



UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I
970 BROAD STREET
NEWARK, NEW JERSEY 07102

APR 26 1973

J. P. Stohr, Senior, Environmental Protection and Special Programs Section
Directorate of Regulatory Operations, Region I

INSPECTOR'S EVALUATION

RO INSPECTION REPORT NO. 50-219/73-03
JERSEY CENTRAL POWER AND LIGHT COMPANY
OYSTER CREEK NUCLEAR STATION (OC)

The above inspection report documents the findings of my review of the licensee's environmental monitoring program. This inspection covered both radiological and non-radiological areas and, as indicated in the report, several items of noncompliance were found with respect to Oyster Creek Technical Specification requirements. My overall evaluation of the program is that it is essentially nonexistent. The radiological program is apparently an extension of the pre-operational program for the site and as such is in need of extensive upgrading. I have included my recommendations for this upgrading as an attachment to this evaluation but feel that the problem at OC goes much deeper than the facade of an acceptable program. The most sophisticated environmental surveillance program would be meaningless at OC at this time due to (a) the lack of manpower to undertake it and (b) the apathetic attitude of management at both the site and at the corporate level of JCPL and GPU. Data is being accumulated at OC for the sake of collecting data. It was the inspector's opinion that the personnel in charge of the program had absolutely minimal concern with the program and provided no evaluative review of the data being received. The inspector was surprised when the OC Technical Supervisor had to be notified by the inspector that two of the five OC air particulate samplers had been inoperable for periods approaching 10 months. Throughout the inspection, the Technical Supervisor was very apologetic and made many excuses but at no time gave this inspector the impression that he (the Technical Supervisor) had a firm handle on what was going on with the environmental monitoring program. Even the OC Station Superintendent was taken back by the apparent lack of knowledge exhibited by the Technical Supervisor when the items of noncompliance were discussed at the management interview. (This, by the way, after the inspector had previously reviewed the items with the Technical Supervisor alone). The Technical Supervisor stated that he wished to informally provide me with a listing of why each violation occurred but no such listing has been received to date.

The non-radiological programs are also in very poor condition. Water quality parameters are only monitored (when monitored) three times a year. Results from measurements such as this are meaningless. I would strongly recommend a detailed review in this area by DL since JCPL is planning to put a second unit (Forked River Unit 1) on this same site. JCPL and GPU rely heavily on consultant reports but appeared to be totally ignorant of their contents. At one point, the inspectors were presented with a stack of consultant reports, one of which would have been quite damaging to JCPL with respect to a lawsuit filed against it involving the shipworm problem discussed in the report. Realizing the impact of the report I had just read, I asked the licensee if they wished the report or information therein be kept proprietary. The Manager of Nuclear Generating Stations, (JCPL), the Safety and Licensing Manager (GPU) and the Safety and Licensing Project Engineer (GPU) all admitted that they did not know what information the report contained, read the report at that time, and concurred with me that it definitely should be kept proprietary. This is but one example of the lack of control, supervision, and awareness provided by management over environmental matters.

(NOTE: Along the lines of current litigation in the aforementioned lawsuit, the licensee informally conceded that the utility was responsible for the ecological changes in Oyster Creek and the aggravation of the shipworm problem therein).

During the part of the inspection in which I spoke to marina owners, I was impressed by their sincerity and alarmed by the apparent fear these people have of radiological releases from OC. Although I feel that I may have alleviated these fears temporarily, I'm afraid that others (e.g., Dr. Sternglass et al.) will soon bring this fear back. In talking to these owners, I got the impression that public relations at JCPL is nonexistent also. The company (JCPL) appears to be insensitive to their inquiries unless forced into it by adverse publicity.

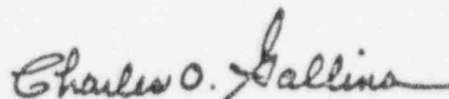
The ecological problems discussed with the marina owners (high temperatures, silting and shipworms) appear to be well founded. The temperature problems have come up before and the way the upper limit of temperature is measured at the temperature buoy in Barnegat Bay virtually gives OC the freedom to discharge effluent at any temperature it desires provided the temperature at the buoy never exceed 95°F. It doesn't take too much imagination to see how water temperatures at these marinas could reach 104°F during the hot summer months. I would recommend that DL look into a more reliable way of controlling thermal discharge at OC such as setting criteria within the Creek or some similar approach.

The shipworm problem appears to also be well founded based on my observations. According to the proprietary report I read by Dr. Wurtz to JCPL as mentioned earlier, the incidence of shipworms in Oyster Creek was a factor of two greater than in the control creek (Stout's Creek). The shipworm and silting problem should be investigated in detail, and if JCPL is uncooperative in this respect, perhaps DL or AEC consultants should do so.

To summarize this aspect of the evaluation, the marina owners feel that JCPL is operating with utter disregard for their problems. After talking to JCPL and GPU representatives, I was inclined to agree with the owners. After describing the problems observed at the marinas to a JCPL representative, his only reply was, "At least the hot water keeps the marinas free of ice in the winter."

Looking at the overall inspection results, including observations by all three inspectors, I would make the following recommendations.

- A. The overall radiological environmental monitoring program be jointly reviewed by DRO, DL and the licensee in order to arrive at an acceptable monitoring program which will provide an adequate monitor of critical pathways of radioactive effluents from the plant to man. This program should include state-of-the-art techniques and not be based on outmoded techniques or unnecessary analyses.
- B. The overall non-radiological environmental program should also be jointly reviewed by DRO, DL and the licensee in order to arrive to an acceptable monitoring program to protect the ecology of the area from any further adverse impact from either the Oyster Creek Plant or the proposed Forked River Station.
- C. It is recommended that based on the number and nature of the items of noncompliance found, and in order to insure that adequate manpower and supervision will be provided with respect to the above stated program, corporate management of JCPL and/or GPU be called in to RO:I for a management meeting with the Director.



Charles O. Gallina, Ph.D.
Radiation Specialist

Enclosure:

Attachment: Recommendations for the
Upgrading of the Environmental Mon-
itoring Program

ATTACHMENT

RECOMMENDATIONS FOR THE UPGRADING OF THE ENVIRONMENTAL MONITORING PROGRAM AT THE OYSTER CREEK NUCLEAR GENERATING STATION

1. Air particulate samplers should be located at a minimum of 3 locations where the highest off-site ground level concentrations are expected according to updated meteorological data.
2. Air particulate samplers should be located in from one to five communities within 10 miles of the plant.
3. An air particulate sampler should be located at a location greater than a 20 mile radius in the least prevalent annual wind direction to act as a control sampler.
4. Air particulate samplers should be upgraded to provide adequate reliability with respect to long term operation. Filters should be changed weekly and in addition to a gross beta analysis at a filter change*, a composite gamma analysis should be conducted monthly.
5. Charcoal cartridges should be added to the above samplers to measure for airborne iodine. Cartridges should be changed and analyzed weekly.
6. Direct radiation should be measured by the inclusion of 2 or more dosimeters (preferably TLD's) at each of the locations listed in 1, 2 and 3 above, as well as additional locations where the highest annual off-site dose at ground level is predicted. These later locations would be based on estimated dose levels as opposed to ground level concentrations where the dose may be effected by sky shine, high plumes or direct radiation from the facility.
7. Sediment, benthic organisms and aquatic plants should be sampled downstream from the outfall in Oyster Creek and Barnegat Bay and upstream from the intake. A gamma isotopic analysis should be performed on these samples.
8. Fish and shellfish should be sampled downstream from the outfall in Oyster Creek and Barnegat Bay and from one area not influenced by the plant discharges. A gamma isotopic analysis should be performed on these samples.

*Allowing 24 hour delay for radon and thoron daughter decay

9. The Water Quality Monitoring Program (See ER Section 5.5.2.3) should be undertaken on a weekly basis with certain parameters (eg, DO, pH, salinity, temperature, etc.) monitored continuously at the plant intake and discharge.
10. Various analyses currently being performed at the OC Station (eg, Uranium, Ra-226, Ra-227, etc.) should probably be discontinued.
11. Soil sampling at the OC station should probably be discontinued.

TMIA: THREE MILE ISLAND ALERT, INC.

315 Peffer St., Harrisburg, Penna. 17102 (717) 233-7897

August 22, 1984

MEMO: To Attached Service List

FROM: Joanne Doroshow, TMIA *JD*

OK
81 187 23 P2130

Enclosed please find supplemental pages to replace those in the August 13, 1984 Petition for Revocation of License of General Public Utilities Corporation on the Basis of Deficient Character, served August 13.

These new pages contain various editorial and citation corrections. In addition, I have supplied several pages which parties have variously notified me as having been omitted from the Petition copy served upon them.

Please notify me if there are additional pages missing. I will be glad to supply these.

The additional sections on Integrity and Values to be included in the Petition's Appendix are being produced and will be supplied shortly.

I apologize for any inconvenience.

3/9

quality assurance program. The resulting accident at TMI-2 proved that GPU was severely deficient in the necessary qualities of foresight to conduct operation of Unit 2 in a safe manner.

The President's Commission on the Accident at Three Mile Island (Kemeny Commission) found that GPUSC lacked the staff and expertise to discharge its responsibilities for plant design, and when operation was turned over to Met Ed, it lacked sufficient knowledge, expertise, and personnel to operate the plant or maintain it adequately. Report of the Kemeny Commission, p. 44. GPU President Dieckamp has similarly noted,

...We, as an organization, did not have in place the level of people, technical depth, competence, all those things that you want to measure necessary to fully derive on our own all of these kinds of lessons...We were excessively dependent upon B&W and our architect/engineer and things of that sort...

Keaton Investigation, Ex. 16, at p. 74. See, also, Dieckamp's Comment at GPUN Meeting With NRC Staff, 6/30/83, Tr. p. 26-29. ("Unit 2 was understaffed"). (Notably, excessive reliance on a contractor can rise to the level of "abdication of responsibility," an important character deficiency. See Houston Lighting and Power Co., supra, slip op. at 42, 43. See, Resolve, supra.

In addition, the Kemeny Commission made fourteen major findings critical of Licensee's management for safety related sloppiness and/or negligence, all of which contributed to the escalation of the accident. Among those findings were:

-- Management permitted operation of the plant with a number of poor control room practices, such as routine operation with many alarms lit; large numbers of control room instruments out of calibration with tags hanging on the instrument panel, and no systematic

hearings was beginning. Showing an incredible lack of foresight, management decided to provide Licensee's "discovery room" with original work request forms, Licensee official record keeping documentation. Testimony in the Restart Hearings, (Dyckman) Tr. 3867. Not surprisingly, an unknown quantity of these documents were subsequently misplaced. Id. Further, Licensee at that time had no official procedures for dealing with misplaced job tickets, since it had been "optimistically assumed no paperwork would be lost," showing a remarkable lack of foresight. Dyckman, supra, at Tr. 3887.

The consequences of these decisions were clearly foreseeable and the risks were known. The decisions are likely attributable to additional character defects. See, Resolve, Values, infra.

b. Pre-Accident Training

It is without question that before the accident, Licensee's training department did not develop policies which insured safe plant operation. In particular, its procedures did not assist operators in properly controlling the accident. For example, during an April 23, 1978 transient at Unit 2, the system experienced a condition not then contemplated by operator emergency procedures or training -- pressurizer level increasing while pressure dropped. See, B&W Ex. 4059. In response to this incident, however, Licensee took no precautionary steps to prepare operators in the event the condition recurred, despite the fact that its own analysis of the event should have led it to do so. B&W Ex. 186 at 25. See discussion, Integrity,

"pre-accident neglect" of the TMI training department and identified more specific shortcomings referred to by Licensee's consultants who testified at the restart hearings. ALAB-772. slip. op. p. 67.

2. Lack of Foresight -- Post-Accident Training Problems

Licensee's lack of foresight in developing an adequate training program cannot be viewed as simply a pre-accident deficiency. In fact, character defects led to continual training problems. In July, 1979, within months after the accident, the Supervisor of Operations at Unit 2^{5/} cheated on his NRC requalification exam.

According to the Appeal Board, that incident

highlights...that a serious problem existed throughout licensee's organization: formal training and the NRC's regulatory requirements for operator licensing and requalification were regarded rather cavalierly, from the staff level to the higher plateaus of management. Moreover, it provides another instance of an employee in a responsible supervisory position, who is considered technically proficient but who found it necessary and apparently acceptable to submit work not his own.

ALAB-772, slip op. p. 60. Indeed, in 1981, a cheating scandal among candidates for operator licenses caused new NRC "restart" hearings before Special Master Gary Milhollin during which time additional evidence of cheating and other wrongdoing by company personnel was discovered. See, 15 NRC 918 (1982); 16 NRC 281

^{5/} This individual is James R. Floyd, who had been known for purposes of the TMI-1 restart proceeding as "VV." After his June 18 indictment, see, Petition, note, 25 supra, his confidentiality was officially waived by letter from his counsel Michael F. McBride, to NRC Chairman Palladino dated June 19, 1984.

weaknesses in the quality of the instruction at TMI-1, such that we no longer have the assurance that there was sufficient quality control over the training and testing process.

14 NRC at 361. (cites omitted).^{6/} See, also, Resolve, infra. Thus, even when viewed in a light most favorable to Licensee, the cheating episodes illustrate some fundamental problems in Licensee's ability to foresee the development of the most obvious problems -- even at a time when, as the Board noted, the company was developing and was presenting to the NRC supposedly model programs in response to criticism after the accident.

^{6/} The Licensing Board found limited fault with Licensee's management for the cheating incidents. See e.g., 16 NRC at 378, where the Board opined that GPUN Vice President for TMI-1 Bukill was "naive" with respect to cheating... Licensee's chief investigator of cheating attorney John Wilson was "naive" in his conclusions concerning cheating... and management was "naive" in accepting those conclusions; Id. at 379 ("The cheating episodes are not a reflection on upper-level management's competence, good intentions, and efforts.") These findings confirm a lack of foresight and judgement. However, the intervenors have taken a much stronger position regarding the fault of management and have won a remand of the training issue. See, Petition, note 8, supra.

failing to adequately inform himself of plant conditions such that accurate information was passed on to the State.^{8/}

Similarly, Miller who must have accompanied Herbein for the specific reason of insuring the transmittal of accurate information, can be faulted for not correcting the perception Herbein was relaying.

The NRC found that for his part, Miller "in his unique position as overall coordinator and the responsible individual for managing the emergency, failed to affectively utilize onsite and offsite resources to 1). obtain accurate information describing the accident and plant status; 2). analyze ongoing information to plan corrective actions, and 3) adequately notify federal and state officials. See, NRC Notice of Violation, January 27, 1981.

Clearly, Herbein's performance during the accident was fraught with serious, safety-significant errors. Neither Herbein nor Miller were removed or reprimanded after the accident, and within months, Gary Miller, with Herbein's "knowledge and consent" submitted an additional false statement to the NRC -- i.e., they falsely certified to the NRC that then Unit 2 Supervisor of Operations James Floyd had requalified for an operator's license when in fact both Herbein and Miller knew he

^{8/} The evidence supports the proposition that the company officials at that time intentionally lied to the State. See, § Integrity, infra. The Appeal Board determined that the Licensing Board's handling of this issue could not support a conclusion that information was honestly transmitted. See, ALAB-772, slip. op. at 127.

these violations have been substantially confirmed by the OI.^{12/} See, Resolve, infra. Licensee has exercised serious misjudgment in keeping Kunder in this critical post.

4. Licensee's Selection of Richard Zechman

Licensee's extremely poor judgment in its selection of people also pre-dates the accident. For example, during the B&W trial it was discovered that Mr. Richard Zechman, the acting supervisor of training at the time of the accident, not only did not have his operator's license, but at a time of major training deficiencies within the department, a decision was made to have Zechman spend full time studying for his license exam, spending no time running the department. Testimony in B&W Trial (Arnold), Tr. 1706. Moreover, some time between the fall of 1978 and the accident, Zechman took the examination and failed to pass it.

Id. See, also, Training Report, Ex. 9, Report of Interview of Richard Zechman, p. 1. Gary Miller believed that the department suffered because of Zechman. B&W Ex. 360 at 29.

However, even in recent documents, Licensee maintains that despite views such as Miller's, its decision regarding Zechman was correct because while studying for his exam, Zechman's duties

^{12/} The TMI Program Office did a review of the OI investigation, which is contained in SECY-84-36, dated January 25, 1984. On the basis of this report, which found less overall significance to the allegations, an NRC enforcement action was instituted. February 3, 1984 Notice of Violation. Neither the SECY-84-36 or the Notice of Violation findings were reviewed by OI prior to issuance. After an opportunity to review SECY-84-36 and the enforcement action, OI concluded, "the staff appears to minimize the safety implications of each finding. We may agree that taken individually the findings may be minimized. However, we are convinced that these findings when taken collectively, did represent significant weaknesses in the licensee's management program and as such are, overall, of safety significance." Letter from Ben Hayes to William Dirks, dated March 2, 1984.

Having just learned these facts, the Staff has been forced to step in and exercising the proper "judgment" regarding Frederick's qualifications as Supervisor of TMI-1 Licensed Operator Training, of which Licensee seems to be incapable of exercising. NUREG-0680, Supp. 5 at 11-8; See, also, Resolve, infra.

12. Licensee Senior Corporate Management

Since the senior corporate management of any corporation are primarily responsible for "setting the tone" or the "corporate values," for the entire company, (see, Petition), discussion of judgemental qualities of GPU and GPUN's highest management authorities, the Board of Directors and chief officers, is perhaps most appropriately discussed elsewhere. See, Values, infra. However, since their judgments are also reflective of those values, it is worth some discussion here as well.

Bob Arnold was, until November 28, 1983, GPUN President. See, Notice to the Commission, Appeal Board, and Licensing Board and Parties, dated December 1, 1984. He has a long history with GPU. See, Keaten Investigation, Ex. 17, at 1-13. Before the accident, Arnold worked closely with John Herbein, supra part 1, and according to Board Chairman Kuhns, strongly influenced Herbein. Keaten Investigation, Ex. 14, p. 49. As

(Footnote Continued)
offenses:

"[w]e could have indicted a number of people whose titles were mentioned in my statement of facts, and we would have obviously convicted them. It would not have served the public interest because every other licensee around the country would be on notice that the United States of America is glad to take a handful of control room operators and throw them to the dogs and let the company go unscathed." Transcript of Proceedings Change of Plea and Sentencing, United States of America v. Metropolitan Edison Company, supra, p. 68.

rate tests, a former control room operator told OI that Ross and Shipman were "lying." Id., Ex. 33 at 56.

Further, a number of operators testified that at the time that "bad" leak rates were routinely discarded without being recorded, in violation of the license, and that Ross must have, or in fact did know about this practice. See, e.g., Id., Ex. 14 at 20; Ex. 46 at 17; Ex. 71 at 12, 18; Ex. 75 at 27. While Ross told OI he was unsure what exactly was done with invalid tests, Ex. 107 at 13, he also does not recall that the practice of discarding leak rate tests would have violated any procedures, Ex. 107, at 13, 32-33. Notably, there was also testimony that Ross was the kind of supervisor who was totally involved in everything that went on in the Unit 1 control room, and took "everything on his shoulders," id. Supplement, Vol 1, Ex. 2 at 30, adding additional support to the view that Ross was untruthful.^{18/} In light of this evidence, Licensee's decision to retain both Ross and Shipman in such critical safety-related positions at Unit 1 shows extremely poor judgment -- poor judgment which directly affects safe plant operation and which is therefore intolerable.

^{18/} The Staff has determined that TMI-1 leak rates were not deliberately falsified. NUREG 0689, Supp. 5, at 4.0 et seq. This conclusion is not supported by the evidence. See, Values, infra. However, the findings and conclusions of the Staff are damning in other respects. See, Integrity, infra. In addition, Ross was not exonerated by the U.S. Attorney regarding involvement in Unit 2 leak rate falsification. In addition, the Staff apparently recommended no, and thus OI conducted no further investigation of Ross's involvement in Unit 2 leak rate falsification. See, 0680, Supp. 5 at 5-6.

11. Licensee's Selection of Training Department Management

In addition to Long, discussed supra, the Appeal Board raised questions about other training assignments, questioning the selection of Dr. Richard Coe, who has now replaced Long at Director of Training and Education. ALAB-772, slip. op. at 71, note 56; the appointment of Samuel Newton, Operator Training Manager at the time of the cheating incidents, now Manager of Plant Training, slip. op. supra; and Edward J. Frederick, a Unit 2 control room operator at the time of the accident, replacing Husted as Supervisor of Licensed Operator Training.Id.

The NRC Staff recently found that Frederick changed his testimony during the B&W trial concerning HPI actuation at 5:41 the morning of the accident.^{19/} Also, Frederick is currently assigned full time to training in preparation for taking an NRC Senior Reactor Operator (SRO) re-examination, having failed his earlier one. In addition, there is an ongoing NRC investigation concerning his involvement in TMI-2 leak rate testing.^{20/}

^{19/} See, note 11, supra. In assisting the Licensee in preparing its official sequence of event immediately after the accident, Frederick had insisted that a 5:41 HPI actuation occurred. In B&W trial testimony, he reversed himself. NUREG 1020- 3-2,3. Licensee denies that Frederick ever testified that there had been a 5:41 actuation, and thus defends his integrity. Licensee's Status Report on Integrity Issues at 68. This also speaks poorly of Licensee integrity.

^{20/} Frederick was likely involved. See, e.g., Statement of Facts Submitted by the United States, United States of America v. Metropolitan Edison Company, supra, pp. A-86, A-87. Also, in remarks on February 28, 1984, U.S. Attorney Queen told the court that based on the evidence, CRO's had committed indictable (Footnote Continued on Next Page)

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recognize high temperatures readings to signal that the PORV had stuck open. See, October 25, 1979 Notice of Violation at 2.

Id. 21/

Despite evidence to the contrary, Arnold, on Licensee's behalf, denied the noncompliance, asserting in the company's December 5, 1979 reponse that the existence of one or more "symptoms" as listed in an emergency procedure does not require automatic implementation of the associated immediate and follow up actions, and further that "there is no indication that this procedure or the history of the PORV discharge line temperatures delayed recognition that the PORV had stuck open during the accident." Licensee's Response to Notice of Violation at 35.

CI's recently completed investigation of the "Keaten investigation" revealed the following:

-- The testimony obtained during this investigation established that Met Ed's statement in their response to the NOV that "...there is no indication that this procedure or the history of PORV discharge line temperatures delayed recognition that the PORV had stuck open during the course of the accident," was contrary to information in their possession in the form of internal investigations and interviews. Keaten Investigation, p. 46. (emphasis added).

-- The company's position that Emergency Procedures were not violated because of the conclusion by "plant staff" in early February 1979, that the PORV was not leaking and the code safeties were, do not appear to be technically valid. [Station Superintendent] Miller, and [Unit 2 Superintendent] Logan, and others did not know which of the three pressurizer relief valves were leaking. "Specifically, the response [to the NOV] implies that Met Ed disagreed with the NOV because of the decision by "Plant

21/ See, interviews with the William Zewe, control room shift supervisor during the early hours of the accident. Keaten Investigation, Ex. 32, p. 3; Ex. 27, p. 7

Restart Hearings (Arnold), Tr. 11,520. It was also acknowledged that the person who might take control during an emergency must have specific knowledge of a B&W reactor, design and parts. Id. at 11,521. In addition, Clark has been implicated as a passive observer to acts of harassment and intimidation of clean up workers. See, Values, infra.

As for Arnold's cohort Wallace has been chosen to be the Manager of Oyster Creek Expanded Safety Systems facility Project of GPUN. Keaten Investigation, Ex. 19, p. 3. As such, he is beyond the purview of the restart proceedings. NUREG 0680, Supp. 5 at 13-18; And Arnold still assists Dieckamp in activities which have never been clearly defined. See, Keaten Investigation, Ex. 17, p.4. All of these choices indicate that at the very least, GPU senior management is incapable of selecting a set of corporate officers who will responsibly lead the corporation.

13. Licensee's Reliance on Bechtel

Unable to select the right people for the right job in its own organization, Licensee was equally unsuccessful in determining the adequacy of the organization it brought in to co-manage the TMI-2 clean up -- Bechtel. In particular, Licensee delegated to Bechtel, a non-licensee, substantial responsibility. In particular, Licensee delegated to Bechtel, a non-licensee, substantial responsibility for meeting safety requirements.

In late 1983, OI completed an investigation into allegations by clean up workers that the clean up was proceeding unsafely. These allegations were substantially confirmed. See, Three Mile Island NGS, Unit 2, Allegations Regarding Safety Related Modifications and QA Procedures, (H-83-002); Attachment D-10,

Results of the Technical Examination of Alleged Procedural and Managerial Deficiencies at Three Mile Island Unit 2. These violations can be summarized as follows:

-- violations of approved GPUN administrative procedures which were the legal means for TMI-2 to assure safety compliance of the work. II-1, II-29.

-- use of unapproved procedures to perform work by Bechtel, including circumvention of QA requirements, occurring since November 1981, through the polar crane refurbishment program. II-4, II-30.

-- violations of maintenance procedures used during the reactor building polar crane refurbishment program, e.g., use of the wrong procedure, and even when used, used incorrectly, and failure to classify work as to its safety significance. II-4, II-12, II-13.

-- modifications to the containment penetration made which are not in accordance with 10 CFR 50, App. A, Design Criteria, and were improperly approved without a license amendment on the basis of a technical specification interpretation. II-23.

-- modifications made to the TMI-2 facility that have been improperly classified as "Not Important to Safety" (NITS) thus downgrading the QA/AC for these modifications as alleged. II-23.

OI determined that many recovery and clean up operations by Bechte were not being conducted in accordance with applicable procedural requirements, and that dissatisfaction with this condition led "whistleblowers" to publicly announce their concerns. Specifically, OI concluded,

"Bechtel, a non-licensee with limited experience of NRC operating plant requirements, was essentially given operational responsibility for the recovery project. Senior licensee management was continually advised by TMI QA and in-house management of Bechtel's noncompliance with applicable procedural and safety misclassifications."

In particular, Licensee delegated in Bechtel, a non-licensee, substantial responsibility for meeting safety requirements. Top management apparently did not realize the serious problems which would result.

tool Licensee has to determine what corrective course is appropriate. It is clear Licensee still lacks fundamental perceptual skills.

4. Failures to Perceive Responsibility

One of the more striking and significant perceptual failures of Licensee is the failure of management to perceive when they or the company are responsible for problems and should accept blame. For example, Licensee's response to the accident itself pointedly illustrates this problem. Chairman Palladino has voiced particular concern that management does not accept blame for the accident. He stated at a recent closed door Commission meeting,

They definitely said they had some responsibility but they weren't at fault. Kuhns sat right there and told me, that's what gives me the problem...He sat right there and said, "Oh, yes, we accept responsibility but we don't accept fault."

Commission Meeting Transcript of 1/24/84/, pp. 36-37.

Another example concerns the cheating incidents. The Special Master found that

the cheating on the NRC examination did not occur in the lower ranks of the operations staff. It occurred in the middle and upper ranks....[W]ith respect to the operations staff, one must conclude that the cheating involved the "management" of that staff....Ultimately, the question whether management was involved in cheating depends upon which management one is talking about....Mr. Ross and VV functioned as the link between upper management and the operations staff.

* * *

Although the Licensee did not encourage or condone the cheating on the NRC examination, it permitted an attitude to develop which caused the cheating to occur. The cooperation on the weekly quizzes was caused by the conditions under which the quizzes were given, and the Licensee was responsible for those conditions. The Licensee's response to the cheating on the weekly quizzes was inadequate and its testimony at the hearing on that subject was not credible. The Licensee's response to the incident involving VV in 1979 was unacceptable because of the Licensee's lack of candor with the NRC. The Licensee's training and testing program was poorly administered, weak in content, ineffective in its method of instruction, and not an adequate response to the Commission's Order of August 9, 1979.

report a summary of one-sided, subjective perceptions of the operators; and impressions of consultants with little prior experience in the nuclear industry who did not fully understand the survey's terminology. Licensee's Response to Motion to Reopen the Record, dated June 6, 1983 at 7-8.^{36/} Further, Licensee claims the consultant's survey had many potentially misleading questions. Id.

Further, Licensee challenges the report's major findings. For example, Licensee simply disagrees with the finding that most considered the training department not to be oriented towards the needs of the operators, noting its perception that most operators were in fact complementary of, or at least satisfied with training, and they believed the exams were an indicator of their ability to operate the plant. Licensee's Response to Three Mile Island Alert's Motion to Reopen the Record, dated June 6, 1983, at p. 11-12. Similarly, it creates excuses for RHR finding of "strong agreement that there is not enough training on plant conditions," See id. at 12-13. Further, Licensee is of the opinion that criticisms by trainees are of little value since they are "not in a very good position to judge the effectiveness of training in teaching them how to operate the plant," Id. p 15.

Licensee's critique of the accuracy of operators' perceptions illustrates again its preference to ignore the views of the operators, rather than to respond to their very real problems. These opinions are the most important informational

^{36/} Assuming Licensee believes this, its own judgment in choosing such an unqualified auditor, and its true resolve to correct the conditions which led to operator cheating must be seriously questioned. Licensee's Response to Three Mile Island Alert's Motion to Reopen the Record, dated June 6, 1983, at p. 7.

tool Licensee has to determine what corrective course is appropriate. It is clear Licensee still lacks fundamental perceptual skills.

4. Failures to Perceive Responsibility

One of the more striking and significant perceptual failures of Licensee is the failure of management to perceive when they or the company are responsible for problems and should accept blame. For example, Licensee's response to the accident itself pointedly illustrates this problem. Chairman Palladino has voiced particular concern that management does not accept blame for the accident. He stated at a recent closed door Commission meeting,

They definitely said they had some responsibility but they weren't at fault. Kuhns sat right there and told me, that's what gives me the problem...He sat right there and said, "Oh, yes, we accept responsibility but we don't accept fault.

Commission Meeting Transcript of 1/24/84/, pp. 36-37.

Another example concerns the cheating incidents. The Special Master found that

the cheating on the NRC examination did not occur in the lower ranks of the operations staff. It occurred in the middle and upper ranks....[W]ith respect to the operations staff, one must conclude that the cheating involved the "management" of that staff....Ultimately, the question whether management was involved in cheating depends upon which management one is talking about....Mr. Ross and VV functioned as the link between upper management and the operations staff.

Although the Licensee did not encourage or condone the cheating on the NRC examination, it permitted an attitude to develop which caused the cheating to occur. The cooperation on the weekly quizzes was caused by the conditions under which the quizzes were given, and the Licensee was responsible for those conditions. The Licensee's response to the cheating on the weekly quizzes was inadequate and its testimony at the hearing on that subject was not credible. The Licensee's response to the incident involving VV in 1979 was unacceptable because of the Licensee's lack of candor with the NRC. The Licensee's training and testing program was poorly administered, weak in content, ineffective in its method of instruction, and not an adequate response to the Commission's order of August 9, 1979.

15 NRC 918 at §§ 181-183; 338.

By no means did the Special Master exonerate management in this opinion. Clearly, whether or not upper management was directly implicated in cheating, they must be considered ultimately responsible for development of these conditions. Moreover, as the Special Master indicates, management of the operation's staff was directly involved in cheating and wrongdoing. When Licensee is directly blamed for wrongdoing, upper management clearly must take the responsibility. Former Commissioner Gilinsky agreed with the Special Master, stating at p. 14 of his proposed decision, supra,

It appears that cheating was not infrequent at Three Mile Island, and was tolerated as surprisingly high levels of the management. It is particularly disturbing that most of those involved in the cheating were relatively senior company employees.

Licensee calls Gilinsky's "willingness to involve management in the cheating incidents" an "outright misrepresentation of the record and both the Special Master's and the Licensing Board's opinions." Licensee Comments on Commissioner Gilinsky's Tentative Conclusion at p. 22. Clearly Gilinsky's conclusion misrepresents neither the record or the very strong findings of the the Special Master. Licensee entirely misperceives both upper management's responsibility for the cheating incidents, and the direct involvement of management as "high" as the Unit 2 Supervisor of Operations, as well as management below that level, in actual cheating.

This attitude impacts widely throughout the organization, manifested by a general feeling that the company "lacks

the accident, which when coupled with a lack of perception that unless PAG guidelines for radiation releases were approached, resulted in a company view that it was not necessary to discuss plant operational uncertainties with the State. NUREG 0760 at 45.^{38/}

After the accident, documents which were relevant to the NRC's and the public's interpretation of the accident's causes were also withheld. See, NUREG 0680 Supp. 5 at 5-17, 6.0 et seq. For example, Licensee never presented its final task force report to the Licensing Board, and did not present it to the Commission until then Commissioner Gilinsky specifically requested it from the company at an October 14, 1981 oral argument on immediate effectiveness issues. Moreover, the Faegre and Benson report, supra which evaluated the "Hartman" leak rate falsification allegations in 1980, was explicitly concealed from the Licensing Board, was not presented to the Commission until mid-1983, and was never even alluded to in Licensee's final accident investigation report issued three months after issuance of the Faegre and Benson report. See, Integrity, infra.

6. Lack of Other Perceptual Tools

In addition, regarding the post-accident cheating incidents, it is clear that Licensee lacked the perceptual tools to detect cheating. The first time operators O and W cooperated on

^{38/} However, no credible explanation has ever been presented by company officials as to how experienced engineers could have interpreted emergency reporting requirements in such a convoluted fashion. These reporting failures raise serious integrity questions. See, Integrity, infra.

examinations was on April 2 and 3, 1981 on a "mock" examination in preparation for the NRC examinations scheduled for April 21-24. 15 NRC at 928, 15 NRC 928-933. According to the the Special Master,

At the time the Licensee made this certification [for O and W to sit for their April NRC exam on which they engaged in extensive word for word copying] O and W had already cheated on the ATTS [mock] examination....The NRC investigators found that O and W gave obviously similar answers to ten of the thirty-seven essay-style questions on the SRO examination. However, the Licensee failed to detect these similarities. This failure was caused by the fact that all the ATTS examinations (there were 56) were graded quickly over one weekend "in a rather rote fashion."

15 NRC 918 at ¶ 254 (citations omitted).

Another perceptual tool which Licensee relies upon is the company ombudsman. However, the ombudsman is useless because it is not trusted. For example, use of the ombudsman was not considered an option by clean up workers who were harassed and intimidated for reporting safety violations in 1983. See, Values, infra. It is, in fact, rarely used. Licensee believes the reason for this is that "people are raising complaints within channels." GPUN Meeting With NRC Staff, June 30, 1983, Tr. 115. However, it appears more likely that the ombudsman is simply not trusted. Senior management announced the day Richard Parks went public with his concerns that Parks had not approached the ombudsman, proving that the ombudsman had broken his promise to maintain confidentiality, raising serious question as to how management became aware of this. Press Conference by GPUN Management, March 23, 1983. Former GPUN President also stated that he would be more concerned about the lack of use of the ombudsman if people were complaining to the NRC instead. Id.

at 16. Yet as OI's investigation of these incidents revealed, supra, the NRC onsite organization was not only perceived as reckless in terms of protecting the confidentiality of whistleblowers, but also has since maintained a strictly defensive position adverse to the interests of the "whistleblowers." See, note 12 supra.

Regarding complaints that the ombudsman does not protect confidentiality, Licensee management simply disagreed. See above. Yet whether true or not, the fact that employees have such a perception is fatal to the effectiveness of an ombudsman. That Licensee's management does not perceive this clear flaw in the system demonstrates an additional perceptual problem.

8. Failures to Communicate - Unit 2 Clean Up.

Additionally, regarding violations of clean up procedures described supra, OI identified significant communication problems between the functional components of onsite management as a major contributor to the problems identified in the clean up program. OI noted

-- different perceptions of the purpose and intent of the job tickets resulting in an improper release of the polar crane refurbishment program to Bechtel. Procedural Violations Report at III-4-5.

-- different perceptions of what documents were applicable for use as administrative procedures on the polar crane. Id.

-- existence of communication problems between the organizations as to what safety classifications modifications should receive. Id.

-- that the allegations needed to have been taken to the NRC in itself indicates a severe problem within the onsite management organization, where the allegations originated from. Id.

-- the Deputy Director of TMI-2 was not aware that administrative controls were being violated until the polar crane issue came up, id. at III-16; and that it was his understanding that the polar crane had officially been turned

that it thought it important "to look at what really were the sources of that inadequate assessment and understanding, and to try to do things to solve that problem." Licensee's Comments on Commissioner Gilinsky's Tentative Views at 5. However, Licensee's internal accident investigation barely analyzes the cause of reporting failures. See, Keaten Investigation, Ex. 13.

As another example, an early draft of the Keaten report contained a section entitled "Awareness of System Problems" which described the operators' feeling that

"suggestions for improvement usually vanished within the system with no feedback. Even in cases where suggestions were adopted, apparently no mechanism existed whereby the suggestor was informed of a decision when action might be expected....The Task Force plans additional investigation to clarify this situation.

See, discussion, Keaten Investigation, Ex. 16, p. 142-3.

Similarly, the Kemeny Commission noted that "there was no group with special responsibility for receiving and acting upon potential safety concerns raised by employees. Kemeny p. 48. The company's internal investigation of this issue stopped after Gary Miller's interview, B&W Ex. 360, and in the final report, the last sentence was dropped. See, discussion, Keaten Investigation, Ex. 16, p. 142-3. Further, as of December 1983, Dieckamp was unaware of any mechanism in place for operators to make comments or suggestions, and for maintaining a record of responses. Id. at 144, 145. Similarly, Kuhns told OI, "I do not know of any formal documentation of every suggestion, and the position of that suggestion in writing, or a report on the disposition of that." Keaten Investigation, Ex. 14, p. 54.

"I personally was one who testified as to not believing it involved cheating, based upon the description by Mr. VV as to why he did it and what he understood the training department requirements to be for completing these assignments, as far as whether it was just material that he had to know and it was necessary for him to identify that he knew that, as opposed to whether he was required to in fact answer all the questions personally."

Id. at 16-17. (footnotes omitted).

The cheating incidents illustrate Licensee's failures in attempting to go deeper in searching for causes to problems; symptoms are consistently mistaken for causes. They also illustrate GPU consistent tendency to label serious problems as merely "procedural." These tendencies shows a marked distortion of perception, or else is a form of rationalization and denial. However described, it is a tendency which reveals a serious defect in character. Clearly, cheating resulted from lax exam procedures which have been changed. But changing procedures and disciplining "only ... the employees who were caught dead to rights and who admitted their guilt," Gilinsky, supra, addresses only the specific procedural violations, and the symptoms of the cheating phenomenon. It does not address the more fundamental problems, namely the poor ethical orientation and attitude of the operators and the atmosphere and company attitude which created the conditions which allowed cheating to occur. Indeed through removal of certain individuals like O and W, G and H, Licensee "moots" the issue of operator integrity. Gilinsky, supra at 34.

10. Blaming Others for Perceptual Problems

Licensee even has used its own perceptual failures to characterize extremely serious problems as other people's perceptual problems. For example Licensee's stated purpose for commissioning the RHR report was to investigate the "attitude problems of the operators." Reportability Report, Ex. 1, p. 21; Ex. 2, p. 7 (Clark.)^{40/}

The harassment and intimidation directed at clean up workers became for Licensee problem of the workers perception that harassment and intimidation were occurring. See, Stier Report, supra Vol. I, p. 14 ("The willingness of [clean-up "whistleblowers] King, Parks, Gischel and Wenger to infer wrongdoing at times from the most meager of facts has made it difficult to rely on their perceptions in evaluating the evidence we have gathered.") This report determined that all allegations of harassment and intimidation against King, Gischel and Wenger entirely unfounded. See, id. at pp. 27-31; 31, 34-35; 37. The allegations of Parks, who won his Department of Labor complaint, were not even investigated by Stier. See, NUREG 0680 at 10-19. Moreover, the Staff noticed Licensee's "perceptual problems" regarding harassment of these workers, concluding that "there was a lack of knowledge of GPUN company policy protecting GPUN employee's from harassment and intimidation for engaging in activities protected by law and Commission regulation." Id. See, also, Values, infra.

^{40/} Notably, when RHR produces the report, Licensee insists on invalidating the findings. See, discussion, supra. See also, Integrity, Resolve.

safe operation of the plant. It is the function GPU has most consistently failed to perform.

GPU's lack of resolve has led to problems in many areas. It has led to a failure to correct recurring problems. It has led to an abdication of responsibility. And it has led to an tendency to procrastinate in solving problems.

1. Failure to Take Corrective Action -- Pre-accident Period

The most serious area where GPU displays its lack of resolve is in its failure to prevent and correct recurring problems. Licensee record demonstrates that to the extent management is aware of obvious problems, it fails to take appropriate steps to correct them. Licensee's pre-accident record is replete with examples. The condensate polisher problem, discussed supra (Perception), which according to Gary Miller typified Licensee's failures to respond to operator complaints, is a prime example. Months of operation with high temperatures above the PORV, likely having caused the PORV to malfunction during the accident, is another. See discussion, Perception, supra.

It appears that Licensee's inadequate responses to PORV problems dates years before the accident. For example, contrary to a specific recommendation from Lee Rodgers of B&W in July 1975 to institute a PORV preventive maintenance program due to PORV problems discovered at that time, B&W Ex. 681, there is no evidence that any preventive maintenance program was instituted. Seiglitz, supra, at Tr. 5786; B&W Ex. 4036.^{41/} Further, in

^{41/} Former Unit 2 Superintendent Logan believed that budget reductions were having an impact on preventive maintenance at (Footnote Continued on Next Page)

1974, the PORV used in Unit 2 was transferred to an operating TMI Unit 1, where it remained until late 1975 or early 1976. While at Unit 1, the PORV operated at 250 volts, 25 volts more than at Unit 2, and GPU's own post-accident investigation of the PORV determined that the PORV may have suffered some damage as a result of the different voltage in solenoids -- a problem never discussed at management's "plan of the day" meeting. See, discussion, Seiglitz B&W Trial Deposition, Tr. 5768. In fact, Licensee never sought to determine if the PORV had suffered damage.

Licensee now responds to criticism by insisting Dresser Industries, the PORV vendor, "should have resolved any such problems" when repairing the PORV at a later time. Licensee's B&W Trial Comments Response at 13. However, this attitude -- i.e. a willingness to blame others for failing to implement corrective actions -- can create a tendency to leave the task of implementation to others. ³ ultimately significant failures of resolve. See, discussion of Unit 2 clean up, infra.

Similarly, with regard to the PORV position indication problem, there is general agreement within the Licensee's operating and engineering staff that some form of position indication was needed for the PORV in the pre-accident period, and that plant management supported the idea. NUREG 1020 at 10-10, 10-11. According to the NRC, the need for the position

(Footnote Continued)
TMI-2 and the maintenance was "seriously understaffed." B&W Ex. 347H at 61-64. Gary Miller expressed a similar sentiment. B&W Ex. 347M at 9, 19-20. See NUREG 1020 at 10-20. If accurate, these view reveal additional serious character deficiencies. See, Values, infra.

-- Former Supervisor of Operations Floyd (see Petition, note 25, supra) would testify that the procedures were functionally unusable, that all leak rate test results were worthless. Id. at 8,

-- the practice of falsifying data and discarding records was done as early as 1978 with the express knowledge of supervisory personnel in the Operations Department, including the Supervisor of Operations, the Shift Supervisors, the Shift Foremen. Id. at 9.

-- during a conference call on October 18, 1978, the Superintendent for Technical Support, Supervisor of Operations, and two Shift Supervisors briefed either Miller and/or Herbein on the leak rate test situation, explaining that an NRC inspector told them that day to stop discarding data, and that if management complied with the NRC's instructions, the plant would have to be shut down. Id. at 13.

-- after the October 18 conference call, above, no changes occurred in performance of the leak rate tests, and the only instruction operators recall is a direction from a number of Shift Supervisors and Shift Foremen to make sure "bad" leak rate tests were thrown away and not left lying around. Id. at 14.

-- thereafter, numerous leak rate tests were intentionally manipulated. Id. 14. Hydrogen and water additions were both used to manipulate tests. Id. at 17-19.

Licensee pled guilty to one count, and no contest to six counts of an eleven count indictment. Petition, note 24, supra. Licensee's counsel explained that "in offering the nolo contendere pleas, the Defendant [Met Ed] does not...admit any facts at all as to them and certainly admits no facts to support any findings of guilt as to them." Transcript of Proceedings, supra p.38. In pleading guilty to one count, Licensee admits only that

Employees of the company stationed at TMI Unit 2 and conducting such tests were on notice that its procedure for performance of such tests as applied under the conditions and circumstances then existing at the Three Mile Island Nuclear Station unit 2 did not accurately and meaningfully measure the amount of unidentified reactor coolant leakage within a one gallon per minute limitation, which was one of the limitations listed in the procedure. Despite such notice, such employees of the company continued to use the procedure.

accident. According to the NRC, Licensee's failures were a combination of both a failure to know and understand, or perception, and failure to respond appropriately, or resolve:

Information from these events, some of which occurred at TMI-2, was available to the licensee before the accident. However, it is apparent that the licensee failed to recognize the significance of these events....GPU had a system for monitoring operating experience, although it is apparent in retrospect that deficiencies existed in the implementation of that system.

NUREG 1020 at 10-16, 10-17.^{42/} The NRC Staff's review of the B&W trial record, supra, determined that Licensee was aware of the following precursor events which should have prompted corrective action:

-- The GPU task force to investigate the April 23, 1978 overcooling event recognized the importance of informing control room operators when safety valves open and reseal. Their recommendation #3 (B&W 186 at 4) was: "Install a means of monitoring when safety valves lift and if practical, when they reseal." [see above].

-- The G. Broughton deposition revealed that information was available from the GPU Service Corporation study to determine that pressurizer level and reactor coolant system pressure were trending in opposite directions during both the April 23, 1978, and the November 7, 1978 event (Dep. Tr. 205 and 221, respectively). However, despite having this information on paper, it is apparent that the licensee failed to recognize its significance.

-- The hot functional testing of September 1977 resulted in voiding in the primary system and an unstable pressurizer level. the cause of the voiding and pressurizer response was not investigated until after the accident at TMI-2. The fact that a bubble was drawn outside the pressurizer was not

^{42/} In an interview last December, Board Chairman Kuhns seemed to confirm that Licensee did not recognize the significance of the precursor event:

So, you know, I have a hard time coping with why weren't we smart that day. We were as smart as we had the capability, and we were as smart as our prior experience told us about what things were important.

Keaten Investigation, Ex. 14, p. 75.

reported to the NRC because it was considered an operational rather than a design problem. See B&W 837 at 10.

-- During the J. O'Hanlen testimony it was revealed that B&W had proposed a program in July 1977 that would involve sending copies of all field change requests from other facilities to Met-Ed for its information and use. In September of 1978, M.R. Dendler of Met-Ed informed B&W that they were not interested in such a program (B&W 4002).

-- B&W 74 is a June 15, 1978 letter from the General Office Review Board (GORB) that discusses how improvements can be made in the acquisition and use of operating experience from other plants. One of the possible solutions discussed is the creation of a group whose specific function would be to filter through the reports of operating experience and forward the significant information to the appropriate people. The GORB letter subsequently dismissed this idea by concluding:

A formally organized program to pre-review and filter the incoming information and subsequently forward it to the appropriate parties would consume more manpower than would be cost effective.

NURFG 1020 at 10-15, 10-16. See, Values, infra.

In addition, during the pre-accident period, the Kemeny Commission found that "Met Ed did not correct deficiencies in radiation monitoring equipment, although the deficiencies were pointed out by an NRC audit months before the accident." Kemeny Commission p. 48.

Finally, as has already been demonstrated, there were pervasive problems in the pre-accident training department. See, Foresight, Perception, supra. When questioned about the company's response to the memos circulating around the training department critical of training attendance, (see discussion, supra), Keaten told OI that during task force discussion,

.... [T]he sense... as I remember them, was that the reporting relationship to the Training Department had been changed in order to try to help promote the training activities. That's the only specific response that I remember.

Exhibit 7, p. 13. (emphasis added). Such a response seems peculiarly inappropriate in light of the types of problems the department was experiencing.

As with all pre-accident problems, either management was unaware of these obvious conditions and therefore failed to keep itself informed, or management was aware of these conditions and abdicated in its responsibility to correct the situation. See, Houston Lighting and Power Co., CLI-80-32, 12 NRC 281, 291 (1980). Either way, serious character defects are revealed by the pre-accident period.

2. Failure to Take Corrective Action -- Post-accident Period.

Licensee's correction of problems revealed by the accident were largely the response of findings and recommendations reached by various investigations into the accident and the Commission's August 9, 1979 shut down order which established the long and short term actions which the Commission determined would be required for reasonable assurance of safe Unit 1 operation. See, Petition, § II. supra. However, Licensee's response to both the findings and recommendations of the accident investigations, and the Commission's August Order, supra, can hardly be viewed as a record of accomplishment.

Management's commitment toward resolving the problems revealed by the accident, and its resolve to taking steps to improve the organization, particularly without NRC intervention, may best be described by a remark of former Commissioner Gilinsky in his draft restart decision, supra: "Despite certain improvements since the accident, the overall picture which emerges from the [Unit 1] restart inquiry over the past three years is of a Company management with a narrow and grudging

conception of its public responsibilities, which seeks to get by with the minimum, be it in terms of plant equipment, or of staff discipline and training, or of forthrightness with public authorities."^{43/} The record supports this view.

a. Maintenance

Many pre-accident maintenance problems still are cause for concern. The BETA report, released in February 1983, (see Foresight, supra) reveals that with regard to parts and warehousing,

- warehousing inventory records were inaccurate to the point as to be considered unreliable by job planners.
- there is no scheme for purging stock from inventory when technical or administrative requirements prohibit use of material present in stock.

BETA at 29-30.

Even with regard to issues which were the specific subject of the restart hearings, Licensee attitude toward resolving problems was grudging at best. For example, it was well recognized that the priority system for assigning maintenance work was routinely abused. See, Foresight, supra. While the Appeal Board did not find that the prioritization review procedure which was abused in the past is still "objectionable" it does find that "there appears to be little or no substantive change from the previous system, and that both Licensee's written

^{43/} It is revealing in terms of Licensee's attitude toward self-examination and improvement that between November 28, 1979 and March 24, 1980, the last sentence under section A.2 of the Keaten Investigation task force report, was removed. The sentence read: "The standards and practices which led to deficiencies such as those uncovered in this investigation must be eliminated." See, Keaten Investigation, Ex. 10, p. 33. Keaten told OI that the sentence was deleted because it was "a little bit too emotional," "unnecessarily critical" and because the report already contained enough criticism that was "appropriate and necessary."

incompetence or integrity problems. GPUN Meeting with NRC Staff, June 6, 1983 at Tr. 112. Dieckamp refers to the company's "new organization" that achieved end results, explaining,

As far as we are concerned, it is end results that count. Now whether or not one of these individuals in the chain somewhere interprets that as a penalty,....I think it is hard to imagine.

Id. See also, Testimony in Restart Hearings (Arnold), Tr. 11,601 ("no one was fired as a result of the accident"). Arnold expanded at the June 6, 1983 meeting by telling the staff that he was aware of only two allegations where the company had not yet taken action to address instances where there was improper conduct. Id. at 113-114. One instance, according to Arnold was the Unit 2 leak rate issue, or "Hartman" allegations, ("...we were stymied in being able to complete our internal investigation into that") -- the other concerned unnamed issues the company was still investigating. Other than those two categories, Arnold's position was that the company had taken action on every problem "they've identified." This of course speaks to both Licensee perception of problems and resolve to correct them -- if problems are not perceived, they will not be corrected.

Licensee's first known "response" to the Hartman allegations, mentioned by Arnold, was the commissioning of the Faegre & Benson Report, supra, in 1980. Licensee claims this investigation began as soon soon as the allegations "surfaced" when Hartman appeared on television in March, 1980. See, e.g. Appendix A to Meeting Summary to March 28, 1983 Staff Review of the B&W-GPU Trial Record. This claim, however, seems

Keaten Investigation, Ex. 17 p. 20, ("[Dieckamp] was spending, I think, a substantial amount of his time in overseeing my direction and supervision of TMI activities"). Considering the leakage problems the plant was experiencing before the accident, it is almost inconceivable that word of Hartman's allegations had not gotten to them before Hartman's television appearance. See, Integrity, infra.

But even if upper management did not learn of the allegations until 1980, this hardly speaks well of upper management's ability to keep informed of important internal matters. See, Perception, supra. In addition, once management became aware of the factual data supporting Hartman's allegations through internal release of the Faegre & Benson Report in September 1980,^{45/} there was no excuse for inaction.

As Arnold implied above, no follow up action was taken in 1980 to seek to determine who was directly involved, who knew about the falsification, and who should be disciplined. Indeed, many of those potentially involved in wrongdoing were shifted to Unit 1 after the accident (see below). Licensee made no attempt to remove individuals potentially connected with the leak rate scheme or to follow up in any other manner.

Further, it appears Licensee made a conscious decision to cover up the matter. The report itself was not made public until

^{45/} In essence, even without access to operators other than Hartman due to the then on-going grand jury investigation, Faegre & Benson substantiated exactly what the company pled guilty to several months ago. Faegre & Benson concluded that either the repeated "bad" leak rate results suggested that "real" (Footnote Continued on Next Page)

mid-1983. See, e.g. Appendix A to Meeting Summary to March 28, 1983 Staff Review of the B&W-GPU Trial Record. It was not referred to the NRC or the Unit 1 Restart Licensing Board,^{46/} or even included in Licensee's own internal accident investigation report released internally within weeks after the release of Faegre & Benson. See, Integrity, infra.

Licensee has now hired a new consultant to investigate the Unit 2 leak rate issue. See, February 1, 1984 letter from Philip P. Clark, GPUN, to Edwin H. Stier. The hiring of Edwin Stier, an attorney from the New Jersey firm of Kirtsen, Friedman, and Cherin, speaks poorly of Licensee. Stier has done two other major investigations for Licensee. One deals with issues of clean up safety, specifically allegations of harassment by "whistleblowers" (see Judgment, (Kunder), supra), and one with issues of Unit 1 leak rate falsification. See, TMI-1 Reactor Coolant Inventory Balance Testing, dated June 13, 1984.^{47/} Both border on intellectual dishonesty in their attempts to exonerate the company from serious wrongdoing, charges, and both conflict

(Footnote Continued)

unidentified leakage exceeded 1 gpm and therefore the plant should, as a matter of safety, have been shut down; or the system that had been devised to measure unidentified leakage was unreliable and inadequate for the task and should have been overhauled to do the job it was intended to do. Faegre & Benson at 35.

^{46/} The Staff has now concluded that Licensee violated its Board Reporting requirements by not only withholding Faegre & Benson, but Hartman's 1981 B&W trial depositions. NUREG 0680, Supp. 5, at 5-17.

^{47/} Stier's Unit 1 leak rate investigation found as follows:
 -- TMI-1 personnel did not manipulate leak rate tests.
 (Footnote Continued on Next Page)

with findings of NRC's own investigators.^{48/} See, Integrity, infra for more detailed account.

It is instructive to merely note the following exchange before the Commission which illustrates OI's critical view of the evidence regarding Unit 1 leak rate practices (at Commission Meeting Transcript of 1/10/84/, pp. 24-27).

Keith Christopher: The bottom line so far is of one particular individual has acknowledged, admitted to any falsification of records at Unit 1...The individuals have also acknowledged that it was a routine practice to discard unacceptable leak rate test results versus keep them.....The only records that were destroyed were those test results that they termed as unacceptable....

Ben Hayes: I'm unaware of some ulterior motive that would cause the operators to falsify leak rates, other than maybe it was getting close to the shift or the timeframe for the surveillance tests -- I think it was 24 hours and they needed a good test. I can't think of -- I'm unaware of any allegations that said we had leaky valves. And I can't explain the aberration here of the hydrogen bumps, as an example. We can find no technical reasoning or reason for the addition of hydrogen other than to affect the leak rate test.

Commissioner Asselstine: So presumably, you thought there was enough of a basis as of December 22nd for suspecting the same kinds of problems at Unit 1 that served as the basis for the referral for the problems at Unit 2 several years ago.

Christopher: To a certain degree that is correct, sir....The average hydrogen addition to the RCS during plant operations

(Footnote Continued)

-- the leak rate tests was essentially accurate within the limitations of available plant instrumentation. Its most significant calculation errors did not affect the accuracy of reported test results.

-- the practice of discarding test results determined by plant personnel to be invalid, was not intended to conceal actual reactor coolant system leakage.

-- the company did not create or permit a defective makeup tank level instrumentation that provided a means to manipulate leak rate tests

TMI-1 Reactor Coolant Inventory Balance Testing, dated June 13, 1984, Report at pp. 9-10.

^{48/} After the NRC's OI investigation of this matter, the Appeal Board reopened the record. See, Petition, note 8. In addition, the NRC's Unit 1 leak rate investigation was referred to the U.S. Justice Department, but not pursued because of the statute of limitations had run. See, Petition, note 27, note 18, supra.

3). While no former member of upper Met Ed management is at GPUN today, it is also true that half the GPUN Vice Presidents came from the GPUSC. GPUSC managed TMI-2 until it went commercial in December, 1978. By that time, leak rate falsification had already become an established pattern and all major precursor events were in place. See discussion above. Specifically, R.W. Heward, Vice President for Radiation and Environmental Controls, was Projects Manager for GPUSC at the time of the accident. See, GPUN Meeting with NRC Staff, June 30, 1983, Tr. at 31. Licensee asserts that Heward's major interest was the Forked River plant, then under construction, Id. But even if true, it illustrates that GPU's priority at the time was not overseeing the safe operation of TMI but construction of its new facilities. See, Values; comment of former Commissioner Gilinsky, supra ("They were off building Forked River when they should have been paying attention to TMI and Oyster Creek.")

Similarly, R.F. Wilson is the GPUN Vice President of Technical Functions. At the time of the accident, he was Chief Engineer of GPUSC, Generation Division. Id. at 33. Wilson had quality assurance responsibility beneath him. Id. Again Licensee claims that the year before the accident, he was "almost totally involved with Forked River. Id. If true, this again demonstrates the absence of attention to TMI-2.

Finally, Robert L. Long is GPUN Vice President for Nuclear Assurance, discussed in Judgment, supra. Long was the Manager of Generation Productivity. Id. at 31-32. Licensee simply

tries to assure that he would not have anything to do with the Hartman allegations. Id. But Long was undoubtedly familiar with TMI before the accident. As Long himself described,

On the morning of March 29th, 1979 I talked with Mr. Arnold, and he asked me to go to the Island as part of two small groups of people, one to investigate the circumstances, the sequence of events of the accident; and the other group, which I was a part of, to begin planning for recovery of the unit.

Keaten Investigation, Ex. 5, p.5.

5). In addition, both Dieckamp and Kuhns remain in control of GPU and its subsidiaries. They must hold ultimate responsibility for allowing conditions to occur at Unit 2 such that such a falsification scheme could be concealed and continue for so long.

To the extent Licensee's "reorganization" proposal can be considered a "corrective action" it is simply not persuasive of good character that these changes were made only when it became obvious that the Commissioners would have political difficulty restoring Licensee's Unit 1 license otherwise.^{49/}

d. Reporting Failures

Similarly, Licensee's internal investigation of the accident, the Keaten Investigation, supra, evidences the same failure to confront problems honestly so that appropriate responses can be made. One of the most serious deficiencies during the accident,

^{49/} Notably, at the time Dieckamp sent his June 10 letter to the Commission suggesting this reorganization, there was significant pressure on the Commission to vote on restart before expiration of Commissioner Ahearne's term. "TMI Offers Promise on Operators." The Philadelphia Inquirer, Tuesday, June 14, 1983. At that time, the company also negotiated the settlement with the Commonwealth to remove certain "cheaters" from licensed positions, resulting in the withdrawal of the Commonwealth's appeal of the Licensing Board decision supporting restart. Id.; discussion, A-124, infra.

particularly in terms of Licensee's character, were reporting failures to the State and the NRC. See NUREG 0760; "Reporting of Information Concerning the Accident at Three Mile Island," Majority Staff of the House Committee on Interior and Insular Affairs, March, 1981 (Udall Report); Integrity, infra. In the midst of the Keaten investigation, a December 3, 1979 Memo to File, entitled "Re: TMI-2 Accident Review Task Force Open Items List," listed the following action item:

Under Section II.B.2 "Information Flow" develop a story that the plant management and Met-Ed management were immediately drawn into communication problems with state agencies rather than being free to concentrate on the plant conditions. Develop a recommendation that casualty managers have a communication system which leaves them free to concentrate on the plant. (emphasis added).

B&W Ex. 353. See also, B&E Ex. 339. It is unclear whether the intent behind the words "develop a story" was to suggest a dishonest approach to the issue. In any event, the final report indicates that the reporting failure issue received little attention by the task force. There is no analysis of whether information in the possession of plant personnel regarding plant conditions was withheld from State or Federal officials. In fact, the report suggests that information was adequately passed on to both the state and the NRC. See Keaten Investigation, Ex. 13, p. 21.

In a recent filing, Licensee asserts that its current plans and procedures are adequate for the timely and complete transmittal of information to the affected government agencies.^{50/} Licensee's Status Report on Integrity Issues at

^{50/} Licensee also notes that the Shift Technical Advisors (STA)'s on each shift will enhance Licensee's ability to relay information about conditions. BETA reported last year that the STAs were not yet working effectively. BETA report, supra, at 70.

However, Licensee has made no effort to discover why information on plant conditions was withheld, the cause of such reporting failures, the implications in terms of management integrity, and whether the "integrity" implications raised concerns in need of resolution and action. Because Licensee failed to take swift action in response to reporting failures during the accident, indeed took no disciplinary action against anyone involved in reporting failures, (see discussion, Judgment, Perception, supra) company officials continue to feel it appropriate to hesitate reporting information which could reflect negatively on the company. See, Integrity supra. There is evidence that the same inappropriate considerations which factored into the company's failure to be forthright during the accident, continue to play a role in its decision-making.

For example, regarding the recent issue of reporting the RHR and BETA management audits, the evidence indicates that a major consideration of members of senior GPU management who chose not to report the documents, was the fear of public disclosure. Deickamp told OI during its investigation that he was contacted by then GPUN President Arnold, and

"because of our concerns about making these reports public I indicated to Bob, or somehow in the conversation with Bob, we reached a feeling that would it not be acceptable or adequate for the inspectors, or their supervision at Region I, to simply have the opportunity to review those reports in whatever depth they wished, but to not retain copies. I did participate in the Company's suggestion that that be the manner in which they were handled."

Reportability Report, Exhibit 21, p. 10.

With regard to both BETA and RHR, Licensee states that these concerns were motivated by legitimate considerations. GPUN President Clark told OI,

Now, a couple of things in each of those reports that made them internally sensitive. The BETA thing had

Certainly, all of us at GPU have learned that anything that appears to be negative that gets into the public domain is likely to have an adverse effect on peoples reaction to us, so I am sure any of us who would look at either of those two reports would say, Golly, if this particular individual or this group reads that, won't they have fun.

Id. Exhibit 19, p. 28-29. And immediately after, he stated,

There was certainly a concern on the part of [GPUN VICE President for Communications] Bill Gifford's communications people and others of us that giving these reports to the public would certainly result in lots of inquiries. There were enough negative kind of things in them that people would want to know more about and ask questions about. I don't characterize that as fear. I characterize that as anticipating what is going to happen realistically from issuing reports of the nature of these two.

Id. p. 36. See, also, Arnold, Id., Exhibit 1, p. 36,

("... our experience through the restart proceeding is every new piece of information made public was seized on by somebody with an interpretation that was adverse to us, and it was cause for further investigation and I think in a sense we are sitting here today dealing with one such example.").

Moreover, the threat of eventual release by the Staff was the only reason Licensee finally turned these documents over to the Commission. Indeed, according to Hugh Thompson, Director Division of Human Factor Safety, only after GPUN was threatened with Commission action to force the Licensee to provide the reports, did GPUN finally provide the report formally to the NRC and to the Board. Id. Exhibit 18, p. 2. Moreover, Licensee admits that if they had to do it all over again, they would have released the documents, but only to avoid the embarrassing situation they caused for themselves. Hukill told OI, "[i]f I had known what was going to come, that we were going to have this

Major training deficiencies previously concealed were discovered through the cheating investigations and subsequent Unit 1 "restart" hearings in 1981. Significant problems apparently still exist. The cheating hearings, and most recently the BETA and RHR reports, raise serious questions about management's commitment to resolve problems of which it is fully aware.

An early, post-accident example of this lack of commitment was the company's approach to training problems in its internal accident investigation. OI recently investigated the question whether the internal investigation examined the problems identified in the Tsaggaris memorandum^{52/} and certain other negative information regarding the training program at Three Mile Island. Training Report, supra, p. 1. The memorandum suggests that not only was training deficient, but that the Licensee had such disrespect for training requirements that it abused the NRC's regulations. OI concluded that despite the fact that Tsaggaris himself was on the task force, "[t]he investigation determined the TSAGGARIS memorandum did not come to light during the HEATEN Task Force investigation and, thus, did not influence

^{52/} This memo pertains to whether Licensee was in knowing violation of NRC training requirement before the accident. The Staff has recently confirmed that such violations were occurring before the accident. NUREG 0680 Supp. 5 at 7.0 et seq.

However, there is little dispute that Licensee failed to implement an effective training program even in the face enormous pressure to do so. To the extent Licensee misrepresented the true conditions of its training department to the Board, significant integrity issues arises. See, Integrity, supra. To the extent Licensee was willing to write new training programs and procedures and to make commitments to implement those programs successfully, it clearly lacked the strength of resolve to see to it that those commitments were carried out. Whatever current assurance Licensee now gives as to the quality of its training program must be viewed with its past record in mind. See 15 NRC 918 at ¶ 250.

Related to the question of Licensee's resolve to implement an effective training program, is its commitment to insure that the integrity of its exam process is no longer compromised by cheating. Licensee's response to the cheating episodes is most relevant in examining its attitude toward cheating, in particular, the signal it wishes to send all company employees regarding management tolerance of cheating.

As discussed previously, at Judgment, supra, Licensee's investigation into cheating on company exams was incompetent and/or dishonest. Licensee's investigator, hearing witness, and company representative on this issue ignored clear evidence of cheating, failed to check testing conditions in determining whether individuals cheated, accepted denials standing alone as conclusive evidence that copying did not occur, failed to

consider contradictory explanations of potential cheaters with identical exam answers. 15 NRC 918 at ¶ 215.

In addition, no follow up was done by any company representative to confirm operator OO's revealing statement to TMI-1 Director Hukill in October 1981, that "cheating on exams in [the] past has been commonplace and accepted." 15 NRC 918 at ¶ 191. Licensee never questioned the eight possible individuals who could have asked Plant Engineer Shipman for an answer during the April 1981 exam. 15 NRC 918 at ¶ 195. The company made no attempt to determine why O and W cheated extensively on the April 1981 exam. See, Perception, supra, note 34.

Perhaps more importantly, Licensee's response to individual cheaters virtually guaranteed that the official importance of the exam process was not impressed on the operators. While Licensee asserts that its "response in individual cases has been suited to the individual and to the nature of the wrong he committed as well as confirmation that a wrong occurred," Licensee Comments on Commissioner Gilinsky's Tentative Conclusion at 34, the evidence shows otherwise.

In particular, Licensee boasts about the "swift action" taken against O and W. O and W were the only two operators whose employment was actually terminated after being caught cheating -- they are also the only two cheaters who received more than a slap on the wrist by Licensee after being caught. See, Judgment, Perception, supra. (G and H; Shipman). Clark told the NRC Staff at Licensee's June 30 1983 meeting with the Staff, "that was a company action -- not an NRC action. I don't think we had ever sensed the particular NRC pressure." Id. Tr. 113.

However, what this illustrates is that an operator must be caught

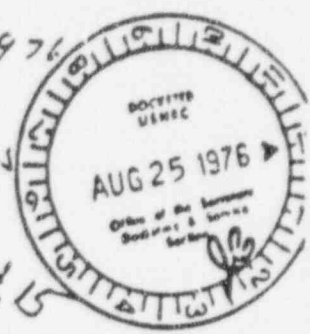
ENVIRONMENTAL COALITION ON NUCLEAR POWER

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Executive Director: George Burdick, B.D. St. Paul, Ontario, Pa. 17542 717 246 2616
Jubilee Building: 431 Orange Avenue, State College, Pa. 16801 814 737 2920

23 August 1976

Secretary of the Commission
US NRC
Washington, DC 20555

McChairman/FF
Trolley/FF
Reply due Sept. 15



Dear Sir:

Enclosed please find twenty (20) copies and original petitions to intervene to reopen construction permit proceedings for fourteen (14) reactors, as designated on the petitions, affidavits and authorizations.

Please acknowledge receipt of these documents promptly. Thank you.

Sincerely,

Judith S. Johnson
Co-Executive Director
Environmental Coalition
on Nuclear Power

Handwritten notes: ... Unit II - ... Unit II (C) ... Unit II (C) ... treated as ...

Large diagonal stamp: ENVIRONMENTAL COALITION ON NUCLEAR POWER

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UNITED STATES NUCLEAR REGULATORY COMMISSION

In the matter of

Docket No. 50-289

Metropolitan Edison Company
Jersey Central Power and Light Company
Pennsylvania Electric Company

Three Mile Island Nuclear Generating Station, Unit I



PETITION FOR INTERVENTION

The Environmental Coalition on Nuclear Power, an unincorporated organization of individuals and groups of individuals, on behalf of its members do hereby petition the U.S. Nuclear Regulatory Commission for leave to intervene in this proceeding. The authority for this request is granted in the Atomic Energy Act of 1954, as amended, Part 2.714 of Title 10 of the Code of Federal Regulations, and decisions 73-1776, 73-1867, 74-1385, and 74-1586 of the United States Court of Appeals for the District of Columbia.

1. The Environmental Coalition on Nuclear Power is a non-profit public interest organization composed of individuals and groups of individuals who share a concern about the purpose, magnitude, and direction of the civilian nuclear power program. Members of the Coalition live in the vicinity of Three Mile Island I. The names of the co-executive directors, the authorized representative of the Coalition before the Commission, and five members who live within approximately 20 miles of Three Mile Island I are listed below.

1. Edith M. Johnsrud

2. George L. Boonman

Encl

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3. Chauncy Kniford, Authorized Representative before the Commission
[REDACTED]
4. Mary V. Southard
[REDACTED]
5. John J. Simon
[REDACTED]
6. Linda (Mrs. Donald) Fortna
[REDACTED]
7. Chuck Cassert
[REDACTED]
8. Hans and Rhoda Wercher
[REDACTED]

The members who live in the neighborhood of Three Mile Island I feel that the operation of this facility poses an undue threat to their lives and material possessions. Due to the recent decisions of the United States Court of Appeals, District of Columbia Circuit, 73-1776, 73-1867, 74-1385, and 74-1586, these members, and the Coalition as a whole, feel the continued operation of Three Mile Island I is illegal because the construction permit for the facility was issued without proper consideration of the "alternative" of energy conservation, with its effect on the cost-benefit analysis, and without proper consideration of the yet unsolved, and possibly unsolvable, problem of radioactive waste disposal. This petition is based on the contention that there are defects in the cost-benefit analysis used by the Applicant to justify construction and operation of Three Mile Island I and approved by the Commission.

2. The Petitioners (the Environmental Coalition on Nuclear Power and its members) contend that the cost-benefit analysis of the Applicant and the Commission is faulty because the recipients of the "costs" and "benefits" have not been properly identified. It is claimed that the sale of electricity by

the Applicant constitutes the primary benefit of the facility, with the customers receiving the benefit and, therefore, being the beneficiaries of the plant. No reading of a dictionary definition of either "benefit" or "beneficiary" can produce such a meaning as applied by the Applicant or the Commission. The true beneficiaries of a nuclear power plant are stockholders who receive profits (if any) due to the plant's operation. Thus, the only true benefits from the operation of a nuclear power plant are the dividends paid out by a utility as a result of the operation of the power plant. Furthermore, the "costs" are underestimated by the refusal of the Applicant and the Commission to determine the actual radiation doses delivered to real people from the entire fuel cycle.

3. Petitioners contend that the stated costs of nuclear power by the Applicant and the Commission assume catastrophic accident-free operation of nuclear power plants. Such an assumption is at odds with the revised conclusions of "The Reactor Safety Study," WASH-1400, better known as the Rasmussen Report, and with Section 170(b) of the Atomic Energy Act. The U.S. Congress, with the passage of the 1975 amendments to the Price-Anderson Act, has acknowledged that there may be more than one nuclear accident requiring payments under the Price-Anderson Act in one year. Cost-benefit analysis of nuclear power plants should include the costs of accidents.

4. Petitioners contend that the cost-benefit analysis of the Applicant and the Commission assumes a virtually infinite supply of relatively low cost "yellow cake," or U_3O_8 . In reality, the U.S. is now grossly overcommitted as far as the "known" and "estimated" reserves of the U_3O_8 are concerned. The fuel requirements for the 238 nuclear reactors operable, being built or planned. (ERDA News Release, July 28, 1976), with a capacity of 237,000 Mw(e)

will require 1,159,000 tons of U_3O_8 for their 30 year lifetimes at a 0.55 capacity factor. The total estimated reserves of U_3O_8 are 640,000 tons of mineable U_3O_8 . (EPDA News Release, April 2, 1976). Neither the Applicant nor the Commission has yet faced the problem of either very high U_3O_8 prices-- as \$100 to \$1,000 per pound of U_3O_8 -- or a simple unavailability of U_3O_8 . Nor has the enormous environmental impact, net energy cost, and dollar cost of mining low grade coals, shales, granites, or even sea-water for uranium been acknowledged by the Commission or the Applicant. Petitioners contend that availability of fuel and energy and environmental costs of its extraction are an integral part of the nuclear fuel cycle and therefore must be included in a full and proper cost-benefit analysis of this reactor.

5. Petitioners contend that the rate structure of the Applicant is a promotional rate structure designed to increase the consumption of electricity by offering declining rates for increased consumption. Such a rate structure minimizes the possibility and practicality of worthwhile energy conservation efforts. Petitioners contend that a flat rate structure--one price for all levels of consumption and for all customers--or a declining block rate structure would make conservation a viable and practical alternative to Three Mile Island I.

6. The petitioners contend that the Commission has been totally negligent in its handling of the problem of radioactive wastes in the granting of a construction permit for Three Mile Island I. As a result, it has been impossible to determine accurately the costs of electricity generated by nuclear plants because the costs of solidification of spent fuel reprocessing waste solutions and storage of solidified wastes were ignored or grossly underestimated. Estimates of the costs of solidifying and disposing of wastes

from the Nuclear Fuel Services range from a low of \$67,000 per year per 1000 Mw(e) plant to \$36,000,000 per year per 1000 Mw(e) plant. (See "Alternative Processes for Managing Existing Commercial High-Level Radioactive Wastes," NUREG-0043). While the \$67,000 figure may represent an insignificant addition to the annual reactor operation costs, the figure of \$36,000,000 could easily double the annual operating costs. If past experience for estimating costs by the AEC/NRC can serve as a guide, the high figure may prove to be the low. Such costs should be included in the cost-benefit analysis.

7. Petitioners contend that the Applicant, with the active support of the Commission, has falsified cost-benefit analyses by using unrealistic capacity factors (0.80) to justify Three Mile Island I. As a result, the customers were charged more because the reactor was not able to produce as much electricity as promised, frequently requiring the Applicant to purchase power. However, by the reasoning of the Commission, this extra charge would be construed as an added benefit, since the sale of electricity constitutes the benefit. Petitioners contend that the Applicant and the Commission have, with other utilities, conspired to further mislead the public by the use of the unit called "maximum dependable capacity."

8. Petitioners contend that the cost-benefit analysis of Three Mile Island I has been biased in favor of nuclear power by greatly underestimating spent fuel reprocessing costs and by the Commission offering a credit for recovered plutonium. Since there has not yet been any successful, economical, and complete reprocessing of reactor wastes to the solid stage, costs must be largely unknown. Since the recycling of plutonium is not presently a commercial reality, the offering of a plutonium credit for yet unrecovered plutonium which may not be recycled is premature.

9. Petitioners therefore contend that, due to the above unresolved issues regarding compliance with Sec. 102 of the National Environmental Policy Act by the Commission, the construction permit for Three Mile Island I should be rescinded immediately and construction and operation halted pending resumption of public hearings and resolution of these matters.

10. Petitioners further request the Commission to grant financial assistance to the intervenors under the authority of Sec. 102 of the National Environmental Policy Act. Petitioners have made similar requests in the past, and have met only with denial or delay. Petitioners call the attention of the Commission to the recent court decision, York Committee for a Safe Environment, et al., vs. Nuclear Regulatory Commission, No. 74-1923, and the comments therein regarding public interest litigants. Petitioners request the amount necessary in order to meet legal, technical and procedural expenses otherwise not available.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
METROPOLITAN EDISON COMPANY,) Docket No.(s) 50-320
 ET AL.)
)
(Three Mile Island Unit No. 2))
)
)
)

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document(s) upon each person designated on the official service list compiled by the Office of the Secretary of the Commission in this proceeding in accordance with the requirements of Section 2.712 of 10 CFR Part 2 - Rules of Practice, of the Nuclear Regulatory Commission's Rules and Regulations.

Dated at Washington, D.C. this

2nd day of Sept 1976.

Richard A. Downing
Office of the Secretary of the Commission

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
METROPOLITAN EDISON COMPANY, ET AL.) Docket No. 50-320 -OL
(Three Mile Island Unit No. 2))

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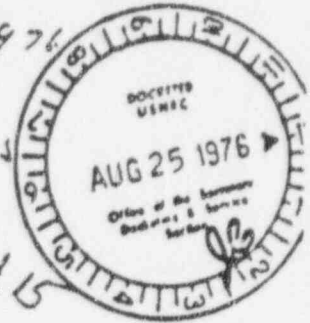
ENVIRONMENTAL COALITION ON NUCLEAR POWER

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Executive Director: George Brownson, 801 St. Peter's, Boston, Pa. 17812 717 346 7646
Judith Johnson: 431 Chippewa Avenue, State College, Pa. 16801 814 737 2900

23 August 1976

Secretary of the Commission
US NRC
Washington, DC 20555

McChesney/FF
Trolley/FF
Reply due Sept. 15



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Sincerely,

Judith H. Johnson
Co-Executive Director
Environmental Coalition
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Part II (14)
Part III - Instruct to be
treated as such

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