogatories submitted by the Union of Concerned Scientists and Three Mile Island Alert dealing with the activities of the OARP Committee.
- E. Official transcript of the oral testimony of the Committee members dated December 19, 20 and 21, 1984 and January 10 and 11, 1985.

It is estimated that the Reconstituted OARP Committee members collectively spent a total in excess of 230 person-days in carrying out the three phases of its activities between late May, 1984 and mid-January, 1985.

SUMMARY OF COMMITTEE'S ACTIVITIES AND TESTIMONY

The remainder of this report consists of material extracted from the Committee's Testimony and the other documents listed above. It is intended to provide an organized summary overview of the Committee's primary findings and conclusions. All of these views and conclusions have been stated earlier in the various documents referenced above.

The purpose of the Testimony prepared by the Committee for the ASLB hearing, which was a product of the Committee as a whole, was to summarize:

1. The approach taken by the Committee in preparing its Special Report.

2. The findings and conclusions of the Special Report.
3. The Committee's subsequent work to review in greater detail the TMI-1 Licensed Operator Training Program.
4. The overall findings and conclusions of the Committee.

The Special Report reflects the considered views of the individuals on the Committee of the Licensed Operator Training Program based on discussion with numerous GPU Nuclear personnel, a review of a substantial amount of documentation, guided and unescorted tours of the TMI training facility and a tour of the TMI-1 plant including the control room. No limits whatsoever were placed by GPU Nuclear on the Committee's contacts with individuals or its pursuit of information. The Special Report is the product of an iterative process undertaken by the Committee as a whole. Its format and content were determined solely by the Committee. The Special Report is organized in a manner designed to respond to the questions raised by the Appeal Board in ALAB-772 about the Licensed Operator Training Program.

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 examinations. Therefore, in the Special Report the Committee focused instead on the current TMI-1 Licensed Operator Training Program. In the Committee's view, this was the most effective approach given the passage of

four years and the fact the OARP, from which the original report was prepared, was a one-time program that has been succeeded by other developments.

The Appeal Board asked whether the deficiencies in operator testing, as manifested by the cheating episodes, may be symptomatic of more extensive failures in the licensee's overall training program, and whether these deficiencies have been remedied. The following comments summarize the Committee's findings in response to the Appeal Board questions.

The Committee felt that the primary basis upon which it could assess whether GPUN assignments of training managers are appropriate was to assess the quality and performance of those in the program. The Committee's view, implicit in its Report, is that the cheating that occurred was not a reflection on the moral character of the individuals in charge of the Operator Training Program at the time of the cheating incident, although they, of course, shared in the responsibility for the occurrence of cheating on the Company examinations. The Committee found that the training management accepted this responsibility and was firmly dedicated to assuring that cheating does not reoccur. It was the Committee's view that, as regrettable as the cheating incidents were, they must not overshadow the extraordinary progress made by the T&E Department since the TMI-2 accident under the leadership of Dr. Long, Dr. Knief, Mr. Newton and, more recently, Dr. Coe and Mr. Leonard. The Committee has concluded that the senior people responsible for the management and implementation of the Licensed Operators Training Programs are effectively implementing and monitoring this program.

The Committee was pleased to see that an extensive program for the training and further development of instructors had been undertaken by GPU Nuclear.

The standardized method for instructor development and the conduct of effective performance-based training, along with a number of guidance documents developed to aid in the systematic pursuit of performance-based instruction are particularly impressive.

The Committee reviewed GPU Nuclear's responsiveness to the extensive recommendations in the areas identified by the OARP Review Committee in 1980. In this way, the Committee was able to evaluate substantive aspects of the current program and to assess the commitment of the Company to the improvements that the Committee recommended four years ago. All of the Committee's recommendations have been seriously studied and all but one, which the Company evaluated and decided not to implement, have been adopted or are being implemented. It is the Committee's view that GPU Nuclear's commitment of additional resources and that the dedication to building quality Licensed Operators Training Programs for the TMI-1 operators since the issuance of the 1980 OARP Review Report have been impressive.

The Committee believes that appropriate attention is being given to ensuring that examinations contain an appropriate mix of subject matter and emphasize different performance skills. It is the Committee's judgement that the GPU Nuclear's licensed operator examination process adequately measures the operator's ability to safely operate the plant. Moreover, the exam security procedures are as stringent as any the Committee has ever seen.

From a review of the Licensed Operator Training Program descriptions, it was evident to the Committee that operators are taught the subjects required for safe operation of the plant and, in particular, the accident response subjects emphasized after the TMI-2 accident. Simulator experience, relating the subjects taught in the classroom about plant operations, is especially important. It is the judgement of the Committee that the current Licensed Operator Training Program is effectively designed and is being properly implemented to train individuals to operate the plant safely, particularly in emergencies, in accordance with approved procedures.

The Committee believes that the TMI Basic Principles Training Simulator (BPTS) which is intended to teach operators basic principles of neutronic behavior, reactor kinetics, thermodynamics, heat transfer, fluid flow and PWR operational characteristics, is the most advanced basic principles trainer for a licensed operator in the United States. GPU Nuclear licensed operators receive excellent training in both theory and practice.

The Committee was particularly pleased with the Operations Plant Manual (OPM), a multi-volume technical reference document intended to cover all systems and major components of TMI-1, as well as fundamentals and theory necessary to understand the operation of power plant systems and equipment. It is used by operators and instructors as a valuable reference document.

The Committee believes that the training programs currently conducted at TMI, enhance the operator's ability to maintain licensed operator competence. Each annual Requalification Training Program reinforces and builds on previous skills, knowledge, and competence of the operators. The requalification exams, which are designed to cover this knowledge, cover pertinent subject matter, and are structured to measure retained knowledge of technical subject matter.

The Committee is satisfied that the educational, technical and more subtle but equally important, attitudinal quality of instructors is excellent. The Committee is also confident that GPU Nuclear is striving continuously to maintain and improve its instructor capabilities through its Instructor Development Program.

The Committee considered the teaching facilities and equipment in use for the TMI-1 licensed operator training program to be excellent and that they were properly used.

Some members of the Committee observed TMI operators and license candidates in the Control Room, on the BPTS and at the B&W simulator. The observers were impressed with the control that GPU Nuclear personnel have exercised on the subject matter and with the procedures that have been established to assure that both the lectures and scenarios at the B&W site are consistent with latest design changes and practices at TMI-1. It is the Committee's impression, based on the observations and assessments it has made, that the operators recognize the value and have respect for the Licensed Operator Training Programs, recognize and accept their responsibility as licensed operators to participate in the program and believe that it is an effective program.

The Committee also found that GPU Nuclear's top management has emphasized the need for, and encouraged the development of strong communication channels within the Company. The necessity for the GPU Nuclear employees to act honestly, responsibly and cooperatively has been stressed by the Company. After careful examination of the evidence, the Committee is confident that GPU Nuclear management personnel are sensitive to the real and perceived problems of its employees and capable of taking decisive and timely action to deal with problems. It has established effective communications practices between top management and the operating crews.

It is the Committee's view that during the period of time that has elapsed since the 1980 OARP Review Committee Report and testimony presented by other licensee consultants, the TMI-1 Licensed Operator Training and Requalification Programs have been significantly improved. Furthermore, there continues to be a strong GPU Nuclear management commitment to training. The strongest aspects of the OARP have been further developed and incorporated into the current training program. This has resulted in a program which is superior to the original OARP Training Program. Management has devoted considerable additional resources to training as well as to developing procedures that promote an effective program. In short, the Committee firmly believes that the present training program adequately supports the restart of TMI-1.

In conclusion, it is the Committee's judgement, after thorough consideration of the issues, that the Licensed Operator Training Programs at TMI-1 is an exceptionally effective process and will continue to qualify individuals to operate TMI-1 safely. The Committee takes this opportunity to reaffirm the conclusions reached in its Special Report, particularly, the findings from the report that have been highlighted in the Committee's Testimony.