

February 21, 1984

TO: Carl Kammerer

FROM: Henry Myers

RE: Response to Commission's Request for Comments on the
List of TMI Integrity Issues. (II)

These comments are in reference to Item III - E, Keaten
Report:

1. Is the December 15, 1980 version of the Keaten report an acceptably complete and accurate reflection of significant information pertaining to the accident and its causes then possessed by GPU management? Does the Keaten investigation and report constitute an adequate effort by GPU to assess the accident and its causes? For example, did the Keaten Task Force adequately address questions specified in B&W 339? Was the summary, as presented in the September 29, 1979 draft, an accurate reflection of information then possessed by the Keaten Task Force? Is the September 29 summary a more [or less] accurate representation than the one presented in the December 15, 1980 draft?
2. What inference should be drawn from the fact that none of the Keaten drafts discusses the Hartman allegations? (Note that the Hartman allegations were available to GPU in May 1979, NRC raised questions about the leak rate calculation procedures in the summer of 1979, the allegations were the subject of a television appearance on March 24, 1980, and the Faegre & Benson report was submitted on September 17, 1980, all prior to completion of the Keaten report. Items 2 and 3 in B&W 730 appear to refer to erroneous leak rate calculation procedures and irregularities with regard to makeup water supplements. Mr. Wallace directed Mr. R. Wilson to address these items. Where is the result of Mr. Wilson's effort?) What inference should be drawn from the fact that Keaten et al. did not seek to determine the impact upon the accident of the leak rate falsification and the concomitant failure to adhere to Technical Specifications?
3. What efforts were undertaken by the Keaten Task Force to determine whether HPI had been initiated at about 5:41 a.m.? Did the Keaten Task Force seek to determine whether any of the TMI-2 operators perceived voiding and/or saturation conditions in the RCS at or about 5:40 a.m.?

cc: William Dircks
Harold Denton
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4. Which operators were interviewed by the Keaten Task Force and on what dates? What records exist to indicate the nature of discussion in such interviews?
5. Did Keaten et al. [or subsequent GPU investigators] conduct an adequate inquiry into the reasons for the reporting failures during the accident? B&W 339 (Task 3, particularly Item 5, "Who was notified, of what, by whom, and when?") poses questions regarding notification of outside agencies which appear not to have been addressed in the Keaten report. Were questions posed in B&W 339 adequately answered by the Keaten Task Force. Note Keaten's January 1980 interview (B&W 364) with Brian Mehler in light of prior statements by Mehler to the NRC Special Inquiry Group and to the New York Times. My review of the record turned up no other references to interviews pertaining to the reporting of information. Note also the evolution of the Keaten report statements on reporting of information:

-September 29, 1979. Keaten says testimony from NRC Region I and state agencies indicates "that the information flow was clear, prompt and satisfactory for the needs of the agencies."

-October 17, 1979. Keaten drops NRC from those agencies to which information flow was clear, etc. He says that information flow to state agencies regarding radiation releases was "generally satisfactory."
"Up-to-date information on plant status was not communicated to the extent desired by senior utility management and the NRC. It should be noted that there were NRC personnel in the control room by about 1000 hours, and they maintained continuous communication with their regional office."

-October 29, 1979. The comment that information was not communicated " ... to the extent desired" was changed to "not communicated as fully as desirable."

Statements concerning TMI managers' awareness of core damage were modified as follows.

-October 29, 1979. "This area of investigation has to date received less attention than other areas the task force has found no indication that anyone made a substantial effort during the day of the accident to really assess the state of the core. This portion of the investigation is incomplete and will be continued." (Page 29.)

The foregoing appeared essentially unchanged in the November 28, 1979 draft. The March 24, 1980 and subsequent drafts dropped the reference to this portion of the investigation being incomplete and the subject of further work. A new sentence was inserted as follows: "The high incore thermocouple readings taken about 8:00 A.M. on March 28 might have triggered recognition of the true core condition, but these readings were not widely known and apparently were not recognized as valid by the station managers who did hear them."

Keaten (p. 744) describes the reason for his January 1980 interview with Mehler. Keaten said Mehler's statements to the effect that he had recognized core damage early on had been "used out of context to try to indicate that people in the control room knew more than they were communicating." Keaten said he wanted "personally to talk with Brian [Mehler] to see what he had meant when he said that comment and what he thought he knew about the extent of core damage." Note that the memo to file does not indicate that Keaten asked Mehler about his recollection that he (Mehler) had perceived on the afternoon of March 28 that some sort of explosion had occurred, and that he had been told not to start equipment in the reactor building, presumably out of concern that this might trigger another explosion. [See House Interior Committee Staff Report, p. 55-92.]

The Keaten report does not address the reasons for the failure of TMI managers to report facts which -- by the managers' own admission in statements made to various investigators prior to the completion of the Keaten report were known to them. Implicit in GPU's subsequent denials that information was willfully withheld are the following assumptions, which are on the surface implausible and which, as far as I know have never been justified by GPU:

- The Station Manager was not informed following his arrival at about 7:00 a.m. that the PORV had been open from about 4:00 a.m. to approximately 6:20 a.m. during which time the HPI had been severely throttled.

- The Station Manager and his principal subordinates did not understand that hot-leg temperatures in excess of 750 degrees implied that the reactor core had been uncovered.

- The in-core thermocouple readings in excess of 2000 degrees were so lacking in significance that there was no reason to report them either to the NRC or to senior utility management.

- Station managers did not infer from RCS samples and reactor building radiation levels that a large portion of the fuel cladding had failed.

-There was no requirement to report to State or Federal officials that the reactor was in a condition not encompassed by emergency procedures.

-The station manager believed, based upon what he himself had observed and reports by his subordinates, that the 1:50 p.m. pulse on the containment building, pressure reactors and associated phenomena and alarms (28 alarms in one second at the time of the pressure pulse, 100 alarms in the 30 second period following the detonation) were the manifestation of an electrical malfunction rather than an explosion.

-Statements by various persons present at TMI-2 on March 28 which are in conflict with the foregoing, are erroneous. (Numerous such statements are cited in the House Interior Staff Report, "Reporting of Information Concerning the Accident at Three Mile Island.")

In light of the significance of the reporting failures (see attached Interior Committee staff report and six memoranda related thereto), what inference should be drawn vis-a-vis integrity of current GPU management from the facts that GPU did not conduct an adequate inquiry into the reporting failures?

What inference regarding integrity should be drawn from the various statements made by GPU managers over the years vis-a-vis the reporting failures?

IV. New Items: GPU acceptance of responsibility for the accident.

- A. Does GPU accept that is negligence was a greater cause of the accident than the negligence of any other party? Than other parties combined?
- B. The following refers to various statements in documents associated with the Keaten report and bears on the question of which party was most negligent. The following are also in addition to items listed under III-F which relate to presentations at the trial and perhaps elsewhere which conflict with statements in various GPU documents.
 - B-1. What inference should be drawn from GPU's failure to explain why lessons of previous incidents (e.g. April 23, 1978 and September 1977) were not incorporated into operating procedures? [For example, B&W 339, page 15 states: "The loss of coolant accident was not recognized by the operators in the watch section on duty, by some watch standers in another watch section and by some plant staff members. This suggests that the inability to recognize this event and prevent core damage extends to other watch sections and to the support staff for a complex event of this type.

Technical data and engineering analyses that could have improved training in this area were not routinely input into the plant training program."]

- B-2. Does it remain the GPU position that the TMI-2 precursor incidents and documents pertaining thereto did not indicate a need to revise operating procedures? How does GPU reconcile its position -- that there was no reason on the day of the accident to anticipate increasing pressurizer level coincident with decreasing primary system pressure - with the facts that this phenomena had occurred at TMI-1 prior to accident? [Note that nearly 200 pages of Keaten's trial deposition (pages 88 - 285) relates to voiding in the primary and/or the effect of same on pressurizer level.]
- B-3. GPU's position in its litigation with the United States and B&W is based on assertions that NRC and B&W negligence was the primary cause of the accident. Is this position consistent with the Keaten Task Force implication (particularly the early drafts) that GPU/Met-Ed's negligence was the greater cause of the accident?

New Item: V. HPI Initiation at 5:41 a.m.

When did GPU first question the accuracy of the recollections of Frederick, Zewe, and Faust re HPI initiation at 5:41 a.m.? Did GPU question these recollections prior to filing its lawsuit against B&W? What caused GPU to doubt the operators' recollections? Who at GPU first raised questions about the 5:41 a.m. HPI initiation? What steps were taken by GPU (and on what date) to resolve the discrepancy between the operators' recollections and the belief that HPI was not initiated at about 5:41 a.m.? [Note that Keaten listed the 5:41 HPI initiation in a chart prepared for a speech given on November 12, 1979; see B&W 348.]

On August 25, 1983, GPU's attorney sent to the NRC a Kaye, Sholer et al. memorandum stating that "Since the EDS analysis scientifically proves that there was not full flow manual actuation of high pressure injection at or about 5:41 a.m., the colorful charge that a 'mystery man' turned it off was conclusively rebutted."

Does GPU agree with the foregoing Kaye/Sholer statement. Is it the GPU position that HPI was not initiated at full flow at or about 5:41 a.m.? Does GPU agree with the B&W analysis of HPI initiation prepared following the trial at GPU's request? Does B&W agree with the conclusions stated in the Kaye/Sholer memorandum? Does Dr. Van Witbeck (principal author of TDR-044) agree with the conclusions stated in the Kaye/Sholer memorandum? Does Mr. Keaten agree? Dr. Long? Mr. Arnold? If GPU agrees with Kaye/Sholer, why has GPU not modified accordingly the Sequence of Events entry indicating that HPI was initiated at 5:41 a.m.?

New Item: VI. Tail Pipe Temperatures

In light of GPU's argument that the tailpipe temperature in excess of 130 degrees was not due to a leaking PORV, what calculations were done prior to the accident to determine tailpipe temperatures that should have been expected in the absence of a leaking PORV? If no such calculations were performed, why were they not performed? Is tailpipe temperature data available for each day beginning on September 1, 1977 and ending on March 28, 1979? If not, for which days is such data not available? What is the basis for the GPU position that tailpipe temperatures in excess of 130 degrees did not necessarily indicate a leaking PORV? Does the NRC agree with this analysis?

The Keaten Task Force states on page 14 of the December 15, 1980 report in explaining the failure to detect the stuck open PORV that "No attention was given to use of the temperature monitors as a means of detecting an open valve, since the monitors were not installed for this purpose." This statement conflicts with statements in B&W 363, a January 29, 1980 memorandum by Mr. Keaten to file. The memo summarizes an interview with Brian Mehler. Keaten notes that Mehler, in seeking to assess the situation at about 6:00 a.m., had "called up from the computer the temperature readings on the tailpipe downstream of the pressurizer relief and safety valves. These readings showed that the temperature downstream from the PORV was significantly higher than, the temperature downstream of either safety valve. Brian correctly deduced that this indicated that the PORV was still open and took action to close the PORV block valve."

New Item: VII. "Punch List"

In an interview with House Interior committee staff on May 12, 1983, Mr. Walter Marshall said that at startup of TMI-2 he thought there was punch list which "probably" contained "around 5,000" items indicating a need for corrective action. Did such a list exist on the day of TMI-2 startup? Did a "punch list" exist on the day of the accident? Where is it now?