



ENCLOSURE 2

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

October 18, 1984

MEMORANDUM FOR:

*Bill*  
William J. Dircks,  
Executive Director for Operations

FROM:

*Ben*  
Ben B. Hayes, Director  
Office of Investigations

SUBJECT:

INVESTIGATION OF TMI-2 POLAR CRANE ALLEGATIONS

Your September 26, 1984 memorandum to me requests that OI provide you our views on the issues of deliberateness, willfulness, and/or intent arising from the subject investigation. I believe that you will find this memorandum and its enclosures responsive to your request. However, before we deal with the specifics of this matter, I think it useful to recount the events leading up to this effort and to explain the criteria that we used to arrive at our opinion.

On June 4, 1984, Dr Henry Myers forwarded five questions on this subject to Norm Haller. OI was subsequently assigned responsibility for the answers to questions 1, 3, and 5. The staff, in this case the TMI Project Office, had the responsibility for questions 2 and 4. Although both offices prepared their answers separately, we agreed to share one another's draft answers. The OI response to questions 3 and 5 caused concern to some members of the staff. The staff's particular concern is OI's position that noncompliance with GPUN administrative procedures represented some degree of deliberateness. This issue resulted in several meetings between OI and members of your staff. These negotiations did not result in any significant change in the opinion of either party. Consequently, OI furnished OCA its draft answers to the questions for which it was responsible. When you and I talked about this matter, we agreed that I should meet with Harold Denton and Dick DeYoung for further discussion. During that subsequent meeting, I expressed reluctance to produce a written document capturing the evidence in the OI report supporting the OI viewpoint unless you so requested it. You did, and this is why we have undertaken this project.

I believe it important, as a first step, to place OI's position in proper perspective. OI's opinion - it is only an opinion, albeit an informed opinion - was articulated in response to specific questions raised by Dr. Myers regarding the staff's evaluation of OI's September 1, 1983 TMI-2 report. OI was essentially asked if we agreed that there was 1) "no evidence of deliberate circumvention of administrative requirements" (the staff's finding) and, 2) if such "administrative deficiencies" were more the result of confusion than deliberateness.

Deliberate means intentional or willful. Similarly, and perhaps redundantly, circumvention means avoidance by stratagem. Thus the issue was and is whether there is any evidence that the noncompliance was purposeful or intentional rather than accidental. The NRC Enforcement Policy also defines careless disregard of NRC requirements to be tantamount to willful.

Given this, OI was in a quandary. The staff had made a categorical statement that there was "no evidence of deliberate circumvention". Thus any quantum of evidence would invalidate the staff's categorical "no evidence" statement. Even though we had not made explicit reference to deliberateness in either the OI report or the memorandum of transmittal, we believed that both documents contained implicit indications of deliberate circumvention of administrative requirements by TMI-2 personnel. We further believed that both documents contained ample information to illustrate that the decision to not follow the administrative procedures was the end result of an ordered thought process rather than confusion.

In contrast, the staff asserted that the noncompliance was more the result of confusion than of deliberateness. It was our view that this statement had to be read in harmony with the "no evidence" statement. Thus we interpreted the statement to mean that the administrative deficiencies were solely the result of confusion. To interpret this statement as meaning that there was some deliberateness but an even greater amount of confusion would be to acknowledge that some evidence of deliberate circumvention exists. Such an interpretation would appear to contradict the staff's earlier "no evidence" statement.

Given the foregoing, OI saw only one option. If we believed that the OI report documented any evidence of deliberate rather than accidental avoidance (i.e., circumvention), then OI had to disagree with the staff's position. This is how we arrived at the aforementioned impasse.

Upon receipt of your September 26 memorandum, I directed my staff to review the OI report and all documents appended to or referenced by it. Thus, I limited our activities to analysis of those documents that were available to your staff during their review. In short, we revisited the material already relied on by the staff in formulating its position that is set forth in SECY 84-36 and SECY 84-33. As enclosure 1 reflects, this review revealed considerable evidence to support OI's view that the circumvention of the required administrative procedures by TMI-2 personnel was at least to some degree deliberate, and that it was primarily the result of work schedule difficulties rather than a lack of understanding of the requirements. In a word, the motivation appeared to be expediency, not confusion.

We started with an assumption of competence on the part of both GPUN and Bechtel regarding NRC requirements. Both entities have considerable nuclear experience with Bechtel in particular being involved in the engineering and construction of a large number of nuclear facilities. The requirements in this instance are quite straightforward. The technical specifications require promulgation and compliance with GPUN administrative procedures. Moreover, the contract between GPUN and Bechtel makes explicit reference to the need for compliance with the GPUN administrative procedures. Thus we feel this assumption to be quite reasonable. Certainly the implications of either this licensee or a major AE/constructor of a number of nuclear facilities in the NTOL stage being perplexed by such requirements could be somewhat unsettling.

The foregoing assumption is strengthened by documentary evidence, in the form of memoranda and quality assurance reports, that senior GPUN/Bechtel managers were aware not only of the requirements, but the fact that Bechtel was not

complying with them. Indeed, at one point a senior GPUN manager felt compelled to write a memorandum to Bechtel noting that 1) Bechtel was not complying with these procedures and 2) that they must do so. This memorandum in turn eventually engendered a Bechtel written response in which they promised to follow the procedures. The record reflects, however, that they did not. It is perhaps noteworthy that these documents precede the allegations made by Messrs Parks, King, and Gischel.

Evidence also indicated that Bechtel felt that the administrative procedures were too cumbersome. Indeed, a quick comparison of the Work Packages developed by Bechtel reveals them to be considerably less bulky than the packages associated with the required Engineering Change Memoranda. This coupled with testimonial evidence supports, in our view, our conclusion that this circumvention was motivated primarily by expediency.

In summary, TMI-2 senior personnel were aware of the need to comply with the GPUN administrative procedures. They did not do so in all cases even though they were evidently aware that such compliance was an NRC requirement.

As before, I wish to point out that OI is not taking any position on any enforcement decisions which may flow from this effort. Such decisions are clearly within the authority and responsibility of the staff.

In closing, I regret that this matter has required the investment of so much of our time and limited resources. On the other hand, if the effort assists the NRC at arriving at an informed decision in this important matter, it no doubt has been worth this time and effort.

Enclosures:  
As stated



## ANNOTATED INDEX OF RELATED DOCUMENTS/STATEMENTS

1. Page 7 of the BNoC Contract, which requires that BNoC will develop for owner's approval a manual dealing with such items as review/approval procedures, administrative procedures, quality assurance procedures, requirements for safety, etc. (Article 3.1)
2. GPUN Memorandum 4240-81-0170 dated August 13, 1981, from Plant Engineering to the QA manager, indicating that a conscious decision had been made shortly after the accident to set aside design reviews of modifications necessary to mitigate the consequences of the accident in the interest of expediency.
3. GPUN Letter to the QA manager, BNoC, from the QA manager, GPUN dated October 22, 1981, QA#3732, advising BNoC that their QA Manual dated August 1981 was approved conditional on BNoC recognizing therein the necessity of complying with the GPUN technical specifications for all design, construction and recovery activities.
4. GPUN Letter from Recovery Operations to the BNoC Field Construction Manager at TMI II dated February 23, 1982, referencing administrative procedures and requiring BNoC to comply with GPUN written procedures and instructions until such time as BNoC replacement procedures are approved by GPUN. This letter also indicates that GPUN and BNoC had discussed this issue a "number of times in the past." Specifically, two of the procedures mentioned in the attached list for BNoC compliance are AP 1043 and AP 1047.
5. EPRI Memorandum dated April 26, 1982, to the GPUN Technical Planning Director, expressing concern that there are certain exclusions in the Bechtel recovery plan. Further, that the plan is not consistent with industry QA practices.
6. GPUN QA Assessment dated May 1982, submitted by the TMI QA manager to the Vice President/Director, TMI Unit II, which states (on page 3) that a QA Stop Work Notice was initiated on May 21, 1982 as a result of repetitive violations of administrative controls for conducting work activities. Construction work was apparently accomplished without approved engineering documents which define and authorize the activities. The TMI QA manager asserts that management at TMI II appear to have the attitude toward administrative control programs that it takes too long to get work authorizations approved and into the field.
7. BNoC Letter from the Field Construction Manager to the GPUN Recovery Operations and Construction Director, June 29, 1982, in response to Attachment 4 above, confirming that BNoC has reviewed the GPUN Administrative Procedures and have no significant concerns about applicability or usage. BNoC also states that it is their full intent to comply with GPUN procedures until they establish their own.
8. GPUN Memorandum 4350-82-0417 dated July 13, 1982, from Recovery Operations to the TMI QA manager, outlining the limited use of "Work Packages" in conjunction with GPUN authorized documents such as

procedures and Engineer Change Memorandums (ECM). This letter states that it represents the position of GPU management with respect to the quick look program, at least, and the use of work packages. It specifically identifies that the work package is not a substitute for other appropriate procedures or documentation.

9. Quality Deficiency Report (QDR) submitted by QA management August 9, 1982, reiterating that work packages cannot substitute for approved procedures. This QDR was forwarded to the Recovery Operations and Construction Director as the responsible party for corrective action.
10. GPUN QA Assessment August 1982, submitted by the TMI QA Manager to the Director, TMI Unit II, and the Director, Quality Assurance. On page 3 this report cites recent monitorings of the quick look program, which identified problems with Bechtel Work Packages. It characterized these as not being proceduralized and "cannot be used to accomplish important to safety work activities on the unit."
11. Bechtel Procedure Number CDPI-20 dated September 1, 1982, "Control and Documentation of Work after Release from GPU to Construction," which, in paragraph 4.0 stipulates the use of work packages to control work, replacing GPU TMI Unit 2 procedures. (There is no indication on the procedure document that it was approved by GPUN.)
12. GPUN QA Assessment October 1982, submitted by the TMI QA Manager to the Director, TMI Unit II, and the Director, Quality Assurance. In paragraph (3), page 2, it states that there continues to be confusion in determining safety classifications for components. Paragraph (4), on the same page, refers to a stop work condition in Unit 2 involving repeated violations of QA requirements for work being performed prior to the engineering document/work authorization being used.
13. GPUN Memorandum 4420-83-0038 dated January 27, 1983, from the Manager, TMI-2 Safety Review Group, to the Polar Crane Task Group leader acknowledging that the use of the work package format is not in strict compliance with AP 1047, "Startup and Test Manual" guidelines, with specific reference to the polar crane no load test.
14. GPUN Memorandum 4410-83-M-0137 dated February 4, 1983, from the Manager, TMI-2 Licensing to the Deputy Program Director, TMI Project Office, NRC, with an attached Procedure Change Request, addressing the limited operation (no load) and full operation (no load) test of the polar crane, dated January 25, 1983. The Procedure Change Request specifically identifies the test as "Important to Safety." The memorandum indicates that the test was documented on a "Work Package" format, which GPUN planned to implement on February 7, 1983.
15. GPUN Memorandum 4240-83-111 dated February 10, 1983, from the Plant Engineering Director to the Site Operations Director, referencing the polar crane load test safety evaluation. This memorandum advises that the plant engineering review of this safety evaluation finds it technically unacceptable.

16. GPUN Memorandum 4300-83-F-002 dated February 17, 1983, from the Deputy Manager of Recovery Programs, to the Plant Engineering Director, referencing the plant engineering finding on the polar crane load test safety evaluation. This memorandum attempts to answer the concerns expressed by plant engineering in Attachment 14 above.
17. GPUN Memorandum 6110-83-039 dated February 23, 1983, from the TMI QA Manager to the Director of TMI Unit II, addressing concerns raised regarding the polar crane load test. One of these concerns surfaced by the QA manager is that modifications to the polar crane were not appropriately documented.
18. Quality Assurance Modifications/Operations Section Document Comment Summary, apparently completed and reviewed in the March 1983 timeframe by TMI QA and forwarded to the Bechtel Polar Crane Task Group. This summary documents a review of a Unit Work Instruction, dated February 26, 1983, titled "Load Test for Polar Crane." The summary review is based on AP 1047, and uncovered several points of noncompliance with AP 1047.
19. GPUN Memorandum 4370-83-1019 dated February 28, 1983, from the Recovery Operations Manager to the Director of Site Operations, referencing resolutions to comments made regarding the polar crane load test procedure (the same Unit Work Instruction mentioned in Attachment 17 above) resulting from a previous review of the procedure by Site Operations. Site Operations found several areas of noncompliance with administrative review and approval procedures (AP 1043 and AP 1047). In their resolutions of these comments, dated February 25, 1983, the Polar Crane Task Group generally contends that AP 1047 does not apply, since this procedure is a constructional test, and AP 1047 is operational. Under Item 4 of the attached Comment Resolution form it indicates that this procedure was reviewed and approved by Quality Assurance. This appears to be in contravention of the date of review and the spirit of comments by Quality Assurance in their Document Comment Summary as described in Attachment 17 of this summarization.
20. GPUN QA Assessment Report, February 1983, submitted by the TMI QA Manager to the Director, TMI Unit II and the Director, Quality Assurance, which indicates (on page 3) that there was a failure to define and revise existing procedures/requirements for "turn back" to construction. This report also alludes to a continual problem in Unit 2 with implementation of administrative controls. The report states that it appears that when a new activity is initiated that doesn't exactly fit into the established controls, the tendency is to work around the program, rather than making necessary procedure changes to accommodate the new activity or situation. The QA Manager contends that Unit 2 management must assure that work is conducted in accordance with presently approved program procedures or revise those procedures to reflect new practices. Further, it is recommended that this be given high priority, and if appropriate action is not taken, a QA Stop Work Action will be initiated.
21. GPUN Memorandum 4200-83-105 dated March 1, 1983, from the Acting Site Operations Director to the Startup and Test Supervisor regarding the applicability of AP 1043 and AP 1047 to the Polar Crane Test Program. This memorandum references a meeting on February 23, 1983 held by the



TMI-2 Director, and a meeting of the Test Working Group on February 25, 1983. Essentially it was agreed that these procedures applied to the polar crane program. The memorandum also affirms that the requirements of AP 1043 and AP 1047 were not being complied with, attributing this noncompliance to a lack of familiarity with these procedures.

22. GPUN Memorandum, dated March 7, 1983, used as a cover letter for the minutes of a Test Working Group meeting held on March 4, 1983 (attached). These minutes mention noncompliance with administrative procedures on page 2. However, the minutes further reflect (p3) that it was agreed that an Engineering Change Memorandum (ECM) would be required for installation of certain fuses in the polar crane main disconnect. The minutes go on to state that for the sake of expediency, documentation would be prepared utilizing another administrative procedure to perform this modification in advance of ECM approval. Lastly, the minutes indicate that it was agreed that the crane load test would be in compliance with AP 1047.
23. Quality Deficiency Report (QDR), dated March 8, 1983, submitted by the TMI Office of Quality Assurance, which classifies the polar crane refurbishment as "important to safety" and cites various deficiencies related to noncompliance with AP 1043 and AP 1047. This QDR specifically states that all refurbishment and testing activities on the polar crane were performed to Bechtel Work Packages. Further, that this document format was defined in an internal procedure of Recovery Operations, and was not approved by any other organization at TMI-2 for performing work.
24. GPUN Memorandum 6110-83-046 dated March 10, 1983, concerning a polar crane refurbishment review conducted by the TMI Office of Quality Assurance. This review found numerous deficiencies in the Bechtel Work Packages. It concludes that although the tests were technically adequate, the test results were not always clearly documented and administrative controls for testing (AP 1047) were not followed.
25. Portion of a QDR regarding the polar crane refurbishment program describing corrective action taken by the Manager, Recovery Programs. In the section titled "Cause" there is a description of the procedures used in refurbishment which were understood to have administratively severed the crane from the plant placing it in a "turned back to construction" condition. The report then states, "This allowed engineering direction and decision making to flow in a more streamlined fashion, since many required refurbishment steps could not be defined until after inspections and tests were performed." It is admitted in the QDR that no such "turn back" was ever provided for in the TMI-2 procedures. Therefore, all crane modifications should have been accomplished in accordance with AP 1043 and AP 1047, dated March 21, 1983. Under the section titled "Corrective Action" this report indicates that in future, AP 1043 and AP 1047 will be utilized in work activities.
26. Extract of Pages I-2, 3, 4, and II-3, 9, 10, 23 from the Technical Examination of Alleged Procedural and Managerial Deficiencies at Three Mile Island, Unit 2. Section I, pages 2-4, trace the procedural requirements involved in this investigation through the technical specifications and regulatory guidance. In addition, this section summarizes the major

allegations and the results of the technical examination of these allegations. Section II, page 3, summarizes the findings concerning the use of BNoC Work Packages. Section II, pages 9-10, contain a summary of the findings regarding BNoC review and approval processes and procedures. Section II, page 23 summarizes the findings related to modifications to containment penetrations, safety classifications, and safety evaluations.

27. Affidavit of Richard D. Parks dated March 21, 1983, listed as Exhibit D-2 in the OI Report of Investigation.

a. Parks indicated that he was present at Head Lift Task Force meetings and either directly or indirectly through the Site Operations Office, issued correspondence from November 1982 on, wherein it was brought to the attention of plant management that there were safety-related violations regarding engineering/review/approval of procedures and noncompliance with QA requirements. According to Parks, nothing was done to correct this condition until the issue was forced. This topic is discussed by Parks on pages 6, 7, 8, 9, 20, 21, 22, 25, 26, 30, 32, and 34 of the affidavit.

b. The affidavit refers to a meeting which took place on February 23, 1983, during which Recovery Operations contradicted a previously stated position. According to Parks, RO had previously said there were no replacements of unlike kind in the crane refurbishment (page 22). At this meeting, they admitted that there had been such replacements (pp 25, 26, and 27).

c. Pages 6, 7, and 9 of the affidavit describe violations of AP 1043, AP 1047 and other procedures, indicating Parks' opinion that such violations were the result of an intentional decision by plant management, essentially for the sake of expediency.

d. Pages 8, 17-19, 21, 22, 30, 31, 38, and 39 of the affidavit comment on what Parks perceives as attempts by plant management representatives to keep the violations/noncompliance concerns from surfacing outside plant channels and even outside specific meetings.

e. Pages 20, 25, 27, 28, 29, 51, and 52 refer to what Parks believes were attempts to intimidate, harass, transfer or fire him, King, and Gischel, as a result of their surfacing concerns over safety-related violations/noncompliance.

28. Interview of Laurence P. King dated March 2, 1983, listed as Exhibit D-4 in the OI Report of Investigation.

a. Pages 3, 4, and 5 of the interview contain information addressing the point that plant management knew and understood that procedures were being violated.

b. Pages 1, 2, 3, and 5 reveal comments by King which indicate that specific procedures were not complied with in order to meet scheduling dates and other deadlines.



- c. Information was also provided by King (pp 3,4, and 5) suggesting that plant management personnel may have attempted to contain concerns about safety-related noncompliance within plant channels.
  - d. In the course of providing his oral statement to an OI investigator (pp 1-5), King described the events surrounding his being fired and expressed his belief that the pressure to do so on plant management resulted from his voicing concerns over violations. He also mentions his perception of possible intimidation and harassment efforts against others who tried to surface safety-related noncompliance issues.
29. Affidavit of Edwin H. Gischel dated April 2, 1983, listed as Exhibit D-5 in the OI Report of Investigation.
- a. On pages 6, 9, 10, 15,16, and 20, Gischel describes various times and methods by which plant management was made aware that procedures were being violated over an extended period of time, and that there were safety-related concerns which needed attention.
  - b. On pages 2, 6, 7, 9, 10, 12, 16, and 20 of the affidavit, Gischel discusses specific noncompliance and attributes it essentially to an emphasis by plant management on expediency and meeting scheduling requirements.
  - c. On pages 10, 11, and 16 of the affidavit, Gischel alludes to actions by plant management personnel which could be characterized as efforts to suppress the surfacing of safety-related concerns by plant employees.
  - d. Pages 9, 10, 11, 13, 14, 15, and 16 of the Gischel affidavit contain information regarding alleged intimidation and harassment of plant personnel attempting to surface safety concerns, violations and noncompliance.
30. Sworn statement of Edwin H. Gischel dated April 8, 1983, listed as Exhibit D-6 in the OI Report of Investigation, which outlines an incident in which Bechtel allegedly bypassed the plant engineering modifications control system in an attempt to downgrade safety classifications, presumably in order to expedite work completion.
31. Sworn statement of Lake H. Barrett dated April 13-14, 1983, listed as Exhibit D-9 in the OI Report of Investigation, which, on pages 3-6, 9-14, and 15, addresses various violations of safety-related procedures.
32. Report of Interview of John J. Barton dated May 11-12, 1983, listed as Exhibit D-12 in the OI Report of Investigation, details Barton's denials of comments attributed to him regarding procedural violations having been accomplished for the sake of expediency. Barton does admit that procedures were violated.
33. Sworn statement of Blaine E. Ballard dated April 19, 1983, listed as Exhibit D-13 in the OI Report of Investigation, which, on pages 1 and 2,

corroborates that TMI QA management cited plant management for violating administrative procedures.

34. Sworn statement of Ronald L. Freëmerman dated May 12, 1983, listed as Exhibit D-18 in the OI Report of Investigation, which, on pages 1, 2, and 4, indicates that Bechtel was aware of GPUN procedures and set up their own procedures based on savings in schedule and cost of the Bechtel system over the GPUN system. He also describes the Bechtel "black box" theory for repairing the polar crane.
35. Sworn statement of Mervyn K. Pastor dated July 28, 1983, listed as Exhibit D-19 in the OI Report of Investigation, describes a series of conversations Pastor had with the manager of Recovery Operations, a Bechtel employee. He opined that this manager understood the GPUN procedures, but would have preferred to work under Bechtel procedures.
36. Sworn statement of John J. Barton dated August 4, 1983, listed as Exhibit D-25 in the OI Report of Investigation, which, on pages 1-3, comments on procedural noncompliance by BNoC, and efforts by GPUN to correct the condition.

## SUMMARY OF OI ANALYSIS

This documents the results of our review of OI report H-83-002 of September 1, 1983. This review, which was undertaken at the request of the Executive Director for Operations was to identify and list all evidence contained in or referenced by the subject report that indicates that the circumvention of GPUN administrative procedures by TMI-2 personnel was willful. Willfulness is defined in 10 CFR 2, Appendix CIII as a "... spectrum of violations ranging from deliberate intent to violate or falsify to and including careless disregard for requirements.". Using this definition, our review identified a considerable amount of evidence indicating that the circumvention of procedures was willful. Additionally, although we found some evidence of confusion, as described below, the weight of the evidence indicates that the circumvention was a deliberate decision apparently based on a sense of expediency and was largely unaffected by confusion.

It is worthwhile to clarify two other terms. First, we use the word "evidence" in its broadest sense, i.e. that which tends to prove or disprove something. Second, we use the term "confusion" as meaning a state of mind on the part of TMI-2 personnel rather than indicating chaos or disorder, its more precise definition. We believe this to have been the intent of the staff when it described the circumvention as being a result of confusion rather than deliberateness as chaos would not be a condition reasonably expected regarding a closely regulated activity such as the TMI-2 cleanup.

In order to demonstrate that the circumvention was willful, one must demonstrate that 1) TMI-2 personnel knew of the requirement, and 2) chose not to comply with the requirement. With regard to the first, we need only demonstrate that 1) it is reasonable to assume such knowledge based on the backgrounds of the personnel involved, 2) that such knowledge is reasonably a condition of employment, and/or 3) key personnel had actual knowledge of these requirements. Our review revealed evidence of all three conditions.

The administrative requirements in question are NRC requirements. Development, promulgation, and compliance with GPUN administrative procedures is essentially required by the licensee's technical specifications. It is not unreasonable to assume that the senior GPUN officials at TMI-2, most of whom have had substantial nuclear experience, would be familiar with the conditions of the license. Indeed, it would be unreasonable not to expect this as a measure of licensee competence. At the same time, Bechtel, although a nonlicensee, has extensive experience in the construction of nuclear facilities, several of these in the NTOL stages. It does not appear unfair to expect Bechtel thus to be generally aware of NRC requirements for operating plants as certainly the design and construction of plants must accommodate the operating requirements of the plant. These inferences notwithstanding, our review also disclosed evidence of actual knowledge.

For instance, the contract between GPUN and Bechtel specifies that compliance with GPUN administrative procedures is mandatory. Additionally, GPUN advised Bechtel in a February 23, 1983 memorandum that compliance with GPUN procedures was required by both the license and the contract in regard to coordination, review, and approval of modifications. Bechtel signified their understanding of this and agreed to follow the procedures in a June 29, 1982 written



response to GPUN. Notwithstanding this agreement, senior TMI-2 management was repeatedly advised that Administrative Procedures (AP) 1043 and 1047 were being circumvented. This is pointed out in at least three quality assurance reports which were given wide site distribution. Note also that Messrs Parks, King, and Gischel had repeatedly pointed out the need to comply with these procedures, but their attempts to correct the condition were rebuffed. Indeed, there is considerable evidence that employees who attempted to raise these concerns were subjected to harassment, transferred, or otherwise pressured by management.

There is also evidence that there was a conscious decision by TMI-2 officials to circumvent these procedures. For instance, an August 13, 1981 GPUN memorandum indicates that a decision had been made shortly after the accident to set aside design reviews of modifications necessary to mitigate the consequences in the interest of expediency. The theme of expediency is touched upon also in the minutes of a Test Working Group meeting held on March 4, 1983. These document a consensus regarding the applicability of AP 1047. However, the minutes further indicate that a modification of the polar crane would take place in advance of Engineering Change Memorandum (ECM) approval - for the sake of expediency.

There is evidence that there was some confusion regarding the proper requirements at some levels at TMI-2. Some of the aforementioned QA reports indicate that some Bechtel personnel believed that the administrative procedures did not pertain to activities such as the polar crane that were "turned over to construction". A March 1, 1983 GPUN memorandum reports that AP 1043 and 1047 were not being complied with primarily due to a lack of familiarity with them.

There are other documents such as Bechtel procedure CDPI-20 that could be considered evidence of confusion or of deliberate circumvention. Essentially, procedure CDPI-20 stipulates that Work Packages would replace the GPUN administrative procedures for work released by GPUN to construction. This could suggest that the subsequent use of these work packages was thus a good faith effort by Bechtel personnel to comply with CDPI-20, which they assumed was valid in the absence of objections from either GPUN or the NRC. However, it is important to note that CDPI-20 apparently was not approved by GPUN. Further, it clearly was in conflict with the GPUN administrative procedures that Bechtel had previously agreed to follow.

Even if we assume that Bechtel was confused, there is ample evidence that GPUN was not. By memoranda and QA reports, GPUN officials indicated their awareness that the administrative procedures were not being followed, and so advised senior TMI-2 management. Yet this circumvention continued even after the initiation of the investigation of the Parks-King-Gischel allegations. In view of this, as well as the previously cited evidence of willfulness, it does not appear reasonable to consider confusion as having been a significant factor in the failure to adhere to the required procedures.

The above discussion highlights the evidence that in our view speaks to willful avoidance of GPUN administrative procedures, and by extension, NRC requirements. In arriving at this overview, we reviewed all documents and statements appended to or referenced by the report of investigation. An annotated index of all of these documents is appended as enclosure 1 to allow the reader to view the same evidence that we relied on in arriving at our position.

Enclosure:  
Annotated Index with  
cited documents attached