February 21, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

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

LICENSEE'S COMMENTS ON
THE LIST OF INTEGRITY ISSUES

In a January 20, 1984 Memorandum, Samuel J. Chilk, the Secretary to the Commission, provided to the parties to the TMI-1 restart proceeding a proposed List of Integrity Issues prepared by the NRC's Office of General Counsel and Office of Policy Evaluation at the request of Commissioner Asselstine. The parties were invited to submit comments on three aspects of this List: (1) whether the List is accurate and complete; (2) whether the listed issues are resolved or unresolved; and (3) which unresolved issues must be resolved prior to a restart decision. Memorandum at 1. Licensee herein submits its Comments on the List of Integrity Issues. Appended to these Comments is

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a Status Report which indicates Licensee's understanding of the current status of each of the items included in the List of Integrity Issues.

At the outset, Licensee concurs with several opinions of individual Commissioners that are set forth in the January 20 Memorandum. Licensee agrees with Commissioners Asselstine and Gilinsky that the List of Integrity Issues should have included any issues referred to the Office of Investigation (OI) for further investigation which may have a bearing on Licensee's integrity. By definition, a List of Integrity Issues should not have excluded such matters. Licensee has no reason to believe that disclosure of issues under investigation would prejudice such investigations or otherwise be counterproductive. Clearly, however, nondisclosure of any such issues limits the ability of the parties to effectively address the questions raised in the January 20 Memorandum.

Licensee also agrees with Chairman Palladino that the parties and the Commission itself would have been much better served had the proposed List of Integrity Issues included the Commission's understanding of the status of the issues listed. Had the Commission provided this information, the parties would not need to do so in their comments but, more importantly, could have focused on any disagreements they have with the proposed status report, and the significance of such disagreements. In this regard, as with the decision to delete from the List issues under investigation, disclosure of such information

would have enhanced the Commission's ability to make a restart decision.

The Commission first asks the parties to comment on the accuracy and completeness of the List of Integrity Issues. As the Commission itself acknowledges, the proposed List of Integrity Issues is intended to be no more than "a compilation of issues . . . which at face value appear to have some possible connection with management integrity." Memorandum at 1-2. Moreover, as the Commission further acknowledges, "[m]any of the items, as raised in the proceeding, did not specifically concern integrity." Id. at 2. Notwithstanding these stated caveats about the derivation of the List, Licensee believes that the proposed List is misleading. If the standard to be employed by the Commission in designating an issue as an "integrity issue" is that the subject "may conceivably bear on integrity," Memorandum at 2, one can, with little imagination, designate literally every aspect of Licensee's capability to manage a power plant an "integrity issue." In fact, Licensee fully expects that the cumulative comments of the intervenors on the List of Integrity Issues will accomplish this effect with each intervenor attaching the restart issues of interest to it to the "integrity" bandwagon. There is no basis for transforming every management issue, such as the substantive adequacy of Licensee's training program (List Item I.B), as well as design and other issues (see, e.g., List Item III.J), into an inquiry of what the issue "conceivably" implies about

Licensee's integrity. It is inappropriate to consider as an integrity issue every question of judgment on technical or management matters, particularly if reasonable minds could differ on the judgment applied. It is also inappropriate for the Commission to dignify by inclusion on such a list, "integrity" items for which there has been no shred of evidence put forward, but represent merely bald assertions. In fact, to construct and publish a list of issues employing these bases is patently unfair.

Some of the issues included in the proposed List legitimately can be termed "integrity" issues. However, the vast majority of the issues on the proposed List of Integrity Issues have absolutely no factual relationship to the issue of Licensee's integrity, other than mere assertion. In the absence of a substantial basis for linking each of these issues with Licensee's integrity, that issue ought not be treated by the Commission as an integrity issue.

The second question identified in the January 20 Memorandum concerns the current status of the items included in the proposed List of Integrity Issues. Specifically, the Commission has asked whether the items are "resolved" or "unresolved." In one sense, with the possible exception of emergency planning where the Commission has completed its review, there are no items finally resolved by the Commission in the Restart Proceeding. In another sense, almost all items have been resolved -- by Licensing Board consideration and

determination, Appeal Board consideration and determination, or other means such as NRC inspection or investigation. As previously indicated, attached to our Comments is Licensee's synopsis of the status of the proposed List items. Our synopsis reflects that all but two items, which concern leak rate test practices at TMI-1 and TMI-2 (III.A and III.B), are resolved. "Resolved" in Licensee's view means that there exists a sufficiently developed factual understanding of the issue that it can be decided now by the Commission for purposes of restart, whether or not it has previously been decided by someone else (i.e., the Licensing Board, OI, NRC Staff, etc.), and regardless of whether still further inquiries are ongoing (i.e., by Licensee investigations, Appeal Board review, or OI investigations). This definition squares with the Commission's announced approach to decide restart while the appellate review was proceeding, and with the reality that there is unlikely to be any point in time when no allegations or questions exist which may be worthy of further inquiry, for example through additional investigations. It also squares with the Commission's legal obligations in this case.

Most of the issues on the proposed list were fully addressed and resolved by the Licensing Board on the basis of extensive record evidence adduced during the restart proceeding. A few of the listed issues were addressed and sufficiently resolved, for purposes of deciding the question of restart, in documents, statements and pleadings provided to the Commission,

e.g., III.H (Quinn allegations) and III.I (unattended radiation worker exams). Some of the items were unsuccessfully raised by the intervenors before the Appeal Board in motions to reopen the record, e.g., Item III.H. The Commission should consider all of these resolutions fully adequate in the absence of a substantive basis for challenging them, i.e., an issue which would justify reopening the record. Cf. Pacific Gas Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-598, 11 N.R.C. 876, 879 (1980) (tripartite test for re-opening the record). It is a questionable procedure indeed, and certainly unfair, for the Commission to continually reconsider issues that have been decided after lengthy review by the agency. This is particularly troublesome to Licensee because the repeated resurrection of an issue in and of itself tends to bestow on the issue a currency and a legitimacy which the facts belie.

Finally, as to the two issues Licensee considers unresolved in the proposed List, the Commission asks whether they need to be resolved prior to a restart decision. One of these issues, leak rate practices at TMI-1 (III.B), can properly be tied to the Commission's immediate effectiveness decision and should be resolved prior to restart. With respect to the other issue, the Hartman allegations (III.A), Licensee has made management, staffing and other changes at TMI-1 to assure no significant impact on safety of TMI-1 operations regardless of the outcome of the investigation of Hartman issues. These

changes ought to provide the Commission with the reasonable assurance it needs to permit restart, assuming the Commission has no information from the Office of Investigations of which Licensee is unaware that suggests the current GPU Nuclear Corporation and, particularly, the TMI-1 organization lacks integrity.

In summary, in Licensee's view, there is (or will be, shortly, in the case of TMI-1 leak rate practices) sufficient information before the Commission on every issue to give it the requisite reasonable assurance it requires that TMI-1 can be operated safely. It was the lack of this reasonable assurance that formed the basis for the Commission's July 2, 1979 immediately effective shutdown order and subsequent August 9, 1979 order, CLI-79-8, convening the restart hearing. As Licensee (and the Staff) has stated repeatedly to the Commission, most recently in its October 27, 1983 Response to Commission Order of October 7, 1983, the Commission's clear legal obligation is to lift its immediately effective suspension Order when the facts which gave rise to the Order no longer exist. The Commission has before it three favorable partial initial decisions from the Licensing Board. Continuing the extraordinary remedy of immediate license suspension imposed over four and a half years ago on the basis of unsupported allegations about Licensee's integrity is unreasonable and has no legitimate basis.

In conclusion, because of its unreasonable scope, the proposed List of Integrity Issues is not a useful device for

assessing the status of integrity issues for purposes of deciding the question of restart. Licensee does believe, however, that it is high time that the Commission decided the question of restart. Notwithstanding the identified problems with the proposed List of Integrity Issues, and whether the listed items are "integrity" issues or not, a review of that List confirms the ability of the Commission to make a restart decision on every issue, excepting TMI-1 leak rate testing practices. On that issue, the Commission would be better served by obtaining additional information from its Office of Investigations which Licensee believes will support its view that this item does not pose a bar to restart.

Respectfully submitted,

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Dated: February 21, 1984

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CERTIFICATE OF SERVICE

I hereby certify that copies of "Licensee's Comments on the List of Integrity Issues" and "Status Report on List of Integrity Issues" were served this 21st day of February, 1984, by deposit in the U.S. mail, first class, postage prepaid, upon the persons on the attached Service List.

Ernest L. Blake, Jr. P.C.

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Status Report on
List of Integrity Issues

I. Items Raised In Original Management Hearing

A. Whether Licensee Withheld Information During the Accident (the "Information Flow" Issue).

1. Was information wilfully withheld?

RESPONSE I.A.1. Resolved.

The information flow issue has been addressed in numerous forums and by numerous review groups. Reports by the principal investigators of the accident all support the Licensing Board's conclusion that it "could identify no evidence in any of the investigations that any such possible actions [i.e., withholding of information] by individuals employed by Licensee . . . was part of a management decision to do so, e.g., a conspiracy or company approach." Management Partial Initial Decision (Management PID) at ¶ 478, LBP-81-32, 14 N.R.C. 381, 544 (Aug. 27, 1981). Licensee has never claimed, however, that communications were adequate during the accident. To the contrary, as Licensee has previously stated, "There has never been any question in our mind but what there was inadequacy of communications." Transcript of Presentation on TMI-1 Restart, Oct. 14, 1981, at 74 (Dieckamp).

This issue has been addressed in:

- Management PID at ¶¶ 469-503 (14 N.R.C. at 540-56).
- Report of the President's Commission on the Accident at Three Mile Island (1979), at 18, 175-76.
- NRC Special Inquiry Group (SIG) Report (1980), Vol. I at 159-60; Vol. II, Pt. 3 at 898-902; SIG Memorandum to Chairman Ahearne, March 4, 1980, at 1-42, 63-74.
- Senate Committee on Environment and Public Works, Subcommittee on Nuclear Regulation, "Nuclear Accident and Recovery at Three Mile Island," (1980) at 13-15.
- NUREG-0600, "Investigation Into The March 28, 1979 Three Mile Island Accident by Office of Inspection and Enforcement," (August 1979) §§ 3.3.2, 3.3.3 and 3.4.
- NUREG-0760, "Investigation Into Information Flow During the Accident at Three Mile Island" (Jan. 1981).
- Report of Majority Staff of the House Committee on Interior and Insular Affairs, "Reporting of Information Concerning the Accident at Three Mile Island," (March 1981).

- Transcript of Oral Argument on Immediate Effectiveness (Oct. 14, 1981), at 73-81, 86-89, 91-94, 117-121.
- Transcript of Public Meeting (Dec. 21, 1981), "Discussion of Information Flow During TMI Accident," passim.
- Licensee Comments on Commissioner Gilinsky's Tentative Conclusion (Aug. 4, 1983), at 4-19.

I. Items Raised In Original Management Hearing

A. Whether Licensee Withheld Information During the Accident (the "Information Flow" Issue).

2. Were any current GPU Nuclear personnel involved in any wilfull withholding?

RESPONSE I.A.2. Resolved.

As noted by the Licensing Board, the two persons on whom the adequacy of information flow on the day of the accident has focused were Gary P. Miller and John Herbein. Management PID at ¶ 479 (14 N.R.C. at 545). By letter dated March 11, 1982, Licensee informed the Appeal Board and the parties that Mr. Herbein no longer worked for GPU Nuclear. In its August 20, 1982 Immediate Effectiveness Comments before the Commission, at 7, Licensee notified the Commission and the parties that effective October 1, 1982, Mr. Miller was being transferred out of GPU's nuclear activities.

I. Items Raised In Original Management Hearing

A. Whether Licensee Withheld Information During the Accident (the "Information Flow" Issue).

3. Did licensee's response to the accident indicate a lack of forthrightness inconsistent with its responsibilities to the NRC, the Commonwealth, and public health and safety?

RESPONSE I.A.3. Resolved.

See Response I.A.1, supra.

I. Items Raised In Original Management Hearing

A. Whether Licensee Withheld Information During the Accident (the "Information Flow" Issue).

4. Are steps taken by licensee subsequent to the accident sufficient to ensure a better information flow in the future?

RESPONSE I.A.4. Resolved.

In the emergency planning PID, the Licensing Board reviewed the provisions in Licensee's Emergency Plan and Emergency Plan Implementing Procedures for notifying the NRC and local governments of emergency situations, as well as the nature and timing of information transmitted. Emergency Planning PID at ¶¶ 1503-21, LBP-81-59, 14 N.R.C. 1211, 1514-20 (Dec. 14, 1981) (See, especially, ¶ 1515, discussion of "Emergency Status Report" checklist). While not specifically comparing current provisions to the acknowledged deficiencies which occurred in 1979, the Board found that the current plans and procedures are adequate for the timely and complete transmittal of information to the affected government agencies. Id.1/ The Appeal Board also passed favorably upon the issue of "Information Transmittal." See ALAB-697, 16 N.R.C. 1265, 1269-72 (1982). The Commission considered, but did not take review of this decision. See Memorandum to the Board and Parties, dated February 3, 1983, from Samuel J. Chilk, Secretary of the Commission.

1/ Licensee presented supplemental oral direct testimony specifically responding to the recommendations in NUREG-0760 relating to information flow. See Tr. 13,776-79 (Giarrgi).

Licensee also notes that the addition of an STA on shift and the increased shift manning levels greatly enhance the ability of the Licensee to relay information about an emergency condition. See Management PId at ¶¶ 556-83 (14 N.R.C. at 571-82).

This issue is also addressed in:

- Transcript of Oral Argument on Immediate Effectiveness (Oct. 14, 1981), at 42-48.
- Testimony of Robert C. Arnold before Licensing Board on February 2, 1981. See Arnold, ff. Tr. 11,434, at 24-25.
- "Lessons Learned Workshop," NAD-83-01, report submitted by Licensee to the Commission on Jan. 19, 1984, at 3-13, 3-14.

I. Items Raised In Original Management Hearing

B. Is Licensee Committed to Establishing an Adequate Training Program?

1. Does the delay in obtaining a TMI-1 replica training simulator reflect adversely on management's attitude toward training?

RESPONSE I.B.1. Resolved.

The need, prior to restart, for an exact replica simulator was argued by intervenor Aamodt and rejected by the Licensing Board. See Management PID at ¶¶ 252-58 (14 N.R.C. at 468-70). In reaching this conclusion, the Board viewed favorably Licensee's simulator training program, as well as the commitment to install an exact replica simulator in 1985, and a basic principles trainer and a CRT part-task simulator in the interim. Id. at ¶ 258. Had the Board viewed Licensee's actions as substantively insufficient or as an indication of a poor attitude towards training, it would not have endorsed Licensee's current simulator training program or its future simulator training commitments. See also Licensee counsel's letters to Appeal Board and parties of October 6, 1982 and November 3, 1983 enclosing annual status reports on exact replica simulator.

I. Items Raised In Original Management Hearing

B. Is Licensee Committed to Establishing an Adequate Training Program?

2. Does the amount of time that TMI-1 operators will spend annually in simulator training reflect adversely on management's attitude toward training?

RESPONSE I.B.2. Resolved.

As with the previous issue, the amount of annual simulator training was litigated under Aamodt Contention 2. The Licensing Board found that Licensee's present simulator training was adequate and in accord with the industry standard. Management PID at ¶¶ 256-57 (14 N.R.C. at 469-70); see also Tr. 12,265 (Newton) (amount of simulator training is also a function of the availability of the B&W simulator). In Licensee's view, its simulator training program reflects positively on Licensee's attitude toward training.

I. Items Raised In Original Management Hearing

B. Is Licensee Committed to Establishing an Adequate Training Program?

3. Does management's failure to establish a training program that is equivalent to a college curriculum reflect adversely on management's attitude towards training?

RESPONSE I.B.3. Resolved.

The Aamodts alleged that the TMI-1 training program was deficient in that it did not measure up to college level standards in faculty, facilities or curriculum. The Licensing Board disagreed, stating that it did not believe the training program should be equivalent to a college curriculum. Rather, appropriately, it is "a vocational training program designed to equip its participants with knowledge sufficient for them to understand and safely operate TMI-1." Management PID at ¶ 262 (14 N.R.C. at 472). The nuclear industry's standards are fully consistent with this view. See also Management PID at ¶¶ 163-207, 225-41, 263 (14 N.R.C. at 441-55, 459-65, 472-73) (discussion of operator training program).

I. Items Raised in Original Management Hearing

B. Is Licensee Committed to Establishing an Adequate Training Program?

4. Does failure to require operators to attain a 100% test score on the NRC's operating license exam reflect adversely on management's attitude toward training?

RESPONSE I.B.4. Resolved.

It is the Staff, not Licensee, who dictates the required minimum passing score on NRC license exams; therefore, this criterion cannot possibly reflect adversely upon Licensee's management integrity. In any event, the Licensing Board considered and found reasonable the Staff's explanation of why a 100% test score is not necessary, Management PID at ¶ 264 (14 N.R.C. at 473-74); moreover, such a standard makes little sense. Licensee agrees with the reasoning provided by the Staff as to why a 100% test score on the NRC exam is not reasonable. See Licensee's Proposed Findings of Fact and Conclusions of Law on Management Issues, May 15, 1981, at 148-49.

I. Items Raised In Original Management Hearing

B. Is Licensee Committed to Establishing an Adequate Training Program?

5. Does licensee maintain an adequate awareness of operator attitude, foster morale and ensure an appreciation of the significance of operator actions?

RESPONSE I.B.5. Resolved.

During the initial management proceeding, this subject was reviewed by the Licensing Board in its consideration of Aamodt Contention 2 and was found not to be a problem. Management PID at ¶ 267 (14 N.R.C. at 475). Subsequently, during the reopened hearing, it was determined that at times morale among the operators was low, in large part because of the reexamination requirement imposed on the TMI-1 licensed operators. Reopened PID at ¶ 2239, LBP-82-56, 16 N.R.C. 281, 336 (July 27, 1982). Licensee has undertaken a number of actions to improve morale and to ensure that the significance of operator actions is fully appreciated. For example, after the discovery of cheating at TMI, Henry Hukill, Vice President of TMI-1, met individually and collectively with the licensed operators. Id. at ¶¶ 2237-40 (16 N.R.C. at 336-37). Mr. Hukill also testified that he would talk to an operator before he certified that the individual is recommended for the NRC exam. In addition, he would talk to the individual after he received a license "to ensure in my own mind that the attitude of this individual is

what I consider appropriate to be manning the shift as a licensed operator." Reopened Proceeding, Tr. 24,053-54 (Hukill). Licensee's procedures now require this pre-certification meeting as well as an annual meeting between the Vice President, TMI-1, and each licensed operator.

Since the close of the record, Licensee's training program has been subjected to reviews by the NRC Staff, Licensee, outside consultants, and independent review groups. See, e.g., Data-Design Laboratories report (transmitted by Licensee's counsel on Oct. 5, 1982); 1983 draft and final INPO evaluations (transmitted on June 20 and September 7, 1983); Report of the Lessons Learned Workshop, NAD-83-01 (transmitted on Jan. 19, 1984). Licensee also contracted with the psychological consulting firm of Rohrer, Hibler & Replogle, Inc. (RHR) for the express purpose of working with the operators to identify to management operator attitudes and concerns. The RHR Report and Licensee's responses to RHR's recommendations have been provided to the Appeal Board and parties. See Licensee counsel transmittal letters of May 16, 1983 and December 28, 1983. The Licensee efforts referred to above, each of which was voluntarily self-initiated by Licensee, collectively reflect management's responsible approach to its training program, generally, and specifically to assessing licensed operator attitude, morale and appreciation of the significance of operator actions. See also NUREG-0680, Supp. No. 4, "TMI-1 Restart, An Evaluation

of the RHR, BETA and Draft INPO Reports as They Affect Restart Issues at Three Mile Island Nuclear Station Unit 1 Docket 50-289," Oct. 1983, at 1-2, 3-16 ("the operators themselves have a positive attitude toward safety").

I. Items Raised In Original Management Hearing

B. Is Licensee Committed to Establishing an Adequate Training Program?

6. Was the 1978 training program in violation of NRC requirements, and, if so, was management aware of this (Book investigation)?

RESPONSE I.B.6. Resolved.

A June 1977 memorandum from Theodore Book, then TMI-1 control room operator, to James P. O'Hanlon, then TMI-1 Superintendent, as well as notes made by Mr. O'Hanlon, suggested a possibility that training records had been falsified, in violation of NRC requirements. As documented in Board Notification 83-17A, dated June 27, 1983, the Office of Investigations conducted an inquiry of the matter and concluded no investigation was necessary. See Board Notification 83-71A, dated June 27, 1983.

I. Items Raised In Original Management Hearing

B. Is Licensee Committed to Establishing an Adequate Training Program?

7. Has licensee taken adequate corrective steps with regard to any identified deficiencies?

RESPONSE I.B.7. Resolved.

The substance of Licensee's training program was litigated during the initial management phase of the hearing. See generally Management PID at ¶¶ 163-276 (14 N.R.C. at 441-79). The Board received evidence on all facets of Licensee's training programs, including the additional programs required as a result of training deficiencies identified as "lessons learned" items from the TMI-2 accident. In sum, the Board made the following findings: ". . . Licensee has in place at TMI-1 a comprehensive and acceptable training program. . . . Licensee has substantially augmented its training department. . . . Licensee has complied with the Commission's August 9, 1979 and March 6, 1980 Orders insofar as they relate to training." Id., ¶ 276 (14 N.R.C. at 478-79).

As a result of the discovery of cheating on the NRC exams, Licensee determined that serious deficiencies existed with respect to the administration of the TMI training program. See Reopened PID at ¶¶ 2321-47 (16 N.R.C. at 355-65). These deficiencies were acknowledged by Licensee. Action was taken to prevent recurrence of these deficiencies. See id. at ¶ 2330

(16 N.R.C. at 359). On the basis of Licensee's acknowledgment of deficiencies, and with the added assurance of several license conditions relating to the training program, the Board concluded that Licensee's training program was adequate. Id., ¶¶ 2061-68, 2396-400, 2410, 2419-21 (16 N.R.C. at 296-97, 378-79, 381, 383-84). "The cheating episodes are not a reflection on upper-level management's competence, good intentions and efforts. . . . We remain satisfied that Licensee was unstinting in the resources it devoted to the training program." Id., ¶ 2400 (14 N.R.C. at 379).

Since the close of the record, Licensee's training program also has been reviewed a number of times. These reviews depict an adequate training program. See I.B.5, supra. The status of Licensee's compliance with the Board-mandated training conditions was reported to the Appeal Board and parties in a letter from Staff counsel dated January 20, 1984.

I. Items Raised In Original Management Hearing

C. Did Management Pursue Activities Prior to the Accident That Endangered Public Health and Safety?

1. Did GPU defer safety-related maintenance and repair beyond the point established by its own procedures?

RESPONSE I.C.1. Resolved.

This issue is part one of a five-part contention asserted by intervenor TMIA. The issue was fully considered by the Licensing Board during the initial management proceeding. On the basis of the substantial evidence presented, see Management PID at ¶¶ 277-300 (14 N.R.C. at 479-88), the Board found "no evidence that Licensee has improperly deferred safety-related maintenance and repair either beyond a point established by its own procedures or so as to endanger the health and safety of the public." Id. at ¶ 300 (14 N.R.C. at 488).

I. Items Raised In Original Management Hearing

C. Did Management Pursue Activities Prior to the Accident That Endangered Public Health and Safety?

2. Did GPU drastically cut its maintenance budget?

RESPONSE I.C.2. Resolved.

This issue, part two of TMIA's maintenance contention, was addressed and favorably resolved by the Board. Management PID, ¶¶ 320-24 (14 N.R.C. at 493-94). Specifically, the Board reached the following conclusions:

> [A]lthough a budget cut was proposed in early 1979 which would have affected TMI-1 maintenance activities, there is no evidence to support the contention that this cut was drastic, or would have been drastic if the TMI-2 accident had not occurred. Nor is there any reason to believe that the method used by Licensee to identify priorities for reduction did not satisfactorily identify and exclude items which could not be eliminated from the 1979 budget without affecting safe operation of the plant. Nor is there any basis to conclude that the proposed budget cuts demonstrate an underlying management philosophy of compromising safety in favor of profits as alleged by TMIA.

Id., ¶ 324 (14 N.R.C. at 494).

I. Items Raised In Original Management Hearing

C. Did Management Pursue Activities Prior to the Accident That Endangered Public Health and Safety?

3. Did GPU fail to keep accurate and complete maintenance records?

RESPONSE I.C.3. Resolved.

This is the third part of TMIA's five-part maintenance contention. In addition, the Board raised its own question regarding recordkeeping practices. See Management PID at ¶ 302 (14 N.R.C. at 488). After a thorough investigation into the matter, the Board found that maintenance records were auditable and that none of the identified recordkeeping problems "disclosed safety problems." Id., ¶ 314 (14 N.R.C. at 491). Moreover, in the Board's view, "the extensive changes in Licensee's safety-related record keeping program and its QA/QC programs related to maintenance has resulted and should continue to result in substantial improvements." Id., ¶ 348, (14 N.R.C. at 501).

I. Items Raised In Original Management Hearing

C. Did Management Pursue Activities Prior to the Accident That Endangered Public Health and Safety?

4. Did GPU have an inadequate and understaffed QA/QC program related to maintenance?

RESPONSE I.C.4. Resolved.

This issue is part four of TMIA's maintenance contention. The Board considered whether Licensee has an adequate and appropriately staffed QA/QC program relating to maintenance, notwithstanding the fact that TMIA was in default on this part of its contention. See Management PID, ¶ 326 (14 N.R.C. at 495). The Board found that any inferences that might be drawn about the adequacy of QA/QC staffing in the past have been mooted by the enlargement of the QA/QC organization and program. Id. at ¶ 330 (14 N.R.C. at 496); see also id. at ¶¶ 107-15 (14 N.R.C. at 424-28) (discussion of Licensee's QA organization). On this issue, the Board stated,

> The Board is satisfied that Licensee's QA program and organization will be in a position to reasonably assure, or bring to the attention of top management in those cases where it cannot assure, that the organizations which make up the plant and corporate structure are performing properly the functions for which they were intended. If the QA functions are properly performed, the Licensee's QA program and organization as restructured would promote the safe operation of TMI-1.

Id., ¶ 115 (14 N.R.C. at 428).

Subsequent reviews of Licensee's QA/QC program reflect favorably on Licensee's performance of QA/QC at TMI-1. See Inspection Report 83-10 (May 17, 1983) transmitted on May 18, 1983; INPO Report (May, 1983), transmitted on June 20, 1983, at 6-7; SALP Report (Nov., 1982), transmitted on Feb. 7, 1983, at 25 ("In summary, QA management attention and involvement were aggressive and oriented toward nuclear safety. Quality Assurance staffing was ample and effectively used to produce a high level of performance with respect to safety.")

I. Items Raised In Original Management Hearing

C. Did Management Pursue Activities Prior to the Accident That Endangered Public Health and Safety?

5. Did licensee require extensive use of overtime in performing safety-related maintenance? If so, did this lead to poor quality safety-related maintenance?

RESPONSE I.C.5. Resolved.

This is the fifth issue identified in the five-part TMIA contention on past maintenance practices. The Board considered the evidentiary presentation of TMIA and Licensee, and called a Board witness on this issue. Management PID, ¶¶ 331-48 (14 N.R.C. at 496-50). The Board concluded that "Licensee has not disregarded the importance of safety-related maintenance in safely operating a nuclear plant . . . by extensively using overtime." Id., ¶ 348 (14 N.R.C. at 501). Moreover, Licensee is committed to be bound by the Staff guidelines on overtime. Id. at ¶¶ 342-43 (14 N.R.C. at 498-500).

I. Items Raised In Original Management Hearing

C. Did Management Pursue Activities Prior to the Accident That Endangered Public Health and Safety?

6. Has licensee taken adequate corrective steps regarding any identified deficiencies?

RESPONSE I.C.6. Resolved.

Licensee believes this seemingly broad question is limited to pre-accident maintenance, as indicated on page three of the January 20, 1984 Chilk Memorandum. In this regard, the Licensing Board rejected TMIA Contention 5 and found "substantial improvements" in Licensee's maintenance practices. Management PID, ¶ 348 (14 N.R.C. at 501).

Since the close of the record, NRC has conducted a number of inspections of maintenance at TMI-1 which confirm the effectiveness of Licensee's post-accident maintenance program. See Inspections 81-08 (June 25, 1981), 81-11 (Aug. 1, 1981), 81-22 (Nov. 12, 1981), 81-27 (Dec. 4, 1981), 82-10 (Sept. 1, 1982), 83-10 (May 17, 1983), 83-15 (July 29, 1983), and 83-22 (Sept. 27, 1983). In addition, the 1982 SALP Report reviewed Licensee's maintenance program and concluded "licensee management attention and involvement in this area were evident. Resources were ample and reasonably effective such that satisfactory performance with respect to safety was achieved." SALP Report, Nov. 1, 1982, at 16; see also NUREG-0680, Supp. No. 4 (Oct. 1983) at 5-4 ("we have not found, during our inspections, any

indications that lack of proper maintenance of safety-related equipment was adversely affecting plant safety.")

I. Items Raised In Original Management Hearing

D. Possible Influence of Financial Considerations on Technical Decisions

1. Are there indications that financial considerations had an undue influence on TMI operations prior to the accident?

2. If there was any improper influence, has licensee taken adequate steps to assure that this will not recur?

RESPONSE I.D.1-2. Resolved.

Issue (6) in the Commission's March 6, 1980 Order, CLI-80-5, asked whether the financial/technical relationship is such as to prevent financial considerations from having an improper impact on the safe operation of TMI-1. 11 N.R.C. 408. This was an uncontested issue during the management proceeding. Management PID at ¶ 388 (14 N.R.C. at 514). However, the Licensing Board received evidence from Licensee and from the Staff. Id., ¶¶ 389-401 (14 N.R.C. at 514-18). After considering this evidence, the Board found that "GPU's management, even in times of financial stress, has recognized the unique demands of its nuclear obligations, and has shifted available resources to meet those obligations." Id., ¶ 400 (14 N.R.C. at 518). It concluded that the relationship between Licensee's corporate finance and technical departments is such as to prevent financial considerations from having an improper impact upon technical decisions. Id., ¶ 401 (14 N.R.C. at 518). The recent changes in the GPU Nuclear Board of Directors, with

three outside directors, should provide an even greater assurance that operations will not be unduly influenced by financial considerations. See Statement of GPU at 12, appended to transcript of Nov. 28, 1983 Commission Meeting.

I. Items Raised In Original Management Hearing

E. Whether the Mailgram Sent by Mr. Dieckamp to Congressman Udall on May 9, 1979 Regarding the "Pressure Spike" Was a Material False Statement

1. Did Dieckamp know there had been a pressure spike at 1:50 p.m. on March 28, 1979 at the time he wrote to Udall?2/

RESPONSE I.E.1. Resolved.

This issue centers on the accuracy of Mr. Dieckamp's mailgram to Representative Udall on May 9, 1979, in which it was stated:

> There is no evidence that anyone interpreted the "pressure spike" and the spray initiation in terms of reactor core damage at the time of the spike nor that anyone withheld any information.

Staff Ex. 5, NUREG-0760, Attachment 117. This issue has been addressed specifically on at least four separate occasions before the NRC: (1) The Rogovin Special Inquiry Group, see March 4, 1980 Supplemental Report, "Evidence re Questions Posed to Chairman Ahearne by Congressman Udall in Letters of January 21 and February 4, 1980," at 81; (2) NRC's Office of Inspection and Enforcement, see Staff Ex. 5, NUREG-0760; (3) the Licensing

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2/ There is no question that on May 9, 1979, Mr. Dieckamp knew there has been a pressure spike at 1:50 p.m. on March 28, 1979. This is clear from the mailgram itself. See Management PID, ¶ 498 (14 N.R.C. at 555). The question that has been raised and reraised concerns Mr. Dieckamp's awareness, as of May 9, 1979, of anyone's "interpretation" or appreciation of the spike on the day it occurred.

Board record and the Management PID, see Management PID, §§ 498-503 (14 N.R.C. at 555-56); and (4) the Commission's own immediate effectiveness review, see Licensee's Comments on Immediate Effectiveness of Partial Initial Decision (Sept. 11, 1981) and Transcript of Oral Argument on Immediate Effectiveness (Oct. 13, 1981), at 91-94.

The Licensing Board accepted I&E's conclusion that Mr. Dieckamp believed the statement to be true when he made it in the mailgram. Management PID, ¶ 501 (14 N.R.C. at 556).

Subsequent to the mailgram, there were statements made to investigators by two operators who were present in the TMI-2 control room on the day of the accident concerning their awareness and appreciation of what is now commonly known as the hydrogen spike. See Management PID, ¶ 499 (14 N.R.C. at 555). The earliest of the interviews of either of these two individuals through which their appreciation on March 28th of the hydrogen spike came later to be recognized was conducted by NRC I&E investigators almost two weeks after Mr. Dieckamp's mailgram; the Company did not receive a transcript of that interview until months later; and in the only interview of either of these two individuals which took place prior to Mr. Dieckamp's May 9 mailgram (conducted by GPU personnel on April 25th), no appreciation of the pressure spike as of the day of the accident, was reported. After all their interviews, NRC investigators have concluded, in fact, that "hydrogen was not

believed to be the cause of the pressure spike...[and] hydrogen was not discussed on March 28, 1979." NUREG-0760, at 24.

I. Items Raised In Original Management Hearing

F. Hartman Allegations

1. Hartman allegations regarding possible falsification of leak rate data were raised in proceeding, but not addressed. They will be discussed infra.

RESPONSE I.F.1. See response to III.A, infra.

II. Issues Raised By The Cheating Incidents

A. Adequacy of Management Response to Cheating

1. Did management wilfully constrain the NRC investigation by having management representatives sit through NRC interviews?

RESPONSE II.A.1. Resolved.

This issue was fully litigated before the Licensing Board in the reopened proceeding. In summary, permitting management representatives to be present during NRC interviews with Licensee employees was standard NRC Staff practice. For example, this practice was allowed during the investigation that resulted in the issuance of NUREG 0600. Thus, during the initial I&E investigation of the two individuals who cheated on the NRC exams, a management official was present during employee interviews, at the employee's request. The Staff subsequently changed its policy about management's presence, and Licensee acc ded to the Staff's position. The Staff concluded that company presence during the initial interviews was inhibiting; however, in its view, this presence did not affect the overall effectiveness of the investigation. Furthermore, the Staff does not believe Licensee was motivated by a desire to constrain the investigation. The Licensing Board agreed with these views. See Reopened PID, ¶¶ 2229-34 (16 N.R.C. at 334-35); see also "Licensee's Comments on Commissioner Gilinsky's Tentative Conclusion" (Aug. 4, 1983), at 30-32. Noting with approval

Licensee's stated purpose of attending the interviews in order to gain first-hand knowledge of the scope of the problem, the Board stated:

> Were it not for the possible inhibiting effect, it would be management's duty to be present at interviews to learn both the 'scope' and the details of its problem. To meet its responsibilities to the public, the NRC, its ratepayers, owners and employees, management should have made every reasonable effort to stay on top of the NRC investigation.

Reopened PID, ¶ 2232 (16 N.R.C. at 335).

II. Issues Raised By The Cheating Incidents

A. Adequacy of Management Response to Cheating

2. Did management conduct a thorough investigation to determine who cheated?

RESPONSE II.A.2. Resolved.

The Board concluded that "Licensee conducted an adequate investigation into the cheating incidents." Reopened PID, ¶ 2271 (16 N.R.C. at 344). Notwithstanding identified weaknesses in the investigation, the fact is that "(a)fter intense scrutiny of the weekly examination papers and after thorough questioning under liberal cross-examination by intervenors and the Commonwealth, and after Judge Milhollin's own very careful inquiries, little was discovered in the way of concrete evidence of cheating beyond that disclosed by Licensee's own inquiries." Id; see also "Licensee's Comments on Commissioner Gilinsky's Tentative Conclusion" (Aug. 4, 1983), at 26-33, 35-36.

II. Issues Raised By The Cheating Incidents

A. Adequacy of Management Response to Cheating.

3. Did management impose appropriate sanctions on those who cheated?

RESPONSE II.A.3. Resolved.

The Board found that Licensee took appropriate personnel action as to O, W, VV and Shipman. Reopened PID, ¶ 2057 (16 N.R.C. at 294). As to G and H, the Board proposed sanctions, which were immediately instituted by Licensee. Id., ¶ 2419(1) (16 N.R.C. at 383-84); see also Licensee's Immediate Effectiveness Comments (Aug. 20, 1982), at 4-6.

II. Issues Raised By The Cheating Incidents

A. Adequacy of Management Response to Cheating

4. Has management taken appropriate steps to make it more difficult for one to cheat?

RESPONSE II.A.4. Resolved.

The Board found appropriate the new procedures implemented by Licensee to make cheating very difficult. Further, it required an additional safeguard against undetected cheating, namely, that Licensee institute a procedure for routine sampling and review of exam answers for evidence of cheating. Reopened PID, ¶¶ 2330-31 (16 N.R.C. at 359-60). This procedure, imposed as a license condition, has been implemented by Licensee and accepted as satisfactory after review by the Staff. See letter from Staff counsel (Goldberg) to the Appeal Board and the parties, Jan. 20, 1984.

II. Issues Raised By The Cheating Incidents

A. Adequacy of Management Response to Cheating

5. Did management break the sequestration agreement and improperly coach GPU employees who testified in the reopened hearing?

RESPONSE II.A.5. Resolved.

Licensee did not improperly coach GPU employees who testified in the reopened hearing. The sequestration order in question provided that certain Licensee employee witnesses be excluded from the hearing room during the testimony of other Licensee witnesses, and that these witnesses not discuss their testimony among themselves. See Special Master's Report at ¶ 7, LBP-82-34B, 15 N.R.C. 918, 927 (April 28, 1982). The allegation that Licensee broke the sequestration order was made by the Aamodts, based on their misunderstanding that the order applied to the testimony of other witnesses, in particular, a Staff witness. This was not the case. See Special Master's "Memorandum and Order Denying Motion to Stay the Hearing" (Feb. 9, 1982).

II. Issues Raised By The Cheating Incidents

B. Managements' Knowledge of and/or Involvement in Cheating

1. Did management encourage, condone or participate in the cheating?

RESPONSE II.B.1. Resolved.

The Licensing Board found "no evidence that Licensee's management encouraged or condoned cheating on the relevant NRC or company administered examinations." Reopened PID, ¶ 2047 (16 N.R.C. at 292). It also completely exonerated Mr. Ross, Manager of Plant Operations, who was accused of having participated in cheating. Id., ¶ 2225 (16 N.R.C. at 333).

II. Issues Raised By The Cheating Incidents

B. Managements' Knowledge of and/or Involvement in Cheating

2. Did Ross attempt to keep the proctor away from the examination room for a prolonged period of time to facilitate cheating?

RESPONSE II.B.2. Resolved.

The Licensing Board looked very closely at the allegations made against Mr. Ross, the Manager of Plant Operations. After a careful review of the record, including the adverse findings of the Special Master, the Board found "that the accusation that Mr. Ross impeded proctoring was incredible and that the accusor's testimony on that issue was unreliably ambiguous." Reopened PID, ¶ 2046 (16 N.R.C at 292).

II. Issues Raised By The Cheating Incidents

B. Management's Knowledge of and/or Involvement in Cheating

3. Did Ross unreasonably broaden the answer keys?

RESPONSE II.B.3. Resolved.

The Licensing Board reached the following conclusion about this allegation:

> There were two examination questions giving rise to the charge that the respective answer keys were improperly broadened. Our own analysis of the changes proposed by Mr. Ross convinced us that, on one question, the change was correct and, on the other, the proposed change, although not literally correct, was not unconscionable and could not be attributed to bad faith. Mr. Ross was the highest-level member of TMI-1 management whose ethical conduct was questioned, and we conclude that all of the charges against him were unfounded.

Reopened PID, ¶ 2046 (16 N.R.C. at 292).

II. Issues Raised By The Cheating Incidents

C. Extent of Cheating

1. Does the extent of cheating reflect adversely on management's integrity and ability to operate the plant consistent with public health and safety?

RESPONSE II.C.1. Resolved.

After considering all of the evidence, the Licensing Board concluded, "The cheating episodes are not a reflection on upper-level management's competence, good intentions and efforts. . . . There is no evidence whatever that the large majority of the TMI-1 operators lacked competence and integrity." Reopened PID, ¶¶ 2400, 2417 (16 N.R.C. at 379, 383). In general, the Board was convinced that Licensee is capable of correcting and intends to correct the problems revealed by the reopened proceeding. Id., ¶ 2411 (16 N.R.C. at 382). See also "Licensee Comments on Commissioner Gilinsky's Tentative Conclusion" (Aug. 4, 1983), at 34-36.

II. Issues Raised By The Cheating Incidents

C. Extent of Cheating

2. Do TMI-1 operators have sufficient integrity to perform their duties?

RESPONSE II.C.2. Resolved.

The Licensing Board, on the basis of the record, found that "[t]here is no evidence whatever that the large majority of the TMI-1 operators lacked competence and integrity." Reopened PID, ¶ 2417 (16 N.R.C. at 383). With respect to those TMI-1 operators whose integrity was specifically questioned, the Licensing Board determined that Licensee had taken appropriate disciplinary action (e.g., Mr. Shipman) or the issue has been mooted by these individuals' subsequent departure or removal as licensed operators (e.g., Messrs. O, W, G and H).

II. Issues Raised By The Cheating Incidents

C. Extent of Cheating

3. Does Husted have sufficient integrity to supervise training of unlicensed individuals?

RESPONSE II.C.3. Resolved.

The Licensing Board reviewed evidence regarding Mr. Husted's conduct during the April, 1980 NRC exams and his conduct during the subsequent NRC investigations. See generally, Reopened PID, ¶ 2148-68 (16 N.R.C. at 315-20). The Board found no reliable evidence that Mr. Husted cheated. The Board also found that Mr. Husted voluntarily came forward with information for the NRC investigators. Nevertheless, Mr. Husted displayed an inappropriate lack of seriousness about the matters at issue. The Board therefore strongly criticized Husted's attitude; however, no action was taken against his license because the Board had no evidence that his attitude was manifested in his performance as a teacher. Id., ¶ 2168 (16 N.R.C. at 319-20). Licensee has conducted a number of evaluations of Mr. Husted's attitude and instructor performance. See Licensee's Reply to Comments of Other Parties on Immediate Effectiveness, Sept. 1, 1982, at 41-42. Moveover, instructor evaluations now are an established practice in the TMI Training Department. See January 20, 1984 letter from Staff counsel to the Appeal Board and the parties. In addition, Mr. Husted's qualifications and delivery will be specifically assessed during the

post-restart audit of the TMI-1 training program. See Reopened PID, ¶ 2168 (16 N.R.C. at 320); letter dated June 10, 1983 from H. Dieckamp to Chairman Palladino (attached letter from H. Dieckamp to the Honorable Richard Thornburgh).

II. Issues Raised By The Cheating Incidents

D. Training and Testing Program

1. Is licensee's administration of its operator training and testing program sufficient to provide confidence in the integrity of management?

RESPONSE II.D.1. Resolved.

There was no dispute during the reopened proceeding that there were serious deficiencies in Licensee's past administration of its training programs. Licensee took actions in order to remedy those deficiencies. The Board expressed its confidence in Licensee's ability to improve its training program, noting, "If we were not convinced that the Licensee is capable of correcting and intends to correct the problems revealed by this reopened proceeding . . ., we could not, as we do, conclude this proceeding in favor of restart." Reopened PID, ¶ 2412 (16 N.R.C. at 382). The Board did impose four license conditions directed at Licensee's training program. Id., ¶ 2347 (16 N.R.C. at 364-65). Licensee has implemented all of the conditions imposed by the Licensing Board with the exception of the audit requirement, which is a post-restart requirement to which Licensee has committed and which is pending NRC approval. See letter dated January 20, 1984 to the Appeal Board and parties from J.R. Goldberg, Staff counsel. Licensee also initiated on its own an audit of its training program in 1982. This audit, conducted by Data-Design Laboratories (DDL),

resulted in an Assessment Report which was provided to the Appeal Board and the parties on October 5, 1982. The Report contains a detailed review and assessment of the TMI training program, as well as recommendations for future improvements. Overall, however, DDL concluded that "GPU Nuclear has made significant progress in the past three years to expand the TMI training capability and to improve the quality of the TMI-1 training programs." DDL Assessment Report, Sept. 1982, at 1-29.

II. Issues Raised By The Cheating Incidents

D. Training and Testing Program

2. Is licensee committed to improving the quality of its training program?

RESPONSE II.D.2. Resolved.

Licensee's commitment to improve the quality of its training program was covered in depth in the original management hearing. See Management PID, ¶ 276 (14 N.R.C. at 478) (". . . Licensee has in place at TMI-1 a comprehensive and acceptable training program. Since the accident, Licensee has substantially augmented its training department . . . .") As noted in response to II.D.1, supra, following the discovery of cheating, the Licensing Board was confident that Licensee could and would improve upon the admitted deficiencies associated with the administration of the training program. With regard to the substantive aspects of the training program, the Board stated:

> We remain satisfied that Licensee was unstinting in the resources devoted to the training program. It cannot be faulted in the selection of the advice it sought for its training program, the credentials of its training managers or on the general design of its training program. The cheating episodes are not a reflection on upper-level management's competence, good intentions and efforts.

Reopened PID, ¶ 2400 (16 N.R.C. at 379).

II. Issues Raised By The Cheating Incidents

E. Licensee's System for Certifying Candidates

1. Is licensee's system for certifying competency of operator candidates seeking to obtain or renew licenses sufficient?

RESPONSE II.E.1. Resolved

The Board found that proper implementation of the proposed formal written certification procedure "should eliminate the possibility of certifying candidates for the NRC examination who cheated on internal examinations on one or more occasions," and "will enhance the credibility of Licensee's certification process." Reopened PID, ¶¶ 2350, 2351 (16 N.R.C. at 366); see also discussion of certification procedure in Response I.B.5, supra; NRC Inspection Report 83-10 (May 17, 1983) at 13-1 to 13-2.

II. Issues Raised By The Cheating Incidents

E. Licensee's System for Certifying Candidates

2. Did management improperly certify VV to the NRC in 1979?

3. If VV was improperly certified, who was responsible for making the certification decision? Was upper management involved?

RESPONSE II.E.2, 3. Resolved.

The Licensing Board concluded that Mr. Miller, with Mr. Herbein's knowledge and assent, falsely certified VV's training scores to the NRC in August, 1979 and recommended that the Staff perform a full investigation of the issue. Reopened PID, ¶¶ 2305-15 (16 N.R.C. at 352-54). The Board also noted that the VV matter was first brought to the Staff's attention by Mr. Arnold and "found no evidence that there was any improper conduct at any level higher than Mr. Herbein's level." Id., ¶ 2320 (16 N.R.C. at 355). Messrs. VV, Herbein and Miller no longer work for GPU Nuclear. Since the close of the record, the Commission authorized the assessment of a $100,000.00 civil penalty against Licensee for the material false statements associated with the VV certification issue. See CLI-83-20, 18 N.R.C. 1 (1983). Licensee has requested a copy of the investigation report on which this fine was based before responding to the proposed civil penalty.

Issue also addressed in:

- Licensee's Comments on Immediate Effectiveness of Partial Initial Decision (Reopened Proceeding) Dated July 27, 1982 (Aug. 20, 1982), at 6-7.
- Transcript of November 9, 1982 Oral Argument on Immediate Effectiveness at 26-33.
- Licensee Comments on Commissioner Gilinsky's Tentative Conclusion (Aug. 4, 1983), at 23-26.

III. Items Raised Since Close Of Hearing

A. Hartman Matter

1. Was leak rate data at TMI-2 falsified?

2. Who was involved in any falsification?

3. Did management have knowledge of, encourage or condone falsification? If so, who in management was involved?

4. Why didn't licensee thoroughly investigate matter?

5. What impact does the criminal indictment have?

RESPONSE III.A.1-5. Unresolved, but need not be resolved prior to restart.

The Hartman matter is the subject of a pending OI investigation. It is also the subject of a recent criminal indictment of Metropolitan Edison.3/ During the pendency of the grand jury investigation into this issue, Licensee was limited in its ability to investigate the Hartman allegations because key individuals had been advised by their counsel not to discuss the matter. See Faegre & Benson Report, Vol. 1, p. 13 (Sept. 17, 1980).

Until NRC has resolved the matter, Licensee has taken actions to assure that any person who was licensed on Unit 2 prior to the accident, with the exception of the TMI-1 Manager of Operations, will not operate TMI-1, and that any former Met

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3/ No individuals were named in the Department of Justice indictment based on the Hartman allegations.

Ed exempt employees with pre-accident involvement at Units 1 or 2 will not be assigned to any TMI-1 assessment, analysis or audit activities. See letter dated June 10, 1983 from H. Dieckamp to Chairman Palladino; letter dated November 28, 1983 from P. R. Clark to H. R. Denton (Transmitted by Licensee Counsel's December 1, 1983 "Notice to the Commission, Appeal Board, Licensing Board and Parties"). With respect to the TMI-1 Manager of Operations, Mr. Ross was specifically endorsed by the Licensing Board, after repeated appearances before it. See Management PID at ¶ 155 (14 N.R.C. at 439-40); Reopened PID at ¶ 2225 (16 N.R.C. at 333). As the Supervisor of Operations at TMI-1, his duties were virtually all on TMI-1; while Mr. Ross was cross-licensed on TMI-2 prior to the accident, his involvement at TMI-2 was very limited and largely administrative in nature. See Transcript of November 28, 1983 Public Commission Meeting at 25-26 (Clark, Ross).

As Licensee has stated previously, the pendency of the Hartman allegations, which concern leak rate test practices at TMI-2, do not provide any justification for an immediately effective shutdown of TMI-1. See Licensee's Response to Commission Order of October 7, 1983 (Oct. 27, 1983), at 5. The Staff also has consistently held the position that the issues raised by the Hartman allegations should not, by themselves, prevent restart of TMI-1. See Memorandum to the Commissioners from W. J. Dircks, dated January 3, 1984, at 1; Memorandum to the Commissioners from W. J. Dircks dated May 19, 1983, at 3.

III. Items Raised Since Close Of Hearing

B. TMI-1 Leak Rate Issue

1. Was leak rate data at TMI-1 falsified?

2. Who was involved in any falsification?

3. Did management have knowledge of, encourage or condone falsification? If so, who in management was involved?

RESPONSE III.B.1-3. Unresolved. Licensee has no objection to this issue being taken into consideration by the Commission in its restart decision.

Licensee is privy to no evidence developed to date which suggests malfeasant leak rate test practices at TMI-1 prior to the TMI-2 accident. Licensee is aware that Inspection Report 50-289/83-20, provided to the Commission and Appeal Board (but not to the parties or Licensee) by Board Notification 83-138B, October 6, 1983, deals with this issue. Further, Licensee understands that OI may have provided preliminary data to the Commission on the issue during closed briefings. Licensee believes that the OI investigation is essentially finished. As stated in our Response to the Commission's October 7, 1983 Order, Licensee does not believe the mere pendency of these allegations should be a bar to restart; i.e., the existence of unsubstantiated allegations do not constitute a sufficient legal basis for continuing to suspend the TMI-1 license. This is particularly true given the extensive personnel changes at

TMI-1 from the time period under investigation. See June 10, 1983 letter from H. Dieckamp to Chairman Palladino and November 28, 1983 letter from P.R. Clark to H. Denton. However, Licensee recognizes that the issue has potential significance. Licensee therefore believes that the Commission can and, in its discretion, should obtain OI's findings on this issue before reaching its decision on restart.

This issue is also addressed in:

- Letter dated August 18, 1983 from J.R. Thorpe, GPU Nuclear, to R.W. Starostecki, Region I, attached to Board Notification 83-138C (Oct. 27, 1983).
- "Report of Investigation into Irregularities Found by the NRC for TMI-1 Leakrate Tests," Attachment 6 to Licensee's Response to Commission Order of October 7, 1983 (Oct. 27, 1983).

III. Items Raised Since Close Of Hearing

C. Parks/King/Gischel Allegations on Technical Violations and Harrassment and Intimidation

1. Did licensee follow procedural requirements relating to clean-up?

RESPONSE III.C.1. Resolved.

The allegations raised by Messrs. Parks, King and Gischel relating to procedural violations at TMI-2 have been the subject of an investigation performed by OI and of two investigations performed for Licensee. See OI Interim Report (H-83-002) dated September 1, 1983 (publicly released September 13, 1983); Licensee counsel's letter of June 28, 1983 to the Appeal Board and parties, transmitting a report by Messrs. Lowe and Griebe; Licensee counsel's Notification to the Commission, et al., dated November 11, 1983, transmitting GPUN comments on OI Report; Licensee counsel's Notification to the Commission, et al., dated November 23, 1983, transmitting Mr. Stier's report, "TMI-2 Report: Management and Safety Allegations." While disagreeing with the general conclusions of the cover memo transmitting the interim OI Report, Licensee has found that some activities at TMI-2 were not conducted in conformance with applicable administrative requirements. Appropriate steps have been undertaken to remedy these deficiencies. See November 11, 1983 Notification and letter dated January 16, 1984 from P.R. Clark, GPUN, to H.R. Denton, NRC, attached to Licensee

counsel's letter of January 27, 1984 to the Appeal Board and parties.

III. Items Raised Since Close Of Hearing

C. Parks/King/Gischel Allegations on Technical Violations and Harassment and Intimidation

2. Was management intending to cut corners to the detriment of safety?

RESPONSE III.C.2. Resolved.

This issue has been the subject of the investigations identified in response to III.C.1, supra. Licensee believes the evidence, as reflected in the factual findings of all of the investigation reports, clearly establishes that management did not cut corners to the detriment of safety. See summary discussion in January 16, 1984 letter from P. R. Clark to H. R. Denton and attachment thereto (forwarded to the Appeal Board and parties by counsel for Licensee on January 27, 1984.) Mr. Stier, based on his investigation into allegations, concluded "the allegations imply that the management of TMI-2 was headed in the direction of increased tolerance of unsafe practices. In contrast, the evidence shows that the trend was toward tighter administrative controls to assure that safety standards were met." Stier Report, Vol. 1, p. 13. The Staff review of the OI investigation report determined that "there really was no safety significance" to the identified documentary errors. Public Commission Meeting with Advisory Panel on TMI-2 Cleanup, Feb. 3, 1984, at 9; see also Feb. 3, 1984 TMI-2 Notice of Violation (without a fine) for Severity Level IV procedural

violations "considered to be, at most, of minor safety significance."

III. Items Raised Since Close Of Hearing

C. Parks/King/Gischel Allegations on Technical Violations and Harassment and Intimidation

3. Did management or others attempt to intimidate or harass individuals who questioned whether procedures were being followed? If so, who in management was involved?

RESPONSE III.C.3. Resolved.

The issue of harassment/intimidation of employees at TMI-2 was not discussed in OI's September 1, 1983 interim report; OI is presently investigating this issue. However, the matter was investigated at Licensee's request by Mr. Stier, a former prosecutor, who reached the following conclusions:

> The evidence gathered in the course of this investigation clearly demonstrates that the allegations, in their broadest sense, are unfounded. That is, the claims that the management of TMI-2 is unconcerned about the safety of the recovery effort and retaliated against employees who attempted to call these deficiencies to management's attention are contradicted by the weight of the evidence. . . . The allegations that accused management of following a policy of ignoring problems brought to its attention and of punishing employees who raised the issues are untrue.

Stier Report, Vol. 1, p. 13; see Licensee's Notifications to the Commission of November 11, 1983 and November 23, 1983; see also, P. R. Clark letter of January 16, 1984. Four individual employees at TMI-2, three of whom worked for Licensee, expressed concerns about harassment. Three of these four complaints have been settled by the employers and employees. One

complaint, that of Mr. King, remains pending on appeal before the Department of Labor after an initial determination that Mr. King was properly discharged by Licensee for matters unrelated to safety concerns. See Attachment 5 to Licensee's Response to Commission Order of October 7, 1983.

III. Items Raised Since Close Of Hearing

D. Timely Reporting of Documents

1. Did GPU provide the NRC on a timely basis with copies of the RHR/BETA Reports, Keaten Report and the Hartman investigation report (Faegre and Benson Report)?

RESPONSE III.D.1. Resolved.

The issue raised here is not whether Licensee should have provided the BETA, RHR, Keaten or Faegre & Benson reports to the NRC earlier than it did but, rather, whether Licensee's provision of these materials to the NRC at the time the reports were provided (and not earlier) establishes a lack of integrity. The Commission has sufficient information available to it to decide this question. It has the reports so as to judge their significance, and is aware of the circumstances of their disclosures. In Licensee's opinion, the answer clearly is that there is no evidence that Licensee deliberately failed to disclose any of these documents so as to suggest a lack of integrity. In any event, Licensee believes that the immateriality of the reports supports the timing of Licensee's disclosure of these documents, i.e., Licensee had no affirmative obligation to disclose them earlier.

The Keaten Report was provided to the Commission and parties in November, 1981 in response to Commissioner Gilinsky's request. Its submission has not given rise to a single comment by any party in the more than two intervening

years that it contains significant new safety information that would impact on the Licensing Board's decision on restart. This is not surprising since the subjects addressed in the Keaten Report were also addressed in far greater detail in a host of reports on the TMI-2 accident, including those by Kemeny, Rogovin and the Hart Committee, which were available to the Commission and parties. See Licensee's Response to Commission Order of October 7, 1983 (Oct. 27, 1983), at 7-8, and Attachments 7 and 8. Licensee's decision not to disclose this report earlier was based on the absence of information in it otherwise unavailable to the NRC and the public, an apparent lack of interest in such reports in the proceeding, and the fact that the report was no more than an internal company "lessons learned" report, a self-evaluation not intended to be publicly disseminated. Certainly, the preparation of such reports is appropriate as long as this practice is not used to cover up information to which the Commission is entitled. See Transcript of Commission Meeting, at 71-77 (Kuhns, Dieckamp).

The Faegre & Benson Report on the Hartman allegations voluntarily was provided to the Commission and parties in May, 1983. Licensee has addressed the significance of the Hartman allegations to a restart decision in Item III.A.1-5, supra. Licensee also has explained the basis for the timing of its submission to the Commission. Licensee did not consider that this report contained "new information . . . that the company

had some obligation to provide." Commission Briefing on Staff Review of GPU v. B&W, April 6, 1982, at 22-26 (Arnold). The Staff also has provided its views on the significance of this report:

> The Report and depositions [included in the Report] do not expand the scope of the allegations, resolution of the allegations, or add substantially to the information of which the NRC was aware. The Staff was also aware in 1980 that GPU initiated an investigation of the Hartman allegations, but did not seek a copy of the investigation report.

Memorandum to Commission from William J. Dircks on Reportability of GPU Investigation Report and Depositions Re Hartman allegations, June 29, 1983 (forwarded to parties by NRC counsel on July 12, 1983), at 5.

The RHR and BETA Reports also were volunteered to NRC. During the course of an I&E inspection at TMI-1 in late April, 1983, Henry Hukill, Vice President of TMI-1, was discussing with the NRC inspectors Licensee's recent management activities. At that time, Mr. Hukill called the Staff's attention to the BETA and RHR Reports, which had been received by GPUN management in February (BETA) and March (RHR) of 1983. Mr. Hukill referred to these reports as evidence of responsive, interested management. He provided copies of the reports for the inspectors' review. Subsequently, in May, 1983, copies of these reports were furnished to the Appeal Board and the

parties. See Licensee's Response to Commission Order of October 7, 1983 (Oct. 27, 1983), at Attachment 10.

Licensee has detailed its views on the immateriality and reportability of the RHR and BETA Reports. See id. The Staff, too, has provided both its views on the significance of those reports and on their reportability. Compare NUREG-0680, Supplement 4 (forwarded by BN 83-173, Nov. 4, 1983) ("the BETA and RHR Reports (1) do not contain information of significant safety or regulatory interest and (2) do not raise any issues which would be a bar to the restart of TMI-1"); with Memorandum dated June 14, 1983 from G.H. Cunningham to H.R. Denton forwarded to Commission by Memorandum of William J. Dircks, June 22, 1983) (OELD concluded the Licensee failed to meet its duty to make Board Notifications and its disclosure obligations under Section 186 of the Atomic Energy Act).

In summary, there is no evidence of bad faith or lack of integrity in the timing of Licensee's disclosure of the RHR, BETA, Keaten or Faegre & Benson reports. In addition to the materials already referenced, these reports also are addressed in the following documents:

- Transcript of Oral Argument on Immediate Effectiveness (Oct. 14, 1981), at 89-90
- ALAB-738 (Aug. 31, 1983), at 39-40.
- NUREG-1020, § 10.2 (Sept. 1983).
- NRC Staff's Reply to the Parties' Responses to the Commission's October 7, 1983 Order (Nov. 14, 1983), at n.3.

- Transcript of Commissi.n Public Meeting on Restart (Nov. 28, 1983,, at 70-77.

III. Items Raised Since Close Of Hearing

E. Keaten Report Issue

1. Did management modify the draft Keaten Report for the purpose of projecting a more positive view of management?

2. Do any such changes indicate an unwillingness on the part of management to accept responsibility and take corrective actions?

RESPONSE III.E.1-2. Resolved. Although the final OI investigation of this matter is not yet complete, there is sufficient information available for the Commission to consider this matter resolved for restart purposes.

The Keaten Report issue has been raised as possibly impacting restart by Intervenor TMIA in its "Interim Comments on B&W Trial Record" and by the Staff in NUREG-1020, §10.2. Licensee has responded to these two documents. See Licensee's Response to Commission Order of October 7, 1983 (Oct. 27, 1983), Attachments 7 and 8. As we point out in that response, the evidence does not demonstrate an improper management role in the development of the Keaten Report. See id., at 8-9. See also Transcript of Public Meeting on TMI-1 Restart (Nov. 28, 1983), at 71-77. The Keaten task force effort, including the evolution of the Keaten Report and the substance of the Report itself, reflect a willingness on the part of management to carefully and thoroughly examine and criticize itself, and to take necessary corrective actions as a result of this in-depth

self-examination. See Licensee's Response to Commission Order of October 7, 1983 (Oct. 27, 1983), Attachments 7 and 8.

III. Items Raised Since Close Of Hearing

F. GPU v. B&W Trial Material Review

1. Does Frederick's testimony reflect on the sufficiency of his integrity to serve as supervisor of operator training?

RESPONSE III.F.1. Resolved.

Mr. Frederick, Supervisor of Licensed Operator Training (see Licensee counsel's letter dated May 6, 1983 to the Appeal Board and parties), testified and was subjected to cross-examination during the B&W trial regarding the timing of High Pressure Injection (HPI) actuations on the day of the TMI-2 accident. A memorandum analyzing the trial evidence regarding the HPI actuation, including a lengthy review of Frederick's testimony, was forwarded to the Appeal Board and parties via Licensee counsel's letter of September 29, 1983 (Enclosure 3). As explained there, Mr. Frederick had not previously testified that there had been a 5:41 a.m. HPI actuation and therefore his trial testimony is not inconsistent with his previous statements. See id. at 9-10, 14-16. This issue is also addressed in NUREG-1020, §10.7.

Licensee has not been notified whether this issue is the subject of an ongoing OI investigation. But see, Inside N.R.C. (Vol. 6, No. 3), Feb. 6, 1984, at 5-6. However, even if that is the case, Licensee believes that the Commission has sufficient information before it on this issue to permit a restart determination.

III. Items Raised Since Close Of Hearing

F. GPU v. B&W Trial Material Review

2. Does Zewe's change in testimony indicate sufficient integrity to serve as Radwaste Operations Manager?

RESPONSE III.F.2. Resolved.

Mr. Zewe is no longer involved in GPU's nuclear activities. See Licensee counsel's letter to the Appeal Board and parties dated January 27, 1984. In any event, Mr. Zewe's testimony is analyzed in depth in a memorandum on HPI actuation provided by Licensee's counsel to H.R. Denton, dated August 23, 1983 and provided by Licensee to the Appeal Board and parties on September 29, 1983.

III. Items Raised Since Close Of Hearing

F. GPU v. B&W Trial Material Review

3. Does GPU's decision prior to the accident to reduce operator training and thus possibly violate training program commitments reflect adversely on management integrity?

RESPONSE III.F.3. Resolved.

Neither the substance nor the basis of this issue is clear. However, because of the extensive changes in the TMI-1 training program and organization that have occurred since the accident, as well as in the TMI-1 management organization, Licensee does not believe that this pre-accident inquiry is necessary to a restart decision. For the Commission's benefit, however, Licensee notes the following discussions of the old training program at TMI in materials provided to the Commission in the course of this proceeding:

- NUREG-1020, §§1.2 and 10.3;
- "GPU Response to TMIA Interim Comments on B&W Trial Record" (Sept. 21, 1983), at 43-61 (Enclosure 1 to Licensee counsel's letter of September 29, 1983 to the Appeal Board and parties);
- "Response of GPU Nuclear Corporation to the Public Version of the NRC Staff's Report on GPU v. B&W Lawsuit Review and Its Effect on TMI-1 (NUREG-1020)", at 11-15 (attached to letter dated October 14, 1983 from H. Dieckamp, GPU, to Commission and parties).

III. Items Raised Since Close Of Hearing

F. GPU v. B&W Trial Material Review

4. Did licensee recognize that prior to the accident there were serious deficiencies in plant hardware and its training and maintenance program, yet fail to take appropriate corrective actions?

RESPONSE III.F.4. Resolved.

Again, as with issue III.F.3 above, Licensee is uncertain of the basis for an issue that management recognized "serious deficiencies" in plant hardware and its training and maintenance program, yet failed to take appropriate corrective action. Assuming that Item III.F.4 refers to the issues raised by the Staff in §10.4 of NUREG-1020 (GPU Preaccident Knowledge of Defective Plant Conditions), Licensee relies on its response to NUREG-1020, at pages 15 through 19, and 26 through 30, and on the Staff's discussion in §10.4.2 of NUREG-1020. See also Management PID, ¶¶387-401 (14 N.R.C. at 514-18). Licensee would again remind the Commission that the Licensing Board has passed favorably on the current programs for the subjects addressed in this issue. See generally, Management PID, LBP-81-32, 14 N.R.C. 381 (1981); Design PID, LBP-81-59, 14 N.R.C. 1211 (1981); Reopened PID, LBP-82-56, 16 N.R.C. 281 (1982).

III. Items Raised Since Close Of Hearing

F. GPU v. B&W Trial Material Review

5. Did Arnold's testimony before the Licensing Board mislead the Board by implying that the utility was improving its maintenance and training programs?

RESPONSE III.F.5. Resolved.

Mr. Arnold could not have misled the Licensing Board by implying that GPU Nuclear has improved its maintenance and training programs since that is indeed the case. Moreover, in his testimony before the Board, while Mr. Arnold generally described the overall corporate and TMI site organization changes which have occurred since the time of the accident, he did not testify in detail about the maintenance or training programs. (Other witnesses did address the issues of maintenance and training in great detail.) As the Licensing Board pointed out, no evidence was presented which contradicted Mr. Arnold's (and others) testimony regarding the improvements resulting from the organizational changes. Management PID, ¶67 (14 N.R.C. at 412); see generally, id. at ¶¶47-67 (14 N.R.C. 403-12). To the extent that this item relies on the improper inferences drawn by intervenor TMIA from Mr. Arnold's B&W trial testimony, Licensee refers the Commission to our response to TMIA's comments. See "GPU Response to 'TMIA Interim Comments on B&W Trial Record'," at 61-72; see also ALAB-738, 18 N.R.C. 177, 195-96 (Aug. 31, 1983).

III. Items Raised Since Close Of Hearing

F. GPU v. B&W Trial Material Review

6. Does licensee's decision not to bypass the condensate polisher reflect on management integrity?

RESPONSE II.F.6. Resolved.

This item was raised in the Staff's discussion of Financial/Technical Interface issues in NUREG-1020 (§10.9). Licensee has addressed this issue in both its response to TMIA's interim comments, at 24-28, and in its response to NUREG-1020, at 28-30. See enclosures (1) and (3) to transmittal letter from Licensee counsel to the Appeal Board and parties dated September 29, 1983. As pointed out therein, the decision not to bypass the condensate polisher was based on sound engineering judgment. To Licensee's knowledge, there are other plants with similar condensate polisher systems that do not have such a bypass -- even today.

III. Items Raised Since Close Of Hearing

G. Boring Brothers Allegations

1. Were welders with inadequate qualifications working at TMI?

2. If so, what was management knowledge and role?

RESPONSE III.G.1-2. Resolved.

This allegation, raised during a June 29, 1983 U.S. Senate Committee on Labor and Human Resources oversight hearing, was the subject of a special inspection conducted by the Staff at Three Mile Island on July 26-29 and August 2-6, 1983. See Combined Special Inspection Report Nos. 50-289/83-24 and 50-320-83-13 attached to letter dated September 2, 1983 from J.M. Taylor, NRC, to H.D. Hukill and B.K. Kanga. In sum, no violations were noted and the allegations were determined to be unfounded.

III. Items Raised Since Close Of Hearing

H. Unattended Radiation Worker Examinations and Answer Keys

1. Whether discovery of unattended examinations and answer keys raised questions about licensee's training commitments?

RESPONSE III.H.1. Resolved.

The Aamodts cited this incident as the basis for a Motion to Reopen filed with the Licensing Board in 1982. The Appeal Board assumed jurisdiction over the motion (ALAB-699, 16 N.R.C. 1324 (1982)) and denied it. Specifically, the Appeal Board found that this information was "neither significant nor likely to have affected the Licensing Board's decision." ALAB-738, 18 N.R.C. 177, 193 (Aug. 31, 1983). Rather, the events associated with this incident constitute "evidence that the system is working." Id. at 194; see also N.R.C. Inspection Report 50-289/82-07 (July 1, 1982), at 17.

III. Items Raised Since Close Of Hearing

I. Psychological Testing Allegations (Quinn Allegations)

1. Did management improperly assist a potential GPU employee to pass psychological tests?

RESPONSE III.I.1. Resolved.

The Board and parties received an initial notification of this issue by Board Notification 83-08 (February 1, 1983). Both Licensee and OI have conducted extensive investigations of this allegation. The results of Licensee's investigation of this issue were made available by letter from Licensee counsel dated September 16, 1983. The results of OI's investigation have recently been made public, see Board Notification 84-002, January 4, 1984, and reveal that OI did not find any improprieties in the pre-employment psychological testing program. OI Report of Investigation No. 1-83-003 (Feb. 25, 1983); No. 1-83-003 Supplemental (Oct. 12, 1983).

III. Items Raised Since Close Of Hearing

J. Technical Issues

1. Does GPU's schedule of implementation of long-term items adversely reflect on management's character?

RESPONSE III.J.1. Resolved.

Licensee, in its August 4, 1983 "Comments on Commissioner Gilinsky's Tentative Conclusion," at 36-64 and App. A, responded in detail to what it considered to be the unreasonable charge that it had improperly delayed implementation of NRC's post-accident requirements. In summary, Licensee has pursued implementation of long-term action items in good faith. Upon return to service, TMI-1 will be comparable with the modification status of other similar operating plants.

III. Items Raised Since Close Of Hearing

J. Technical Issues

2. Do the apparent procedural violations in latest Region I inspection reports indicate inadequate management attention?

RESPONSE III.J.2. Resolved.

Region I Inspection Reports 50-289/83-25 and 83-26 (attached to Board Notification 83-177, Nov. 4, 1983) detail a number of procedural violations of NRC requirements. In an enclosed cover memorandum of November 2, 1983, Mr. Starostecki, Director - Division of Project and Resident Programs, Region I, stated, "[B]ased on our experience with facilities completing extended outages, it is not unusual to encounter such problems as they resume operations." Subsequently, in order to better assess the significance of these violations, the Staff held an enforcement conference with Licensee on November 8, 1983. By copy of letter dated December 23, 1983, from R.W. Starostecki to H.D. Hukill, the parties to the restart proceeding were advised of the matters discussed during the conference. In sum, Region I concluded that, while enforcement action was being considered, the violations "are considered to be isolated cases and not indicative of a programmatic problem" and that "[c]orrective actions taken by the licensee appear to be adequate for the circumstances and their effectiveness will be followed by Region I." Attachment at 4. See also Transcript

of Public Commission meeting on TMI-1 Restart (Dec. 5, 1983), at 145-46 (Murley).