

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	Docket Nos. 50-329-OL
	)	50-330-OL
CONSUMERS POWER COMPANY	)	50-329-OM
	)	50-330-OM
(Midland Plant, Units 1 and 2)	)	

CONSUMERS POWER COMPANY'S RESPONSE  
TO STAMIRIS PROPOSED FINDINGS  
OF FACT AND CONCLUSIONS OF LAW

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CONSUMERS POWER COMPANY'S RESPONSE  
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OF FACT AND CONCLUSIONS OF LAW

Pursuant to 10 CFR §2.754, Consumers Power Company ("Consumers Power") submits the following response to Intervenor's Proposed Findings of Fact and Conclusions of Law. This response is written to reflect the record of these proceedings as it stood at the time Consumers Power filed its Proposed Findings of Fact and Conclusions of Law, in November, 1981.

Consumers Power urges the Atomic Safety and Licensing Board ("Licensing Board") to reject all of Intervenor's Proposed Findings of Fact and Conclusions of Law in favor of Consumers Power's own findings and conclusions of law, which more accurately reflect the evidentiary record.

I. Consumers Power's Comments to Intervenor  
Stamiris' Proposed Findings of Fact and  
Conclusions of Law.

A. History

Paragraph 1. This paragraph inaccurately states that the quality assurance program did not identify the diesel generator building's unusual settlement. The implication is that this was a failure of the quality assurance program. Mr. Gallagher's testimony is referenced as support for this statement. Mr. Gallagher testified that a construction crew's inability to close a traverse in surveying caused Consumers Power to look more closely at the diesel generator building.<sup>1/</sup> A monitoring program at the site determined that the diesel generator building had experienced unexpected settlement.<sup>2/</sup> Keppler testified that the excess settlement would not have been discovered absent Consumers Power's quality assurance department.<sup>3/</sup> Indeed, the thrust of Director Keppler's testimony was that there was no broad breakdown of Consumers Power's quality assurance program because the program has been effective in the ultimate identification and subsequent correction of the deficiencies.<sup>4/</sup>

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<sup>1/</sup> Gallagher, Tr. 2375.

<sup>2/</sup> Id., Tr. 2376; Howell, prepared testimony at pp. 4-5, following Tr. 2802.

<sup>3/</sup> Keppler, Tr. 2048.

<sup>4/</sup> Keppler, NRC Staff prepared testimony at p. 3, following Tr. 1864.

Paragraph 2. Many of the statements made in this paragraph are not supported by citations to the record. If the purpose of this paragraph is to imply that Consumers Power was less than prompt in its reporting of the diesel generator building, the implication is false. The NRC Staff found that Consumers Power fully complied with all NRC regulations governing the reporting of construction deficiencies in the case of the diesel generator building.<sup>5/</sup> Consumers Power established that the settlement of the diesel generator building exceeded the expected range for settlement on August 18, 1978. On August 22, 1978, the NRC Staff Resident Inspector was informed of the excess settlement.<sup>6/</sup> On the basis of the results of a soil boring investigation initiated August 25, 1978,<sup>7/</sup> Consumers Power informed the NRC Region III Office by telephone that the diesel generator building's excess settlement was reportable under 10 CFR §50.55(e) on September 7, 1978.<sup>8/</sup> Formal written notice of a construction deficiency pursuant to 10 CFR §50.55(e)(1)(iii) was provided on September 29, 1978.<sup>9/</sup>

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<sup>5/</sup> Gallagher, Tr. 2315-20, 2430; Keppler, Tr. 2027.

<sup>6/</sup> Howell, prepared testimony at pp. 4-5, following Tr. 2802.

<sup>7/</sup> Id.; NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 2, p. 6, following Tr. 1754.

<sup>8/</sup> Howell, prepared testimony at p. 5, following Tr. 2802; NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 2, p. 6, following Tr. 1754.

<sup>9/</sup> NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 2, p. 6, following Tr. 1754.

Paragraph 3. This paragraph incorrectly implies that the decision to remedy the soils problem by using a surcharge had been made by the time the NRC Staff conducted its October, 1978 investigation. Consumers Power did not decide to use the surcharge to remedy the diesel generator building's excess settlement until December, 1978.<sup>10/</sup>

Paragraph 4. Ms. Stamiris contends that the preload plan was adopted on November 7, 1978. The basis for her assertion is a memorandum written by B. C. McConnel, a Bechtel engineer, setting forth the remedial options considered at a meeting in Champaign, Illinois on November 7, 1978 between Consumers Power, Bechtel, and their consultants.<sup>11/</sup>

This memorandum does not demonstrate that Consumers Power adopted the preload option on November 7, 1978. On the contrary, it indicates that remedial options other than the preload program were still being considered at this time.<sup>12/</sup>

Ms. Stamiris attempts to buttress her assertion that the preload program was formally adopted on November 7, 1978 by stating that "[i]n November, 1978, preload instrumentation was installed, the electrical duct banks were released, construction of the DGB resumed and the applica-

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<sup>10/</sup> Keeley, Tr. 1243.

<sup>11/</sup> NRC Staff prepared testimony on Stamiris Contention No. 2, Attachment No. 3, p. 5, following Tr. 2530.

<sup>12/</sup> Id.; Hendron, Tr. 4044-48.



tion of the sand frost protection/surcharge commenced."

Both the NRC Staff and Consumers Power witnesses agreed that

Consumers Power considered the preload option in November,

1978.<sup>13/</sup> Some of the activities referenced by Ms. Stamiris do not demonstrate that a choice had been made at that time.

The area was prepared to be surcharged so that if the preload option was chosen the surcharge could proceed.<sup>14/</sup>

Construction of the diesel generator building was not resumed until after the preload program was chosen in December

1978.<sup>15/</sup> The loading of the surcharge was not begun until January 26, 1979.<sup>16/</sup>

Paragraph 5. This paragraph implies that the surcharge program was commenced before Consumers Power had learned of the results of the comprehensive inspection the NRC Staff had conducted in December, 1978 and January, 1979. This is not accurate. The inspection culminated in NRC Inspection Report No. 78-20. The record shows that Consumers Power was informed of the NRC Staff's findings in NRC Inspec-

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<sup>13/</sup> NRC Staff prepared testimony on Stamiris Contention No. 2, Attachment Nos. 3 and 6, following Tr. 2530; Keeley, prepared testimony at pp. 9-10, following Tr. 1163.

<sup>14/</sup> Stamiris Exhibit No. 13; Keeley, prepared testimony at pp. 8-10, following Tr. 1163; Howell, Tr. 2885-2893; Stamiris Exhibit Nos. 1, 7, 10 and 13.

<sup>15/</sup> Howell, prepared testimony at p. 21, following Tr. 2802; cf. Keeley, Tr. 1243.

<sup>16/</sup> Keeley, prepared testimony at pp. 8-10, following Tr. 1163.

tion Report No. 78-20 before institution of the preload.<sup>17/</sup>  
Indeed, Consumers Power communicated with the NRC Staff throughout the period it was deciding on what remedy to use.<sup>18/</sup>

Paragraph 6. Ms. Stamiris claims that the NRC Staff issued the Order Modifying Construction Permits ("Modification Order") because Consumers Power had not responded satisfactorily to 10 CFR §50.54(f) Question 23 ("Question 23"). However, the NRC Staff had not completed their review of Consumers Power's responses to Question 23 prior to issuing the Modification Order.<sup>19/</sup>

Paragraph 7. No response.

Paragraph 8. This paragraph states that Consumers Power continued certain soils-related work based on its own interpretation of the commitment it made to voluntarily refrain from soils remedial work following issuance of the Modification Order. This statement implies that Consumers Power's voluntary commitment to refrain from soils remedial work was subject to differing interpretations. This is not true.

Consumers Power voluntarily suspended soils related remedial work following issuance of the Modification Order, despite the fact that the effectiveness of the Modification

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<sup>17/</sup> Gallagher, Tr. 2325.

<sup>18/</sup> Keeley, prepared testimony at p. 9, following Tr. 1163; Hood, Tr. 2677-78, 4169.

<sup>19/</sup> Gilray, Tr. 3732-33.



Order had been stayed by Consumers Power's request for hearing.<sup>20/</sup> The voluntary restraint was never intended to be as broad as the prohibition contained in the Modification Order, and was not designed to stop all soils related construction.<sup>21/</sup> The NRC Staff was aware of Consumers Power's voluntary commitment and has not challenged Consumers Power's actions pursuant to this commitment.<sup>22/</sup>

Paragraph 9. No response.

B. Quality Assurance Issues Arising From the Modification Order

Paragraph 10. No response.

(1) Evidence Regarding Reasonable Assurance.

Paragraph 11. Ms. Stamiris asserts that the Licensing Board must consider "project wide QA implementation" in order to make a valid finding as to "the reasonable assurance question." To the extent this argues that the scope of this proceeding should be extended beyond that defined by the Licensing Board in its "Prehearing Conference Order Ruling On Contentions and On Consolidation of Proceedings," dated October 24, 1980 ("Prehearing Order") the finding must be rejected. In the Prehearing Order, the Licensing Board limited the scope of the quality assurance-related issues in this proceeding to "the resolution of the soils settlement

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<sup>20/</sup> Keeley, prepared testimony at p. 13, following Tr. 1163; Modification Order, Part V.

<sup>21/</sup> Howell, Tr. 2825-2827.

<sup>22/</sup> Hood, Tr. 1107-09.

issues, to the implementation of the QA/QC program with respect to the resolution of such issues, and to factors which could be said to bear upon the Applicant's managerial attitude in resolving such issues."<sup>23/</sup>

(2) Evidence Regarding Corporate Management.

Paragraph 12. The recognition that Midland could not be completed on the then-existing schedule and anticipated cost increases were only two of several reasons for the Project's reorganization."<sup>24/</sup>

Paragraph 13. No response.

Paragraph 14. This paragraph misconstrues the record in stating that "Mr. Cook's belief that the single team approach fosters better working relationships has been questioned by NRC observations." The NRC Staff witnesses testified that the Midland Project Quality Assurance Department ("MPQAD") "had formed an effectively integrated and coordinated construction and quality management team."<sup>25/</sup> NRC Staff witnesses also testified that the new integrated organization was an added improvement in an overall adequate quality assurance program."<sup>26/</sup> The "questions raised by the

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<sup>23/</sup> Prehearing Conference Order Ruling On Contentions and On Consolidation of Proceedings, dated October 24, 1980, at p. 4 (emphasis added).

<sup>24/</sup> Howell, prepared testimony at p. 13, following Tr. 2802; and Tr. 2848.

<sup>25/</sup> Keppler, NRC Staff prepared testimony at p. 7, following Tr. 1864.

<sup>26/</sup> Keppler, Tr. 1975-76, 1883; Gilray, Tr. 3714.

NRC Staff" to which this paragraph alludes were only speculation by Mr. Gilray. Mr. Gilray speculated that internal dissension was a possible problem with the Bechtel/Consumers Power integrated quality assurance organization.<sup>27/</sup> However, on cross examination he admitted he knew nothing which suggests such a problem actually exists.<sup>28/</sup> His speculation should be given no evidentiary weight.

(3) Evidence Regarding MPQAD.

Paragraph 15. The Midland Project Office was established in March, 1980 to replace the then-existing Midland Project Management Organization.<sup>29/</sup> The MPQAD, which integrated Consumers Power's quality assurance organization with Bechtel's quality assurance organization, was created in August, 1980.<sup>30/</sup>

Paragraph 16. This paragraph alleges that the assessments of MPQAD's operations by outside consultants and the NRC Staff made before December, 1981 indicate that weaknesses still exist in the timeliness and "adequacy" of MPQAD's corrective actions. While the consultant report did suggest that more timely resolution of quality assurance conditions was necessary, the remainder of the statement is untrue.

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<sup>27/</sup> Gilray, Tr. 3856-57.

<sup>28/</sup> Id., Tr. 3875.

<sup>29/</sup> Marguglio, prepared testimony at p. 7, following Tr. 1424.

<sup>30/</sup> Cook, prepared testimony at p. 8, following Tr. 1693; Marguglio, prepared testimony at p. 9, following Tr. 1424.

In May, 1981, the Management Analysis Company ("MAC") completed a three-month special audit of the MPQAD's implementation of the quality assurance program.<sup>31/</sup> As noted in the Consumers Power Proposed Findings of Facts and Conclusions of Law, the MAC overall assessment found that the MPQAD program implementation is "somewhat above average."<sup>32/</sup> The report concluded that the MPQAD correctly identified the root cause of quality problems and, with few exceptions, adequately addressed each quality problem's specific and generic implications.<sup>33/</sup>

The NRC Inspection Report referenced by Ms. Stamiris summarized a special in-depth inspection conducted by the NRC in May, 1981 to determine the effectiveness of the MPQAD.<sup>34/</sup> While isolated deficiencies were noted, this report concluded that the deficiencies were not serious enough to contravene the NRC Staff's conclusion that Consumers Power has established an effective organization for the management and implementation of quality assurance at the Midland site.<sup>35/</sup>

(4) Evidence Regarding Quality Assurance  
Organizational Developments and Implemen-  
tation of the Quality Assurance Program.

Paragraph 17. The citation to Transcript page 2482 as support for the assertion that Mr. Marguglio defended

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<sup>31/</sup> Marguglio, Tr. 1532.

<sup>32/</sup> NRC Staff Exhibit No. 4 at p. 10.

<sup>33/</sup> Id. at p. 8.

<sup>34/</sup> Keppler, prepared testimony at pp. 5-8, following Tr. 1864;  
See NRC Staff Exhibit No. 1.

<sup>35/</sup> NRC Staff Exhibit No. 1 at p. 1; Keppler, Tr. 1884-85.

the trend analysis' "failure to detect the repetitive soils deficiencies . . . as beyond the trend analysis capabilities" is misplaced. More accurately, Mr. Marguglio testified that the trend analysis operating during the period the soils were placed was less sophisticated than the trend analysis currently utilized.<sup>36/</sup> He stated that the earlier trend analysis would not have detected the soils problem since the nonconformance reports identified in NRC Inspection Report No. 78-20 were written at widely different time periods and concerned different types of deficiencies.<sup>37/</sup> Mr. Marguglio also testified that the trending analysis has improved since then.<sup>38/</sup>

Paragraph 18. Ms. Stamiris contends that "recent refinements to the trend analysis and other aspects of the QA program have failed to result in improved implementation of the QA program . . ." Ms. Stamiris fails to specify what "other aspects" she is referring to. The record demonstrates that changes in Consumers Power's trend analysis have improved the implementation of the quality assurance program and have been effective in recognizing several construction problems.<sup>39/</sup> Contrary to Ms. Stamiris' assertion, NRC Inspection Report

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<sup>36/</sup> Marguglio, Tr. 1430-31.

<sup>37/</sup> Id.

<sup>38/</sup> Id., prepared testimony at p. 36, following Tr. 1424.

<sup>39/</sup> Turnbull, Tr. 4283-84; See, Marguglio prepared testimony at pp. 10-37, following Tr. 1424 for a complete description of the quality assurance program and implementation improvements recently instituted.



No. 81-12 establishes that implementation of Consumers Power's quality assurance program has indeed improved.<sup>40/</sup> With respect to the two Criterion XVI noncompliances referenced in this paragraph, Consumers Power had already identified areas of the trending program requiring improvement and was in the process of implementing the improvement at the time of the May, 1981 NRC Staff inspection.<sup>41/</sup>

(5) Evidence Regarding Corrective Action  
For Soil Settlement Problems.

Paragraph 19. This paragraph asserts that Consumers Power Company's corrective actions "have not been self-initiated" and have not represented "timely and adequate responses" to the NRC Staff concerns. No citations are supplied in support of these assertions. Moreover, the implication that Consumers Power has not taken corrective actions except those suggested or mandated by the NRC Staff contradicts the record.

Consumers Power has taken many "corrective actions" on its own independent of NRC Staff suggestions and mandates. For example, among other things, Consumers Power initiated: (1) the reorganization of the Midland Project organization at the beginning of 1980;<sup>42/</sup> (2) the restructuring of the Midland Project's quality assurance department to completely

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<sup>40/</sup> NRC Staff Exhibit No. 1; Keppler, Tr. 1884-85.

<sup>41/</sup> Williams, Tr. 3027-28.

<sup>42/</sup> Howell, prepared testimony at p. 13, following Tr. 2802.

integrate the Consumers Power and Bechtel quality assurance organizations into a single entity in August, 1980;<sup>43/</sup> and (3) a program to re-review the Final Safety Analysis Report ("FSAR") commitments to assure that the commitments adequately reflect project design documents.<sup>44/</sup> In addition, almost all of the programmatic changes referred to in Mr. Marguglio's testimony were undertaken without the suggestion or mandate of the NRC Staff.<sup>45/</sup>

Paragraph 20. This paragraph claims that Bechtel did not consider it necessary "to identify the root causes of the soil settlement prior to embarking on the remedial corrective action", but does not identify which remedial corrective action it refers to.

Mr. Hood stated that some quality assurance matters had not been completed before the initiation of the diesel generator building surcharge program.<sup>46/</sup> This does not suggest, however, that Consumers Power or Bechtel did not consider it necessary to identify "root causes" of a problem before taking appropriate actions. Neither does it mean that they had not sufficiently investigated the soils-settlement

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<sup>43/</sup> Cook, prepared testimony at p. 8, following Tr. 1693; Marguglio, prepared testimony at pp. 8-9, following Tr. 1424.

<sup>44/</sup> Marguglio, prepared testimony, Attachment 10 at pp. 23-6 to 23-7, following Tr. 1501.

<sup>45/</sup> Id., at p. 23-39.

<sup>46/</sup> Hood, NRC Staff prepared testimony on Stamiris Contention No. 2, following Tr. 2530.

problem prior to the institution of the surcharge. As explained in Consumers Power's Proposed Findings,<sup>47/</sup> Dr. Peck, one of the consultants who recommended the preload remedy, testified that he had sufficient information to evaluate the adequacy of the surcharge program prior to its implementation.<sup>48/</sup>

Ms. Stamiris further contends that "construction of the DGB had resumed, preload instrumentation had been installed and sand application had begun" prior to the first NRC site visit. As noted in response to paragraphs 3-5, this is incorrect. The NRC Staff conducted its first site inspection of the diesel generator building on October 24-27, 1978.<sup>49/</sup> The cutting of duct banks took place in November, 1978. The placement of the frost protection, a necessary step in preserving the preload option, also took place in November, 1978.<sup>50/</sup> Consumers Power's decision to implement the surcharge program was not made until December, 1978.<sup>51/</sup> Construction on the diesel generator building was only resumed when the surcharge option was chosen.<sup>52/</sup>

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<sup>47/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law at pp. 103-104, paragraphs 143-144.

<sup>48/</sup> Peck, prepared testimony at p. 2, following Tr. 3211; Peck, Tr. 3219-20.

<sup>49/</sup> Stamiris Exhibit No. 3, Attachment No. 2.

<sup>50/</sup> Stamiris Exhibit No. 1, Attachment A.

<sup>51/</sup> Keeley, Tr. 1243.

<sup>52/</sup> Howell, prepared testimony at p. 21, following Tr. 2802.



Application of the surcharge did not begin until late January, 1979.<sup>53/</sup>

Paragraph 21. Although the NRC Staff met with Consumers Power on February 23, 1979 to present the written results of NRC Inspection Report No. 78-20, Consumers Power had been verbally informed of the NRC Staff's findings before commencement of the surcharge program in late January, 1979.<sup>54/</sup>

Paragraph 22. This paragraph asserts that Consumers Power's reply to 10 CFR §50.54(f) Question 1(b) stated "that a review of the remaining active FSAR sections was not necessary." This is a mischaracterization of Consumer Power's response. Consumers Power actually replied that it did not engage in a special review of the active sections of the FSAR, since these sections were already the subject of a then-ongoing review process.<sup>55/</sup>

Paragraph 23. No response.

Paragraph 24. A full explanation of the "Block 8" procedural irregularity in the FSAR re-review program and the corrective actions to remedy it is contained in Consumers Power Proposed Findings of Fact and Conclusions of Law.<sup>56/</sup>

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<sup>53/</sup> Keeley, prepared testimony at pp. 8-10, following Tr. 1163.

<sup>54/</sup> Gallagher, Tr. 2325.

<sup>55/</sup> Marguglio, prepared testimony, Attachment No. 9, at pp. 1-4, following Tr. 1501.

<sup>56/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 162-66, paragraphs 259-267.

The irregularity did not bring the adequacy of the FSAR re-review program into question. The NRC inspector responsible for auditing the re-review program testified that the Block 8 matter had been appropriately resolved.<sup>57/</sup> He affirmed that the FSAR re-review was adequate.<sup>58/</sup>

Paragraph 25. The second noncompliance cited in NRC Inspection Report No. 80-32 involved three items. The first of these dealt with the improper maintenance of a log intended to reflect the interface between design organizations.<sup>59/</sup> The NRC inspector responsible for citing this deficiency verified in October, 1981 that Consumers Power had properly maintained the log since NRC Inspection No. 80-32.<sup>60/</sup> The other two items related to ambiguities in engineering department instructions.<sup>61/</sup> The engineering instructions were rewritten and the NRC Staff verified their adequacy in their May, 1981 inspection.<sup>62/</sup> There is no explanation or support for the claim that the revisions "relaxed the intent" of these instructions.

The meaning of the claim that "[t]his attitude is a continuation of the same problem seen in the original FSAR

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<sup>57/</sup> Landsman, Tr. 4851, 4930-31.

<sup>58/</sup> Id.

<sup>59/</sup> Id., Tr. 4984.

<sup>60/</sup> Id., 4986-88.

<sup>61/</sup> Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 3, Appendix A, at p. 2, items b and c, following Tr. 1754.

<sup>62/</sup> NRC Staff Exhibit No. 1 at pp. 5-6; Landsman, Tr. 4991.

review" is unclear. If it implies that NRC Inspection Report No. 80-32 disclosed problems with the FSAR re-review similar in scope and magnitude to earlier deficiencies, there is no support for that position in the record. During the course of the re-review, over 1,000 sections of the FSAR were re-inspected to determine whether its commitments were consistent with the plant design.<sup>63/</sup> Three audits conducted during the re-review program identified the Block 8 procedural irregularity, but confirmed that the purpose of the re-review was being fulfilled and that the re-review program was adequate.<sup>64/</sup>

Paragraph 26. This paragraph generally cites "numerous examples" of procedures not followed which were documented in NRC Inspection Report No. 78-20. It fails to specify any examples as support for the statement.

Paragraph 27. No response.

Paragraph 28. It is not true that "Dr. Landsman did not attach great significance to the FSAR re-review, considering it just one of the 58 CPC commitments to Q23." Dr. Landsman testified that Consumers Power's FSAR re-review was one of fifty-eight action items that the NRC Inspection team evaluated during their week-long inspection conducted during December, 1980.<sup>65/</sup> It was the procedural irregularity involving

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<sup>63/</sup> Marguglio, prepared testimony, Attachment No. 10, Response to NRC 10 CFR §50.54(f) Question 23, Part (2) at pp. 23-37 to 23-48, following Tr. 1501; Landsman, Tr. 4848.

<sup>64/</sup> Bird, Tr. 3147-48; Landsman, Tr. 4849-51.

<sup>65/</sup> Landsman, Tr. 4909.

Block 8, and not the FSAR re-review program, that Dr. Landsman did not find very significant.<sup>66/</sup>

Although Dr. Landsman explained that the FSAR was not used as the controlling design document during the plant's construction,<sup>67/</sup> he noted that it is very important for the FSAR to reflect a plant's construction accurately. It is reviewed at the operating license stage and is the basis on which the operating license is issued.<sup>68/</sup>

Paragraph 29. Ms. Stamiris cites Dr. Landsman's testimony for the proposition that "the NRC is trying to get the remainder of the commitments (about 1/2) closed out in order to find them acceptable." Dr. Landsman's testimony was factually inaccurate. Two-thirds of the commitments Consumers Power made in its Responses to NRC 10 CFR §50.54(f) Questions 1 and 23 had been completed, inspected by the NRC Staff and successfully closed out when Dr. Landsman testified.<sup>69/</sup>

Ms. Stamiris implies that the sole basis for Mr. Gilray's judgment as to the adequacy of Consumers Power's response to 10 CFR §50.54(f) Question 23 is Consumers Power's commitment to complete the remaining open items. This is also inaccurate. Mr. Gilray stated that his assessment of

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<sup>66/</sup> Id., Tr. 4907.

<sup>67/</sup> Id. Tr. 4916, 4918.

<sup>68/</sup> Id., Tr. 4919-20.

<sup>69/</sup> See Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 1 to Attachment No. 3, following Tr. 1754.

Consumers Power's Midland quality assurance program was based, in part, on Consumers Power's commitments for future actions.<sup>70/</sup> Indeed, Mr. Gilray testified that his initial reluctance to accept Consumer Power's response to Question 23 related only to a lack of documentation of the actions taken to support Consumers Power's commitments.<sup>71/</sup> Mr. Gilray considered Consumers Power's response to Question 23 satisfactory<sup>72/</sup> once he received verification of the effective implementation of the quality assurance program through the MAC report, the hiring of Philip Cro. / and Associates and an update from Consumers Power on its quality assurance program improvements.<sup>73/</sup>

Paragraph 30. This paragraph inaccurately claims that "the NRC expressly disapproved of CPC's reliance on past procedural controls" in 10 CFR §50.54(f) Question 23, Part 2a. In Part 2a, the NRC Staff requested Consumers Power to modify its earlier response to 10 CFR §50.54(f) Question 1 because Consumers Power's response to Question 1 had not provided "sufficient information to assure that contradictions do not continue to exist in the PSAR, FSAR, . . ." and design documents.<sup>74/</sup> This neither implies nor expresses any "disapproval."

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<sup>70/</sup> Gilray, Tr. 5326.

<sup>71/</sup> Id., Tr. 3712; 3835-36, 3763.

<sup>72/</sup> Id., Tr. 3712-13; Tr. 3709.

<sup>73/</sup> Id., Tr. 3712-16.

<sup>74/</sup> Marguglio, prepared testimony, Attachment No. 10, at pp. 23-36, following Tr. 1501. Consumers Power supplied this information in its response to Question 23, Part 2.



Paragraph 31. The answers criticized here as being an inadequate response to Part 2a of Question 23 were neither designed nor submitted by Consumers Power to respond to Part 2a. The items noted on page 23-92 of Consumers Power's response to Question 23 address 10 CFR §50.54(f) Question 23, Part 4.<sup>75/</sup> Similarly, the material on pages 23-50 through 23-75 respond to Part 3, not Part 2a, of Question 23.<sup>76/</sup>

Ms. Stamiris also inaccurately states that approximately 40% of the corrective actions Consumers Power has committed itself to making are incomplete two years after their undertaking. As noted above, two-thirds of the commitments Consumers Power has made in its responses to 10 CFR §50.54(f) Questions 1 and 23 have been completed, inspected by the NRC and successfully closed out.<sup>77/</sup>

(6) Evidence Regarding Consultant Reports and Recommendations.

Paragraph 32. No response.

Paragraph 33. The MAC audit observed that the quality assurance program may require further action in the area of timeliness of implementing corrective actions. The

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<sup>75/</sup> Id., Attachment No. 10, at p. 23-92, following Tr. 1501.

<sup>76/</sup> Id., pp. 23-50 through 23-75.

<sup>77/</sup> See Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 1 to Attachment No. 3, following Tr. 1754.

auditors did not, however, characterize the response time for implementing corrective actions as a problem.<sup>78/</sup>

This paragraph states that Mr. Bird "indicated that the timeliness problem concerning corrective actions had to do with limitation of resources and job functions other than QA." It should be noted that Mr. Bird did not agree with the characterization of the timeliness of implementing corrective actions as a problem.<sup>79/</sup>

Paragraph 34. No response.

Paragraph 35. The statement that Mr. Bird testified that no specific action was undertaken to implement the recommendations of the MAC Report is incorrect. In his testimony, Mr. Bird described the measures taken by Consumers Power both before and after the MAC audit to improve the timeliness of the implementation of corrective actions.<sup>80/</sup> Mr. Bird outlined the actions taken to assure that each of the specific findings and action items identified in the MAC audit were included within the regular MFQAD process for corrective actions.<sup>81/</sup>

With respect to Mr. Gilray's testimony concerning the results of the MAC report, it must be emphasized that Mr. Gilray concluded that the MAC Report indicated that Consumers Power and Bechtel have a meaningful and effective

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<sup>78/</sup> NRC Staff Exhibit No. 4 at p. 3.

<sup>79/</sup> Bird, Tr. 5174.

<sup>80/</sup> Id., Tr. 5119-5200.

<sup>81/</sup> Id.

quality assurance organization.<sup>82/</sup> Mr. Gilray testified that none of the areas of weakness outlined in the MAC Report were of a substantial nature.<sup>83/</sup>

Paragraph 36. No response.

Paragraph 37. The meaning of Ms. Stamiris' statement that "[w]ith the plant 70% complete, this [Crosby's] philosophy is quite limited" is unclear. If Ms. Stamiris is implying, however, that the workshop with Philip Crosby and Associates has little value to Consumers Power since the Midland Plant's construction is 70% complete, her statement could not be further from the truth. First, 30% of the plant remains to be constructed and quality assurance is a vital element in the construction process. Second, as Mr. Gilray testified, improvements in Consumer Power's quality assurance program will be applicable to completed construction through enhanced investigation of work that has already been finished.<sup>84/</sup>

(7) Staff Assessments of Consumer Power Management and MPQAD.

Paragraph 38. Ms. Stamiris alleges that the NRC Staff's position on the effectiveness of Consumers Power's quality assurance program "is a foregone conclusion given the QA Stipulation Agreement prior to the hearing." The record contradicts this claim. Mr. Cordell Williams, the

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<sup>82/</sup> Gilray, Tr. 3716.

<sup>83/</sup> Id., Tr. 3715-16.

<sup>84/</sup> Id., Tr. 3805.



team leader of the Region III inspection team that conducted the May, 1981 NRC inspection of Midland, testified that his knowledge of the stipulation had no effect on the inspection or its findings.<sup>85/</sup> Moreover, each member of the NRC Staff who testified explicitly discussed the bases for his reasonable assurance finding. They described both the strengths and weaknesses they perceived in the quality assurance program's implementation. This was done to permit the Licensing Board to evaluate the substance of their judgment.<sup>86/</sup> Moreover, the NRC Staff has taken extensive actions to verify their reasonable assurance finding. For instance, in May 1981, the NRC Staff conducted a special in-depth inspection at the Midland site to determine the effectiveness of the MPQAD.<sup>87/</sup> Five of the NRC Staff officials who testified concerning Consumers Power's quality assurance program at this hearing were either part of or accompanied this inspection team.<sup>88/</sup>

Paragraph 39. Ms. Stamiris would have this Licensing Board accept her statement that only Mr. Gallagher's endorsement of Consumers Power's current quality assurance program is based on direct involvement with the Midland site. This statement is untenable. Mr. Williams, Mr. Landsman

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<sup>85/</sup> Williams, Tr. 2198, 2223, 2225.

<sup>86/</sup> See, e.g., Keppler, Tr. 2000.

<sup>87/</sup> Keppler, NRC Staff prepared testimony at pp. 5-8, following Tr. 1864; See NRC Staff Exhibit No. 1.

<sup>88/</sup> NRC Staff Exhibit No. 1.

and most importantly Director Keppler, as many other of the NRC Staff witnesses who testified on Consumers Power's quality assurance program, are intimately familiar with the soil settlement issues at Midland.<sup>89/</sup> For example, Messrs. Williams and Landsman participated in the special in-depth inspection of the implementation of Consumers Power's quality assurance program conducted in May, 1981.<sup>90/</sup> As Mr. Gallagher noted in the February, 1982 proceedings, he has had no direct contact with the operation of the quality assurance program at Midland since May, 1981.<sup>91/</sup>

Ms. Stamiris represents that Mr. Gallagher "tempered his endorsement" of the quality assurance stipulation. Mr. Gallagher made several recommendations to this Licensing Board to ensure that Consumers Power will properly implement its quality assurance program in the future. However, Mr. Gallagher gave unqualified support to the NRC Staff's conclusion that there is reasonable assurance that quality assurance and quality control programs will be properly implemented.<sup>92/</sup> Mr. Gallagher admitted that the soils placement problems are not unique to the Midland Project.<sup>93/</sup> There have been a sufficient number of similar difficulties at other construc-

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<sup>89/</sup> Id.

<sup>90/</sup> Id.

<sup>91/</sup> Gallagher, Tr. 6767-68; 6750-51.

<sup>92/</sup> Id., Tr. 2455.

<sup>93/</sup> Id., Tr. 2462-63.

tion sites to warrant an Inspection and Enforcement Circular to preclude this type of problem in the future.<sup>94/</sup>

Paragraph 40. With respect to Mr. Gallagher's recommendations, it is a provision in the ANSI standards, not the NRC regulations, which permits waiver of education and experience requirements in lieu of "suitable proficiency."<sup>95/</sup> What Mr. Gallagher characterized as "abuse" of this waiver provision is an industry-wide concern and not limited to Consumers Power or the Midland Project.<sup>96/</sup> Moreover, other members of the NRC Staff disagreed with Mr. Gallagher's personal recommendation regarding the waiver provision.<sup>97/</sup>

Mr. Gallagher did recommend some sort of routine reporting to the NRC by Mr. Selby, Consumers Power's Chief Executive Officer.<sup>98/</sup> Mr. Gilray also believed this would be valuable,<sup>99/</sup> but he would condition it on a concurrent requirement that the senior NRC management respond specifically to Mr. Selby's report.<sup>100/</sup>

Paragraph 41. No response.

Paragraph 42. The basis for Mr. Gilray's finding on reasonable assurance is not limited solely to the MAC

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<sup>94/</sup> Id., Tr. 2462-64.

<sup>95/</sup> Id., Tr. 2432.

<sup>96/</sup> Id.

<sup>97/</sup> Williams, Tr. 2207; Gardner, Tr. 8094-95.

<sup>98/</sup> Gallagher, Tr. 2439.

<sup>99/</sup> Gilray, Tr. 3878.

<sup>100/</sup> Id., Tr. 3852-54, 3877.

Report, the retaining of Philip Crosby and Associates, and the QA Program update. In addition, Mr. Gilray's confidence in the quality assurance program was bolstered by the appointments of Messrs. Cook and Rutgers, the involvement of Mr. Selby,<sup>101/</sup> and the improved relationship between the NRC Staff and senior officials at both Bechtel and Consumers Power.<sup>102/</sup> Mr. Gilray was involved in the review of Consumers Power's response to 10 CFR §50.54(f), Question 23. Mr. Gilray observed first-hand the implementation of Consumers Power's corrective actions through his direct participation in the NRC Staff investigation conducted in December, 1980.<sup>103/</sup>

This paragraph states that Mr. Gilray questioned Consumers Power's response to the "needed improvements identified in the MAC Report." (Emphasis added.) Mr. Gilray actually testified that he believed Consumers Power should have a specific program for implementing the recommendations of the MAC report.<sup>104/</sup> Mr. Bird outlined the actions taken by Consumers Power to assure that each of the specific findings and action items identified in the MAC audit were included within the regular MPQAD process for corrective actions.<sup>105/</sup>

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<sup>101/</sup> Gilray, Tr. 3717, 3875-76, 3790.

<sup>102/</sup> Id., Tr. 3754.

<sup>103/</sup> Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 3, following Tr. 1754.

<sup>104/</sup> Gilray, Tr. 5321.

<sup>105/</sup> Bird, Tr. 5119-5200.

Finally, many of the improvements to Consumers Power's quality assurance program as reported in quality assurance program update Volumes I and II were specifically designed to improve implementation of the quality assurance program.<sup>106/</sup>

Paragraph 43. Ms. Stamiris asserts that Mr. Keppler's judgment is the basis of both the NRC Staff's testimony on the implementation of Consumers Power's quality assurance program and the quality assurance stipulation. While Mr. Keppler's assessment was important, it was not the sole basis for the NRC Staff's finding as to reasonable assurance.<sup>107/</sup> Several NRC officials in addition to Mr. Keppler testified concerning quality assurance. These individuals included the inspectors for NRC Region III's Inspection and Enforcement Branch most involved with Midland: Mr. Cordell Williams,<sup>108/</sup> Dr. Ross Landsman,<sup>109/</sup> and John Gilray, the official from the NRR Branch of the NRC charged with evaluating the quality assurance program.<sup>110/</sup> As noted above, each explicitly discussed the bases for their reasonable assurance finding.

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<sup>106/</sup> See Marguglio, prepared testimony, following Tr. 1424.

<sup>107/</sup> See Keppler, NRC Staff prepared testimony, following Tr. 1864.

<sup>108/</sup> Williams, Tr. 2229, 2245-54.

<sup>109/</sup> Landsman, Tr. 4905-06.

<sup>110/</sup> Gilray, Tr. 3788-90, 3777, 3871.

Furthermore, the NRC Staff has conducted several extensive investigations to verify the effectiveness of the Midland quality assurance program implementation. Investigations conducted subsequent to the Modification Order confirmed that Consumers Power's quality assurance program is adequate, and that corrective actions had been taken to cure whatever shortcomings had been identified.<sup>111/</sup>

(8) Staff Assessment of Consumers Power Corporate Management.

Paragraph 44. No response.

Paragraph 45. Ms. Stamiris references what she characterizes as "significant quality assurance deficiencies." None of the deficiencies noted relate specifically to the soils area, the concern of the present hearing. Furthermore, as more fully developed in Consumers Power Proposed Findings of Fact and Conclusions of Law, the "Zack HVAC installation" matter concerned the inadequacy of the quality program of a subcontractor on the Midland Project.<sup>112/</sup> This incident was characterized by the NRC Staff as an isolated problem and not indicative of a broader breakdown in the overall quality assurance program.<sup>113/</sup>

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<sup>111/</sup> Gilray, Tr. 3714; Keppler, Tr. 1976; See Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 52-58.

<sup>112/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 169-171.

<sup>113/</sup> Keppler, NRC Staff prepared testimony at p. 4, following Tr. 1864.



The small bore piping matter noted by Ms. Stamiris was characterized by the NRC Staff as an industry-wide concern not specific to Midland.<sup>114/</sup> Indeed, the difficulty with the small bore piping was not serious enough to contravene the NRC Staff's conclusion that Consumers Power has established an effective organization for the management of construction and the implementation of quality assurance.<sup>115/</sup>

Paragraph 46. Ms. Stamiris criticizes Mr. Gilray's testimony for not providing examples of Consumers Power's "stronger more effective QA organization." This criticism is improper since Ms. Stamiris did not request Mr. Gilray to provide such examples.<sup>116/</sup> Mr. Gilray did give examples to support his conclusion that Consumers Power has acquired "strong managers recognizing the problems with QA and with a desire to understand and seek out specialists in these areas to correct whatever weaknesses there may be . . . ." <sup>117/</sup>

Ms. Stamiris fails to note two important qualifications which Mr. Gilray made to his recommendation that Mr. Selby undertake special reporting responsibilities. First, Mr. Gilray explicitly stated that he was confident that Consumers Power will design and construct the Midland facility properly without Mr. Selby becoming directly involved with

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<sup>114/</sup> Keppler, Tr. 2006-2007.

<sup>115/</sup> NRC Staff Exhibit No. 1 at p. 1; Keppler, Tr. 1884-85.

<sup>116/</sup> Gilray, Tr. 3754.

<sup>117/</sup> Id., Tr. 3753.

reporting.<sup>118/</sup> Second, as noted earlier, Mr. Gilray would condition Mr. Selby's involvement on a requirement that senior NRC Staff personnel respond specifically to Mr. Selby's report.<sup>119/</sup>

(9) Staff Assessments of Consumers Power's Quality Assurance Program and Organization.

Paragraph 47. This paragraph asserts that Mr. Cook's "dual quality assurance and cost/schedule responsibilities" violate 10 CFR Part 50, Appendix B, Criterion I. There is no support in the record for this statement. Moreover, the reporting procedure whereby the MPQAD, the department responsible for quality assurance at the Midland Project, reports directly to Mr. Cook, the Consumers Power Vice President with responsibilities for Project costs and scheduling, has been determined to be in compliance with all NRC requirements.<sup>120/</sup>

(10) Staff Assessment of the Implementation of the Quality Assurance Program.

Paragraph 48. Mr. Keppler's prepared testimony was not the sole basis for the NRC Staff's finding that there is reasonable assurance that Consumers Power's quality assurance and quality control programs will be appropriately implemented in the future.<sup>121/</sup>

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<sup>118/</sup> Id., Tr. 3878.

<sup>119/</sup> Id., Tr. 3852-54, 3877.

<sup>120/</sup> Keppler, Tr. 2053-54.

<sup>121/</sup> See supra at paragraph 43.



Ms. Stamiris also inaccurately claims that the NRC Staff testimony did not attempt to cover the topic of quality assurance for 1980-81 "except to a small degree" and that the NRC Staff prepared testimony only contained a one-page summary for this time period. The NRC Staff's prepared testimony contains over five pages of text dealing explicitly with the subject of the implementation of quality assurance since issuance of the Modification Order.<sup>122/</sup> The NRC Staff's prepared testimony details the May, 1981 NRC inspection, which extensively examined Midland's quality assurance performance in 1980-81.<sup>123/</sup> Other NRC Staff testimony on the implementation of quality assurance since December 1979 was presented at the hearings in addition to Mr. Keppler's testimony. The NRC Staff conducted at least three inspections concerning quality assurance and soils matters subsequent to issuance of the Modification Order. NRC Staff officials testified and were subjected to exhaustive examination by all parties, including Ms. Stamiris, with respect to each inspection.<sup>124/</sup>

Paragraph 49. This paragraph characterizes the reactor vessel bolt failure as a technical problem which

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<sup>122/</sup> Keppler, NRC Staff prepared testimony, pp. 4-9, following Tr. 1864.

<sup>123/</sup> NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 3, following Tr. 1754.

<sup>124/</sup> See, e.g., Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 3, following Tr. 1754; NRC Staff Exhibit No. 1; Gilray, Tr. 3742-45, 3787-88; Gallagher, Tr. 2359-64, 2427-29, 2438-39; Williams, Tr. 2212, 2227, 2235-36, 3027-28; Landsman, Tr. 4848-4852; Keppler, Tr. 1884-85, 2076-84.

will require extensive design modifications. There is no support in the record for the claim that the difficulties with the anchor bolt will require extensive design modifications.

At the time the anchor bolts were fabricated in 1975, neither NRC regulations nor industry standards required Consumers Power to perform a trend analysis on a supplier's fabrication process.<sup>125/</sup> Prior to failure, the bolts gave no indication of improper fabrication.<sup>126/</sup> Hence, there was no prior warning of the problem, and the adequacy of the trend program was not called into question. The NRC Staff concluded that this problem was not indicative of a broader breakdown in the overall quality assurance program.<sup>127/</sup>

Paragraph 50. This paragraph cites the prepared testimony of Mr. Keppler for the proposition that the quality deficiencies by the Zack Company, a subcontractor on the Midland Project, represented a breakdown in Consumers Power's quality assurance program. While Mr. Keppler personally characterized the Zack problem as a breakdown in quality assurance, he testified that it was not indicative of a broader breakdown in Consumers Power's quality assurance program.<sup>128/</sup>

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<sup>125/</sup> Marguglio, Tr. 1524-25; See Consumers Power Proposed Findings of Fact and Conclusions of Law, at p. 171.

<sup>126/</sup> Keppler, Tr. 2039.

<sup>127/</sup> Keppler, NRC Staff prepared testimony at p. 4, following Tr. 1864.

<sup>128/</sup> Id.

The statement that Consumers Power and Bechtel "had been aware of the Zack problems for some time" and had "allowed work to continue prior to corrective action" is misleading. The record demonstrates that Consumers Power did not allow work to continue without taking appropriate actions to correct the problems it was aware of. Ultimately it was Consumers Power who issued a stop work order in the matter.<sup>129/</sup> There were two distinct Zack-related occurrences. In the first instance, Consumers Power and Bechtel identified a welding workmanship problem after reviewing Zack non-conformance reports.<sup>130/</sup> In January, 1980, dissatisfied with the length of time it took to resolve the problem, Consumers Power issued a "management corrective action" request.<sup>131/</sup> At Consumers Power's insistence, all Zack management personnel at the site were replaced.<sup>132/</sup> Consumers Power also instituted a 100% overinspection program of Zack work.<sup>133/</sup>

In the second instance, a Zack quality control inspector identified a problem involving procedures in March 1980. He reported the matter directly to the NRC Staff,<sup>134/</sup>

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<sup>129/</sup> Wessman, Tr. 6163-64, 6295.

<sup>130/</sup> Marguglio, Tr. 1643-44, 1657.

<sup>131/</sup> Marguglio, Tr. 1644-45; Consumers Power Exhibit Nos. 2 and 3.

<sup>132/</sup> Keppler, Tr. 2052.

<sup>133/</sup> Id., Tr. 2049-50.

<sup>134/</sup> Marguglio, Tr. 1481.

without notifying either Consumers Power or Bechtel.<sup>135/</sup>  
This second Zack occurrence resulted in NRC Staff action.<sup>136/</sup>

Paragraph 51. The statement that Mr. Keppler did not review "the licensee's 55(e) reportable occurrences for this 1980-81 time period" is misleading. It implies that Mr. Keppler neglected to review the reports. Mr. Keppler made it clear during his testimony, however, that his staff reviews 50.55(e) reports and then informs him about them.<sup>137/</sup>

Ms. Stamiris references the nonconformances reported in four NRC Inspection and Enforcement reports issued during the 1980-81 period. Consumers Power's Proposed Findings of Fact and Conclusions of Law specifically address the non-conformances reported in the referenced reports.<sup>138/</sup>

(11) Staff Assessment of Soils Quality Assurance Corrective Actions.

Paragraph 52. This paragraph asserts that the NRC Staff's position on Consumers Power's soils corrective actions is "self-contradictory". It alleges that although NRC Inspection Report No. 81-12 concluded that items in Consumers Power's responses to 10 CFR §50.54(f) Questions 1 and 23 associated with NRC Inspection Report No. 78-20 findings are closed out, Mr. Landsman testified that action

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<sup>135/</sup> Id., Tr. 1446.

<sup>136/</sup> Keppler, Tr. 2051-52.

<sup>137/</sup> Id., Tr. 1989.

<sup>138/</sup> See, Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 55-58, 161-171.

items in Consumers Power's responses to Questions 1 and 23 remain open. It is not contradictory.

The NRC Staff conducted a comprehensive inspection following disclosure of the diesel generator building's excess settlement in 1978, relating to soils settlement and the adequacy of the plant fill, culminating in NRC Inspection Report No. 78-20.<sup>139/</sup> 10 CFR §50.54(f) Questions 1 and 23 were much broader in scope than NRC Investigation Report No. 78-20. The questions requested Consumers Power to detail, among other things, actions to preclude potential quality assurance problems in areas other than soils, measures to insure that inconsistencies in the FSAR were reconciled, and improvements to the Midland quality assurance program and its implementation since 1977.<sup>140/</sup> Accordingly, the fact that some items in Consumers Power's responses to Questions 1 and 23 remain open is entirely consistent with the finding in NRC Inspection Report No. 81-12 that those items in the responses relating to NRC Inspection Report No. 78-20 have been closed out.

Paragraph 53. See response to paragraph 29.

Paragraph 54. The second noncompliance referenced in this paragraph does not support the allegation that FSAR irregularities resulted in erroneous settlement calculations.

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<sup>139/</sup> Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 2, following Tr. 1754.

<sup>140/</sup> See Marguglio, prepared testimony, Attachment No. 9, following Tr. 1501.



The NRC Staff issued the referenced noncompliance because Consumers Power's review did not assure that design drawings were translated into the license application. This resulted in an inconsistency between the design drawings and the FSAR.<sup>141/</sup>

The procedural irregularity in the FSAR re-review noted in NRC Inspection Report No. 80-32 was of an entirely different nature than those inconsistencies noted in NRC Inspection Report No. 78-20. In response to 10 CFR §50.54(f) Question 23, Consumers Power undertook a detailed "re-review" of the FSAR to discover and correct inconsistencies between design documents and the FSAR.<sup>142/</sup> The procedure for the re-review required that a coversheet form list all documents reviewed. An audit of the re-review conducted by Consumers Power disclosed that some reviewers were only listing documents inconsistent with the FSAR.<sup>143/</sup> Subsequent audits confirmed, however, that the purpose of the re-review was being fulfilled, that no inconsistent documents had been missed, and that the re-review program was adequate.<sup>144/</sup>

Paragraph 54(a). Ms. Stamiris properly states that the soils testing safeguards were implemented during

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<sup>141/</sup> Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 2, p. 8, following Tr. 1754.

<sup>142/</sup> Marguglio, prepared testimony, Attachment No. 10, Part 3 at p. 23-82 and Attachment 9, Appendix I, Section D.2 at p. I-22, following Tr. 1501.

<sup>143/</sup> Landsman, Tr. 4849; Consumers Power Exhibit No. 14.

<sup>144/</sup> Gilray, Tr. 3751; Landsman, Tr. 4849-51, 4930.

1980. Pursuant to these safeguards, Consumers Power discovered a deficiency concerning testing procedures used by U.S. Testing Company.<sup>145/</sup> Mr. Gallagher testified that this deficiency, the audit findings and the nonconformance report were not a repetition of past soils problems.<sup>146/</sup>

Paragraph 55. No response.

(12) Staff Inspections.

Paragraph 56. No response.

Paragraph 57. No response.

a. Inspection Report 80-10.

Paragraph 58. See response to paragraph 50.

b. SALP Assessment.

Paragraph 59. Ms. Stamiris notes that the SALP Assessment rated the Midland Project as being below the industry average. Ms. Stamiris must be relying on the National SALP report because the Region III SALP report made no such characterization.<sup>147/</sup> The cross-examination of Mr. Wessman, who assisted in developing the National SALP report, demonstrates that the basis of its rating is seriously flawed.<sup>148/</sup>

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<sup>145/</sup> Stamiris Exhibit No. 2.

<sup>146/</sup> Gallagher, Tr. 2448.

<sup>147/</sup> Consumers Power Exhibit No. 6.

<sup>148/</sup> Wessman, Tr. 6163-64, 6218-20, 6231-49, 6313-14, 6357-63; see Consumers Power Proposed Supplemental Findings of Fact and Conclusion of Law, at pp. 194-204.

Ms. Stamiris incorrectly states that there were problems with "qualifications of QC inspectors." Only one such instance was identified during the appraisal period.<sup>149/</sup> Further, Ms. Stamiris incorrectly characterizes the SALP reports as identifying a problem with Consumers Power's "continuation of work prior to corrective actions." The referenced comment in the Regional SALP report referred only to Zack activities, and did not state that Consumers Power continued work "prior to corrective actions."<sup>150/</sup> Consumers Power did take corrective actions in regard to Zack.<sup>151/</sup>

c. Inspection Report 80-32.

Paragraph 60. Ms. Stamiris contends that the procedural irregularity noted in NRC Inspection Report No. 80-32 "compromised the adequacy of the FSAR re-review" and was "repetitious of the 78-20 soils problems . . . ." The procedural irregularity in the re-review process identified in NRC Inspection Report No. 80-32 is fully addressed in Consumers Power's Proposed Findings of Fact, pp. 162-166, and in paragraphs 24, 25 and 54 above.

Contrary to these assertions, the record establishes: (1) that both Consumers Power and NRC Staff confirmed that the purpose of the FSAR re-review was fulfilled,

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<sup>149/</sup> Id.

<sup>150/</sup> Consumers Power Exhibit No. 6, at p. 3.

<sup>151/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 169-71, paragraph 273.

that no inconsistent document had been missed, and that the re-review program was adequate;<sup>152/</sup> (2) that Consumers Power took corrective action to preclude recurrence of the procedural irregularity<sup>153/</sup> and to verify the adequacy of the re-review effort;<sup>154/</sup> and (3) that the procedural irregularity noted in NRC Inspection Report No. 80-32 was of an entirely different nature than the inconsistencies noted in NRC Inspection Report No. 78-20.<sup>155/</sup>

d. Inspection Report 81-01.

Paragraph 61. NRC Inspection Report No. 81-01 identified three items of noncompliance and one deviation. However, two of the noncompliances were withdrawn by the NRC Staff as being incorrectly identified as deficiencies. The first noncompliance withdrawn related to the control of test forms for soils testing.<sup>156/</sup> The second noncompliance withdrawn related to the use of a rubber stamp to validate documents.<sup>157/</sup>

The third nonconformance concerned soil testing procedures used by the U.S. Testing Company. Mr. Gallagher

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<sup>152/</sup> Gilray, Tr. 3751; Landsman, Tr. 4849-51, 4930.

<sup>153/</sup> Landsman, Tr. 4850.

<sup>154/</sup> Id., Tr. 4850-51, 4861.

<sup>155/</sup> See supra, paragraph 54.

<sup>156/</sup> Gallagher, Tr. 2367.

<sup>157/</sup> Id., Tr. 2367-68; Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 4, following Tr. 1754.

testified that this deficiency was not a repetition of past soils problems.<sup>158/</sup> Mr. Gallagher is now satisfied with Consumers Power's and U.S. Testing's soils testing procedures.<sup>159/</sup>

Paragraph 62. In compliance with Consumers Power's commitment to the NRC, Consumer Power placed a geotechnical engineer on the Midland Project. The NRC accepted a particular engineer as adequately qualified in 1979.<sup>160/</sup> In December, 1980, that engineer left the Midland Project and was replaced. The deviation reported in NRC Inspection Report No. 81-01 concerned the second engineer's qualifications. Shortly thereafter, the second engineer was replaced by someone whose qualifications satisfied the NRC Staff.<sup>161/</sup>

Paragraph 63. The Consumers Power audit findings were the subject of the third nonconformance identified in NRC Inspection Report No. 81-01 addressed immediately above. As noted above in response to paragraph 54(a), Mr. Gallagher testified that the audit finding and nonconformance report were not a repetition of past soils problems.

Paragraph 64. Mr. Gallagher withdrew the nonconformance concerning the use of a rubber stamp to validate documents on the basis of Consumers Power's response as well

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<sup>158/</sup> Gallagher, Tr. 2448.

<sup>159/</sup> Id., Tr. 2594.

<sup>160/</sup> Id., Tr. 1836.

<sup>161/</sup> Keeley, Tr. 1326-27.



as Mr. Gallagher's conversation with the onsite geotechnical engineer who had been using the rubber stamp.<sup>162/</sup> The nonconformance was withdrawn when Mr. Gallagher verified that the stamp had been in the sole possession of the geotechnical engineer.<sup>163/</sup> Consumers Power also agreed not to use the rubber stamp in the future.<sup>164/</sup>

e. Inspection Report 81-12.

Paragraph 65. No response.

Paragraph 66. See response to paragraph 38.

Paragraph 67. The in-depth investigation conducted by the NRC Staff in May, 1981 is addressed in Consumers Power's Proposed Findings of Fact and Conclusions of Law<sup>165/</sup> and in paragraphs 16 and 18 above.

Paragraph 68. Mr. Keppler's testimony was broader in scope than this paragraph suggests. The testimony referenced concerns Mr. Keppler's motivation for the in-depth inspection conducted in May, 1981. Mr. Keppler testified that the special inspection was designed to evaluate how well the new MPQAD organization was operating.<sup>166/</sup> Mr. Keppler concluded that the MPQAD organization was working

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<sup>162/</sup> Id., Tr. 2368.

<sup>163/</sup> Id., Tr. 2368-70.

<sup>164/</sup> Id., Tr. 2370.

<sup>165/</sup> See Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 56-57, paragraphs 78-79.

<sup>166/</sup> Keppler, Tr. 1883.

well and had strengthened the Midland quality assurance program.<sup>167/</sup> Ms. Stamiris also represents that Mr. Keppler testified that "QA breakdowns have not been in a lot of areas." Mr. Keppler testified that Consumers Power "found problems before the NRC, took corrective action on the problems, and that the breakdown was not in a lot of different areas."<sup>168/</sup>

Paragraph 69. During the May, 1981 inspection, the NRC Staff observed approximately 100 installed large bore pipe hangers, restraints, anchors and snubbers in the Unit 1 and Unit 2 Containment Buildings and in the Auxiliary Building.<sup>169/</sup> The large bore pipe deficiencies identified during this inspection were easily corrected, and did not warrant stopping construction.<sup>170/</sup> The NRC Staff admitted that the hangers, restraints and anchors inspected could have been in conformance with the design specifications at the time of Consumer Power's quality assurance inspection and then degraded prior to the NRC Inspection.<sup>171/</sup> As noted previously, Mr. Keppler testified that, in light of the experience of the inspection team, he expected the May, 1981 investigation

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<sup>167/</sup> Id.

<sup>168/</sup> Id., Tr. 1935.

<sup>169/</sup> NRC Staff Exhibit No. 1, at p. 32 of attached NRC Inspection Report No. 81-12.

<sup>170/</sup> Keppler, NRC Staff prepared testimony, Attachment No. 2, at pp. 4-5, following Tr. 1864.

<sup>171/</sup> Williams, Tr. 2203.

to identify considerably more problems than were found.<sup>172/</sup> It was the unanimous view of the inspection team that the problems identified were isolated or limited to a specific area and not indicative of any major programmatic weaknesses in the implementation of the Midland quality assurance program.<sup>173/</sup> At least in the piping area, the problems were considered to be industry-wide.<sup>174/</sup> Indeed, the inspector who identified them is generally thought of as a leader in the area and a proponent of stricter standards for it.<sup>175/</sup>

Paragraph 70. This paragraph states that the deficiencies identified in the May, 1981 inspection are "closely related to the previously identified underlying cause of an insensitivity to generic implication." This statement is not supported by the record. It implies that Consumers Power's management attitude has not improved since the issuance of the Modification Order. NRC Inspection Report No. 81-12 explicitly concluded that Consumers Power has established "an effective organization for the management of construction and implementation of quality assurance at the [Midland] site."<sup>176/</sup>

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<sup>172/</sup> Keppler, Tr. 1884-85.

<sup>173/</sup> Keppler, NRC Staff prepared testimony at pp. 7-8, following Tr. 1864.

<sup>174/</sup> Keppler, Tr. 2006-08.

<sup>175/</sup> Id., Tr. 2007.

<sup>176/</sup> NRC Staff Exhibit No. 1 (emphasis added).

The deficiencies related to the trending program identified in NRC Inspection Report No. 81-12 had already been identified by Consumers Power at the time of the inspection.<sup>177/</sup> Consumers Power was in the process of implementing the extensive and significant improvements to the trending program at the time of the inspections.<sup>178/</sup>

Paragraphs 71-72. No response.

Paragraph 73. Ms. Stamiris criticizes Mr. Keppler's testimony for failing to define the "clear evidence" which supports the NRC Staff's conclusion that Consumers Power and Bechtel had formed an effectively integrated and coordinated quality assurance organization. Mr. Keppler testified that it was the results of the May, 1981 investigation which reinforced his conclusion that Consumers Power was in control of the Midland Project.<sup>179/</sup> He testified that, in light of the experience of his inspection team, he expected the investigation to identify considerably more problems than were actually found.<sup>180/</sup> He pointed out that it normally is not the practice of NRC Staff inspection teams to include in their reports specific affirmative findings.<sup>181/</sup> Therefore, the absence of specified incidents describing the effectiveness of the MPQAD is not remarkable.

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<sup>177/</sup> Turnbull, Tr. 2773-74.

<sup>178/</sup> Id.

<sup>179/</sup> Keppler, Tr. 1884-85; See NRC Staff Exhibit No. 1.

<sup>180/</sup> Keppler, Tr. 1884-85.

<sup>181/</sup> Id., Tr. 2079-80.

Paragraph 74. Consumers Power Proposed Findings of Fact and Conclusions of Law contains an extensive discussion of the improvements in the implementation of the Midland quality assurance program.<sup>182/</sup>

In addition, the results of the MAC special audit were introduced into evidence.<sup>183/</sup> Also, NRC Staff testified and was subject to exhaustive cross-examination on the results of the quality assurance aspects of NRC inspections conducted since issuance of the Modification Order.<sup>184/</sup> The inclusion of Mr. Williams' comments regarding the issuance of the Immediate Action Letter ("IAL") is a non-sequitur. Mr. Williams was directing his comments toward the piping issue, not the MPQAD.<sup>185/</sup>

Paragraphs 75-76. No response.

Paragraph 77. See response to paragraph 50.

Paragraph 78. The claim that Consumers Power failed to institute corrective actions to remedy the procedural irregularity with the re-review program until the NRC Staff intervened is incorrect. A full explanation of the

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<sup>182/</sup> Consumers Power Findings of Fact and Conclusions of Law, at pp. 26-29, paragraphs 50-53.

<sup>183/</sup> NRC Staff Exhibit No. 4.

<sup>184/</sup> See, e.g. Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, following Tr. 1754; Keppler, NRC Staff prepared testimony, following Tr. 1864; Gilray, Tr. 3742-45, 3787-88; Gallagher, Tr. 2359-64, 2427-29, 2438-39; Williams, Tr. 2212, 2227, 2235-36, 3027-28; Landsman, Tr. 4848-4852; Keppler, Tr. 1884-85, 2076-84.

<sup>185/</sup> Williams, Tr. 2225-26; 3027-29.



"Block 8" procedural irregularity in the FSAR re-review program and the corrective actions taken is set forth in Consumers Power Proposed Findings of Fact and Conclusions of Law.<sup>186/</sup>

Paragraph 79. See response to paragraph 54(a).<sup>187/</sup>

Ms. Stamiris represents that Consumers Power only placed a geotechnical soils engineer on the Midland site after NRC intervention in 1981. As noted in response to paragraph 62 above, Consumers Power placed a geotechnical engineer on the Midland Project in April, 1979 who was accepted as adequately qualified by the NRC Staff.<sup>188/</sup> The deviation reported in NRC Inspection Report No. 81-01 concerned the qualifications of the individual who had replaced the NRC Staff accepted engineer when he left the Midland Project in December 1980.<sup>189/</sup>

Paragraph 80. Mr. Gilray's assessment of Consumers Power's corrective actions was not based solely on Consumers Power's expected future performance. The "summary statements" referenced are the corrective actions which Consumers Power had committed itself to implementing in its response to

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<sup>186/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 162-166; see also response to paragraph 24, supra.

<sup>187/</sup> Stamiris Proposed Finding paragraph 79 cites NRC Inspection Report No. 81-10, but actually refers to NRC Inspection Report No. 81-01.

<sup>188/</sup> Id., Tr. 1836.

<sup>189/</sup> Keeley, Tr. 1396-1400; 1326-27.

Question 23. After setting forth these commitments, Mr. Gilray testified regarding the actions Consumers Power had taken to implement the corrective actions and verify the effectiveness of the quality assurance program. The actions already taken by Consumers Power which Mr. Gilray found persuasive included the hiring of the MAC corporation to conduct an independent assessment of the effectiveness of the quality assurance program, the retaining of Philip Crosby and Associates, and an update from Consumers Power on the quality assurance program improvements.<sup>190/</sup>

Paragraph 81. Ms. Stamiris asserts that NRC Investigation Report No. 81-12 disclosed that "the upgrading of QC qualifications was lacking as evidenced by inadequately trained QC inspectors in the electrical and piping areas . . . ." (Emphasis added.) She states that this indicates that Consumers Power has failed in meeting the second criteria proposed by Mr. Gilray because "upgrading of QC qualifications was lacking."

NRC Inspection Report No. 81-12 neither faulted the qualification of inspectors nor characterized their training as inadequate. Rather, the NRC Staff identified as an unresolved item the manner in which the inspectors' qualifications were documented. The NRC Staff concluded that the inspectors' competence should be documented through objective evidence and requested Consumers Power to perform

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<sup>190/</sup> Gilray, Tr. 3712-3716.

an audit to verify the qualifications of personnel prior to certification.<sup>191/</sup>

Ms. Stamiris also cites Mr. Williams' testimony for the proposition that NRC Inspection Report No. 81-12 documented "numerous departures from approved procedures . . . ." Mr. Williams, at most, was critical of the manner in which the procedures were interpreted.<sup>192/</sup> Moreover, Mr. Williams never stated that the qualifications of first-line inspectors were deficient. Rather, Mr. Williams stated that it appeared that quality control personnel did not have experience commensurate with their responsibilities<sup>193/</sup> and that Consumers Power should apply more rigor in their qualification of inspectors.<sup>194/</sup>

Paragraph 82. Ms. Stamiris represents that Mr. Gallagher stated that Consumers Power failed to meet the commitment it made in 1979 concerning the qualifications of certain inspectors "until fairly severe NRC action was undertaken." The citation supplied does not support this assertion. Mr. Gallagher does not state either that Consumers Power's 1979 commitments were not met promptly or were met only after NRC action was undertaken. Indeed, all Mr.

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<sup>191/</sup> NRC Staff Exhibit No. 1 at pp. 27-28; see Consumers Power Proposed Supplemental Findings of Fact and Conclusions of Law, at pp. 222-230.

<sup>192/</sup> Williams, Tr. 2205-06.

<sup>193/</sup> Id., Tr. 2202.

<sup>194/</sup> Id., Tr. 2203-04.

Gallagher said was that he disagreed with Consumers Power concerning the qualifications of inspectors in September, 1979.<sup>195/</sup> Ms. Stamiris references NRC Inspection Report No. 81-20 to support her statement that the finding involving the qualifications of inspectors remains open. NRC Inspection Report No. 81-20 is addressed in the supplemental findings.<sup>196/</sup>

Paragraph 82(a). Ms. Stamiris reports that Mr. Gilray believed that Consumers Power will give greater attention to the implementation of the trending problem due to the identification of deficiencies in NRC Inspection Report No. 81-12. Consumers Power had already identified the areas of the trending program requiring improvement. These improvements were being implemented at the time of NRC Inspection Report No. 81-12.<sup>197/</sup>

Paragraph 83. The expected improvements due to the integrated MPQAD organization are of significance. First, MPQAD is an organization which integrates Consumers Power's and Bechtel's quality assurance programs within one structure. In light of the NRC Staff's past criticisms that Consumers Power relied too heavily on contractors, the relationship of Consumers Power's and Bechtel's quality assurance organization is relevant to this proceeding.<sup>198/</sup>

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<sup>195/</sup> Gallagher, Tr. 2427-28.

<sup>196/</sup> Consumers Power Proposed Supplemental Findings of Fact and Conclusions of Law, at pp. 222-230.

<sup>197/</sup> Turnbull, Tr. 2773-74.

<sup>198/</sup> Keppler, NRC Staff prepared testimony at pp. 6-8, following Tr. 1864.

Second, the changes made to the organization of the quality assurance department reflect Consumers Power's continuing efforts to improve quality assurance implementation. Finally, Mr. Gilray's observations concerning Consumers Power's managerial attitude are based on a great deal more than Consumers Power's engagement of MAC and Philip Crosby & Associates. Mr. Gilray observed first-hand the implementation of Consumers Power's corrective action through his direct participation in the NRC investigation conducted in December, 1980.<sup>199/</sup>

Paragraph 84. See response to paragraphs 42 and 43.

Paragraph 85. Ms. Stamiris characterizes the issuance of the Immediate Action Letter ("IAL") regarding the small bore pipe work as a significant event. Although Mr. Williams noted that the IAL reflected a concern for this "area of inspection," another NRC Staff witness, Mr. Keppler, admitted this type of work is an industry-wide concern and not specific to the Midland Project.<sup>200/</sup> Indeed, the deficiencies with the small bore pipe work did not undermine the NRC Staff's conclusion concerning the implementation of the quality assurance program at Midland.<sup>201/</sup>

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<sup>199/</sup> Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 3, following Tr. 1754.

<sup>200/</sup> Keppler, Tr. 2006-2007.

<sup>201/</sup> Id., Tr. 1884-85; NRC Staff Exhibit No. 1 at p. 1.



Paragraph 86. No response.

Paragraph 87. Consumers Power met the commitments of the Immediate Action Letter.<sup>202/</sup> Mr. Don Cook never testified that Consumers Power "abused" or in any other manner misused the Immediate Action Letter.<sup>203/</sup>

Paragraph 88. Ms. Stamiris represents that a "consensus of the other inspectors" believed a second Immediate Action Letter should have been issued. The testimony referenced indicates that there may have been other inspectors who agreed with Mr. Cook's position with respect to the issuance of a second IAL.<sup>204/</sup> Mr. Cook never named anyone who agreed with him; further his testimony clearly shows that he was dissenting from others' opinions.<sup>205/</sup> The important point is that Region III decided not to issue a second Immediate Action Letter.

Paragraph 89. [Omitted.]

Paragraphs 90-91. No response.

C. Contested Contention No. 1

Paragraph 92. No response.

Examples 1a and 6.

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<sup>202/</sup> Williams, Tr. 3027-28; Cook, Tr. 4485.

<sup>203/</sup> Cook, Tr. 4485-4490.

<sup>204/</sup> Id., Tr. 4493.

<sup>205/</sup> Id.; Tr. 4474-76.

Paragraph 93. The NRC Staff does not consider the FSAR statements cited as "false" in Appendix A of the Modification Order, to be "reflections of the breakdown in quality assurance prior to December 6, 1979." The NRC Staff testimony states that one of these statements, cited as a "material false statement" in Appendix B of the Modification Order,<sup>206/</sup> reflects a breakdown in design control and document control.<sup>207/</sup> The other FSAR inaccuracies were not believed to be indications of a "breakdown" in quality assurance at all.<sup>208/</sup> Although the NRC Staff believes that these latter inaccuracies were "an indicator of poor quality assurance performance"<sup>209/</sup> at the time they were made, the NRC Staff is convinced that "the general quality assurance program at Midland is functioning as well as any other plant."<sup>210/</sup>

In this paragraph, Ms. Stamiris incorrectly relies upon a statement by Harold Thornburg, Director of the Division of Reactor Construction Inspection, in the Office of Inspection and Enforcement.<sup>211/</sup> He stated that four of the five FSAR statements identified by Region III as "false" in a proposed enforcement package would "probably be substantiated

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<sup>206/</sup> Modification Order, Appendix B.

<sup>207/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 6, following Tr. 1560.

<sup>208/</sup> Id. at p. 15.

<sup>209/</sup> Id.

<sup>210/</sup> Landsman, Tr. 4907.

<sup>211/</sup> Hood, Tr. 2645.

to be material false statements."<sup>212/</sup> Mr. Thornburg's suggestion did not, however, represent the opinion of the NRC Staff or its Region III office.<sup>213/</sup> Moreover, it is neither the right nor the responsibility of Mr. Thornburg's office to determine whether a statement is "material".<sup>214/</sup> The scope of his responsibility in the Office of Inspection and Enforcement is limited to the determination of whether a statement is "false".<sup>215/</sup> The materiality of a statement is judged by the organization relying on the statement.<sup>216/</sup> Since the information in these five statements was to be used by the Office of Nuclear Reactor Regulation (NRR), the final decision as to materiality rested with it.<sup>217/</sup> After studying the statements, the NRR concluded that four of the five statements would not or did not influence a safety decision by its staff. Thus, the official NRC Staff position was that these statements were not "material, false statements".<sup>218/</sup>

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<sup>212/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, Attachment No. 16, following Tr. 1560.

<sup>213/</sup> Hood, Tr. 2645.

<sup>214/</sup> Id., Tr. 2647-48.

<sup>215/</sup> Id.

<sup>216/</sup> Id.

<sup>217/</sup> Id.

<sup>218/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, Attachment No. 17 and Enclosure 2, following Tr. 1560.

Mr. Gallagher did testify that soils problems could have been avoided if Consumers Power had followed all the recommendations in the Dames & Moore report.<sup>219/</sup> The Dames & Moore report was a consultant report that Consumers Power attached to the Midland PSAR.<sup>220/</sup> However, Consumers Power did not consider the Dames & Moore recommendations to be PSAR commitments.<sup>221/</sup>

Paragraph 94. Ms. Stamiris cites no evidence in support of her assertion that the inaccuracies in the FSAR "whether intentional or unintentional reflect upon a managerial attitude or inadequate attention to detail (carefulness) in providing accurate information needed by the NRC to insure a safe nuclear plant". Four of the five inconsistencies in the Midland FSAR did not "contain information needed by the NRC to insure a safe nuclear plant": the NRC held that these inconsistencies simply would not and could not have influenced a safety decision.<sup>222/</sup> Only one inaccuracy in the FSAR was found by the NRC Staff to be material to safety considerations. Moreover, the NRC Staff specifically stated that this one inconsistency did not constitute evidence of an inadequate managerial attitude toward providing safety related information.<sup>223/</sup>

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<sup>219/</sup> Gallagher, Tr. 2289.

<sup>220/</sup> Stamiris Exhibit No. 3, pp. 16-17.

<sup>221/</sup> Gallagher, Tr. 2285.

<sup>222/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at pp. 4-6, following Tr. 1560.

<sup>223/</sup> Id., at p. 6.

Moreover, the inaccuracy was unintentional; no one but Ms. Stamiris suggests otherwise.<sup>224/</sup> Due to the overwhelming size and complexity of an FSAR, the NRC Staff recognizes that unintentional inaccuracies are not uncommon at other nuclear plants,<sup>225/</sup> and are, perhaps, inevitable.<sup>226/</sup>

Consumers Power cannot determine the meaning of the allegation that "as a result of recent statements and events, Consumers Power's attitude toward the FSAR remains much the same today."

Paragraph 95. In paragraphs 95-105 of her Proposed Findings of Fact and Conclusions of Law, Ms. Stamiris sets forth four "examples" which purport to show that Consumers Power has not taken action to correct past and prevent future inconsistencies in the Midland FSAR.

Contrary to Ms. Stamiris' assertion, the evidence does show that once the FSAR inconsistency was discovered, Consumers Power promptly implemented corrective and preventative action, in the form of an extensive FSAR re-review.<sup>227/</sup> Ms. Stamiris alleges that Consumers Power's repeated references to the "one alleged material false statement as . . .

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<sup>224/</sup> Id.; Howell, prepared testimony at p. 17, following Tr. 2802.

<sup>225/</sup> Hood, Tr. 2667.

<sup>226/</sup> Gallagher, Tr. 2416.

<sup>227/</sup> Marguglio, prepared testimony, Attachment No. 9, at p. 1-4, item 2, first sentence, following Tr. 1501. Gallagher, Tr. 2321; Landsman, Tr. 4848; see also discussion infra at paragraph 97.



an isolated error contradicts their own admissions of other FSAR inconsistencies as set forth in the Q.23 response . . . and the Appendix A citations in the December 6 Order."

First, Consumers Power has never claimed that the alleged material false statement represented an "isolated error" in the FSAR.<sup>228/</sup> Second, the Consumers Power testimony cited in support of this allegation refers only to the "one alleged material false statement" because the testimony specifically responds to Ms. Stamiris' Contention No. 1., example 1(a), which itself refers only to the one alleged material false statement.<sup>229/</sup> Consumers Power testimony dealt with the one alleged material false statement separately from the other FSAR inconsistencies<sup>230/</sup> because both Ms. Stamiris<sup>231/</sup> and the NRC Staff<sup>232/</sup> dealt with them separately. Further, the separate treatment is justified by the markedly different impact the two categories of statements have on safety considerations.

Paragraph 96. As a second "example" of Consumers Power's managerial attitude, Ms. Stamiris points out that the FSAR's inconsistencies were identified in October, 1978,

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<sup>228/</sup> Howell, Tr. 2929, 2923 and prepared testimony at pp. 16-18, following Tr. 2802.

<sup>229/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 62-65; Howell, prepared testimony at pp. 17-18, following Tr. 2802.

<sup>230/</sup> Stamiris Exhibit No. 1, Attachment D.

<sup>231/</sup> Stamiris Contention No. 1, examples 1(a) and 6.

<sup>232/</sup> Modification Order, Appendices A and B.

and that Consumers Power promptly pledged to revise the FSAR to reflect how the work was actually done. The NRC Staff apparently accepted this remedy: meeting notes of the meeting at which Consumers Power announced its proposed revision of the FSAR record that no objection was voiced to the FSAR changes.<sup>233/</sup> It is difficult to see how Consumers Power's early detection of the FSAR inconsistencies and its prompt pledge to revise the FSAR reflect anything but a commitment to keeping the FSAR accurate and correcting errors as soon as they are found.

Paragraph 97. Ms. Stamiris cites the Consumers Power FSAR re-review as a third "example" of Consumers Power's allegedly poor attitude toward correcting and preventing FSAR inconsistencies. This criticism of the FSAR re-review is based on the claim that Consumers Power did not initiate the FSAR re-review and that the adequacy of the re-review was questioned by the NRC Staff.<sup>234/</sup>

The assertion that Consumers Power did not initiate the re-review or did not consider it necessary in its Response to 10 CFR §50.54(f) Question 1 is incorrect. Consumers Power did initiate the FSAR re-review, and it made its commitment to do so in its Response to 10 CFR §50.54(f), Question 1.<sup>235/</sup> Consumers Power then reaffirmed its commit-

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<sup>233/</sup> Stamiris Exhibit No. 1, at pp. 2-4 and Attachment D.

<sup>234/</sup> Id., pp. 36-37.

<sup>235/</sup> Marguglio, prepared testimony, Attachment No. 9, at p. 1-4, item 2, first sentence, following Tr. 1501; Gallagher, Tr. 2321; Landsman, Tr. 4848.

ment to the FSAR re-review in its Response to 10 CFR §50.54(f),  
Question 23.<sup>236/</sup>

The NRC Staff accepted the FSAR re-review as adequate corrective action for the FSAR inconsistencies as early as mid-1979.<sup>237/</sup> The results of FSAR re-review were accepted in October, 1981. Because the re-review was a time-consuming task, the date of acceptance of the re-review results does not reflect adversely on the program itself. The re-review was a massive project, which took 340 people 12 months to complete.<sup>238/</sup> Consumers Power performed three audits to verify the results of the re-review.<sup>239/</sup> The final audit was not completed until September, 1981.<sup>240/</sup> Approval of the results came shortly after completion of the project.

The NRC did not ultimately question the adequacy of the re-review due to procedural irregularities. The NRC Staff is in fact "well satisfied with [Consumers Power's] effort in performing their re-review of the FSAR."<sup>241/</sup> Two inspections by the NRC Staff identified only one item of

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<sup>236/</sup> Marguglio, prepared testimony, Attachment No. 10, at p. 23-37, following Tr. 1501; Gallagher, Tr. 2321 and 1823.

<sup>237/</sup> Gallagher, Tr. 2321.

<sup>238/</sup> Howell, prepared testimony at pp. 16-18, following Tr. 2800.

<sup>239/</sup> Landsman, Tr. 4845-4851.

<sup>240/</sup> Id., Tr. 4851.

<sup>241/</sup> Gallagher, Tr. 2363.

noncompliance (the "Block 8" problem) in Consumers Power's 12-month re-review and three internal audits of the re-review.<sup>242/</sup> The NRC Staff considered the deficiency to be insubstantial,<sup>243/</sup> and the problem was quickly resolved.<sup>244/</sup> The NRC Staff was pleased with both the re-review process itself, which Mr. Gallagher praised as an "extensive and exhaustive" effort,<sup>245/</sup> and with the results of the re-review.<sup>246/</sup>

Paragraph 98. Ms. Stamiris asserts, as the fourth and final basis for her claim that Consumers Power has not acted to correct past or prevent future FSAR inconsistencies, that the "purpose and validity" of the Midland FSAR "remain[s] in question" despite the NRC acceptance of the FSAR re-review.

The NRC Staff has never questioned the "purpose" of the Midland FSAR. Indeed as authority for this assertion Ms. Stamiris cites NRC Inspection Report No. 78-20. Inspection Report No. 78-20 did not even address the purpose of

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<sup>242/</sup> Gallagher, Tr. 1824. Ms. Stamiris' Proposed Findings of Fact incorrectly refer to "irregularities" discovered in the FSAR re-review, and cites Attachment 3, Appendix A to NRC testimony on Contention 3, following Tr. 1754. This attachment, which is a Notice of Violation issued to Consumers Power by the NRC after the December, 1980 NRC Staff inspection of Midland does list two violations. Only the first, however, applies to the FSAR re-review. Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 162-166 paragraphs 259-267.

<sup>243/</sup> Gilray, Tr. 3742-43; Landsman, Tr. 4907.

<sup>244/</sup> Landsman, Tr. 4851.

<sup>245/</sup> Gallagher, Tr. 1824.

<sup>246/</sup> Id.

the Midland FSAR. While the intent of the investigation preceding NRC Inspection Report No. 78-20 may have been to determine "whether the FSAR was consistent with design and construction of the Midland project,"<sup>247/</sup> the purpose of the FSAR was simply never an issue. Moreover, the validity of the FSAR has now been confirmed. As explained in paragraph 97, the NRC Staff has accepted both the corrections to the FSAR and the results of the FSAR re-review and no other FSAR inconsistencies have been found.<sup>248/</sup>

Paragraph 99. No response.

Paragraph 100. Ms. Stamiris incorrectly asserts that Consumers Power and the NRC Staff disagree as to the purpose of the FSAR. Statements by Consumers Power<sup>249/</sup> and Mr. Keppler<sup>250/</sup> that the as-built conditions at the plant can be compared to specifications in the FSAR do not conflict with Dr. Landsman's description of the function of the FSAR: all agreed that those parts of the plant that have been completed should match the specification in the FSAR exactly. This accords with both Consumers Power's and Dr. Landsman's description of the purpose of the FSAR: it serves as the

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<sup>247/</sup> NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 2, at p. 2, following Tr. 1754; Gallagher, Tr. 2320; Stamiris Proposed Findings of Fact and Conclusions of Law, at p. 37, paragraph 98.

<sup>248/</sup> Gallagher, Tr. 1826-27.

<sup>249/</sup> Marguglio, prepared testimony, Attachment No. 10, p. 23-37, following Tr. 1501.

<sup>250/</sup> Keppler, Tr. 2085.



prime licensing document in the operating license phase to show the NRC Staff how the plant has been built.<sup>251/</sup>

Nothing in Consumers Power's Response to 10 CFR §50.54(f) Question 23 undermines Dr. Landsman's procedures for checking the accuracy of the FSAR. Dr. Landsman testified that he first checks the design documents against commitments in the PSAR.<sup>252/</sup> He then checks the FSAR to ensure that it properly reflects the design documents and how they have been implemented in the plant.<sup>253/</sup> Consumers Power's Response to 10 CFR §50.54(f) Question 23 confirms this procedure, noting that design documents can and should be checked against the FSAR.<sup>254/</sup>

Paragraph 101. Dr. Ross Landsman, the Region III NRC inspector who conducted the December, 1980 inspections of the Midland plant, explained the function of the FSAR, the PSAR and the design documents within the NRC's regulatory scheme.<sup>255/</sup> An applicant submits a preliminary safety analysis report (PSAR) to the NRC Staff along with its application for a construction permit. The PSAR is the prime licensing document at the construction permit stage:

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<sup>251/</sup> Marguglio, prepared testimony, Attachment No. 10, at p. 23-37, following Tr. 1501; Landsman, Tr. 4920, 4855.

<sup>252/</sup> Landsman, Tr. 4854-55.

<sup>253/</sup> Id.

<sup>254/</sup> Marguglio, prepared testimony, Attachment No. 10, at p. 23-37, following Tr. 1501.

<sup>255/</sup> Landsman, Tr. 4853-55, 4915-26.

the NRC Staff studies the PSAR to determine how the plant will be built,<sup>256/</sup> and treats the construction specifications of the PSAR as commitments to which the applicant must adhere during the building process.<sup>257/</sup> Based on the commitments within the PSAR, among other things, the NRC Staff grants the applicant a construction permit.

The applicant then translates the commitments in the PSAR into design documents.<sup>258/</sup> The NRC Staff compares the design documents to the specifications of the PSAR, to make sure that they conform to the PSAR commitments.<sup>259/</sup> These design documents contain no calculations based on the FSAR.<sup>260/</sup> It is these design documents, not the FSAR, which are used by the applicant as design guides in constructing its plant.<sup>261/</sup> It is also these documents, and not the FSAR, which are consulted by the NRC Staff during its inspections, to determine if the plant is being built according to plan and in conformance with the commitments made to the NRC by the applicant.<sup>262/</sup>

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<sup>256/</sup> Id., Tr. 4920.

<sup>257/</sup> Id., Tr. 4919; Gallagher, Tr. 2287.

<sup>258/</sup> Landsman, Tr. 4919, 4854; Gallagher, Tr. 2292.

<sup>259/</sup> Landsman, Tr. 4854-55, 4919.

<sup>260/</sup> Id., Tr. 4926.

<sup>261/</sup> Id., Tr. 4916-18; Gallagher, Tr. 1815.

<sup>262/</sup> Landsman, Tr. 4916-18.

These design documents and the PSAR form the basis for the FSAR,<sup>263/</sup> the prime licensing document during the operating license proceedings.<sup>264/</sup> Just as the PSAR shows how the plant will be built in the first stage of licensing, the FSAR shows how the plant has been built during the second stage.<sup>265/</sup> Inaccuracies in the FSAR representing conflicts between FSAR statements and work actually done on the plant, are a source of concern precisely because they give the NRC Staff during the OL proceedings an inaccurate picture of how the plant was built.<sup>266/</sup>

Paragraph 102. This paragraph claims that the soil problems at Midland arose from Consumers Power's failure to adhere to "FSAR commitments."<sup>267/</sup> Contrary to the first sentence in the paragraph, Mr. Gallagher never testified that "had the FSAR commitments been followed, soil settlement problems would have been avoided."<sup>268/</sup> Mr. Gallagher testified that soil problems could have been avoided if Consumers Power had followed all the recommendations in the Dames & Moore report.<sup>269/</sup> The Dames & Moore report was a

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<sup>263/</sup> Id., Tr. 4920, 4854-55.

<sup>264/</sup> Marguglio, prepared testimony, Attachment No. 10, at p. 23-37, following Tr. 1501; Landsman, Tr. 4920.

<sup>265/</sup> Landsman, Tr. 4920.

<sup>266/</sup> Id., Tr. 4920-21, 4926.

<sup>267/</sup> Stamiris Proposed Findings of Fact and Conclusions of Law, at p. 38, paragraph 102.

<sup>268/</sup> Id.

<sup>269/</sup> Gallagher, Tr. 2289.

consultant report that Consumers Power attached to the Midland PSAR.<sup>270/</sup> Consumers Power did not consider the Dames & Moore recommendations to be PSAR commitments;<sup>271/</sup> the NRC Staff did.<sup>272/</sup>

Mr. Gallagher's statement about "people doing what they were supposed to be doing"<sup>273/</sup> does not refer to following "FSAR commitments". The statement related only to the proper procedure for documenting the re-review of the FSAR.<sup>274/</sup> It was a procedural problem unrelated to inconsistencies in the FSAR itself.<sup>275/</sup> There is no evidence of record that, had the original FSAR submitted by Consumers Power been exactly adhered to, all soils problems at the Midland site would have been avoided.

Paragraph 103. Mr. Gilray commented that the FSAR is "sort of a blueprint".<sup>276/</sup> The FSAR does embody a general design for construction of the plant, but the design, except for certain commitments imposed by law, can be changed.<sup>277/</sup> Although Mr. Gilray admitted to personal confusion as to

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<sup>270/</sup> Stamiris Exhibit No. 3, pp. 16-17.

<sup>271/</sup> Gallagher, Tr. 2285.

<sup>272/</sup> Id.

<sup>273/</sup> Stamiris Proposed Findings of Fact and Conclusions of Law, at p. 38-39 paragraph 102.

<sup>274/</sup> Gallagher, Tr. 1824-25.

<sup>275/</sup> Id., Tr. 2362.

<sup>276/</sup> Gilray, Tr. 5022 (emphasis added).

<sup>277/</sup> Id., Tr. 5018, 5022.

whether FSAR amendments should be made before or after the referenced construction activities begin,<sup>278/</sup> his confusion does not suggest that Consumers Power has not notified the NRC Staff about the changes before construction. The NRC Staff permits changes to be made before the FSAR is formally amended.<sup>279/</sup> Consumers Power informs the NRC Staff of all significant changes before they are undertaken at the plant and before the FSAR is amended.<sup>280/</sup>

Paragraph 104. The "confusion" noted by Mr. Hood regarding the form in which the remedial fixes would be submitted does not reflect confusion or lack of information on the part of the NRC Staff as to the substance of the remedial amendments. It merely addresses Mr. Hood's comprehension of the technical legal characterization of the amendments.<sup>281/</sup> Mr. Hood did state that the resolution of the NRC Staff's acceptance of the remedial amendments would depend on the resolution of the proceeding.<sup>282/</sup>

Dr. Landsman stated that not all the remedial measures would conform to PSAR commitments.<sup>283/</sup> Such conformity would be impossible, however, since the remedial

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<sup>278/</sup> Gilray, Tr. 5019.

<sup>279/</sup> Keppler, Tr. 2085; Hood, Tr. 2666-67.

<sup>280/</sup> Id.

<sup>281/</sup> Hood, Tr. 2654.

<sup>282/</sup> Id., Tr. 2655.

<sup>283/</sup> Landsman, Tr. 4922.



situation was not foreseen when the PSAR was written. Dr. Landsman noted that the remedies would have to conform to a commitment Consumers Power made to the NRC Staff in an exchange of correspondence.<sup>284/</sup>

Paragraph 105. The NRC Staff's and Consumers Power's approach to the FSAR is specifically designed to complement the two-step licensing process. Changing the FSAR rather than the design documents accords with the functions within this licensing process. Changing the FSAR to reflect what has been done in the field gives the NRC Staff an accurate picture of the construction of the plant upon which it can rely in the second stage of the licensing process. Nothing in this process concerns the "observational approach" or proof test, the scientific, technical method chosen by Consumers Power to remedy some of the soils problems.

Paragraph 106. Ms. Stamiris cites no evidence of a "reluctance" on the part of Consumers Power to investigate and correct FSAR inconsistencies. As noted above in paragraph 97, Consumers Power initiated and conducted an extensive FSAR re-review; its effectiveness was confirmed by the NRC Staff. Ms. Stamiris has established no lack of regard for the FSAR or the safety of the plant by Consumers Power.

Example 1b.

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<sup>284/</sup> Id., 4922-23.

Paragraph 107. Consumers Power's answers to FSAR questions 361.4, 361.5, 361.7 and 362.9 demonstrate a complete and candid dedication to providing information to the NRC Staff.<sup>285/</sup> Further, Ms. Stamiris is incorrect in suggesting that Mr. Howell purposefully failed to attach a copy of Consumers Power's answer to FSAR Question 361.5 to his prepared testimony. Mr. Howell's testimony completely discussed this answer; it was inadvertently left out of the attachments to his testimony when they were copied. The complete answer was placed in the record through the prefiled testimony of the NRC Staff.<sup>286/</sup>

The NRC Staff does not view Consumers Power's response to these questions as demonstrating any reluctance to provide information.<sup>287/</sup> The dispute has been resolved, and is no longer an issue.<sup>288/</sup> The NRC Staff is satisfied with the information provided by Consumers Power.<sup>289/</sup>

Example 1.

Paragraph 108. No response.

Paragraph 109. At the February, 1980 meeting, Consumers Power agreed to provide the NRC Staff with certain information but noted that the documents requested were

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<sup>285/</sup> NRC Staff Testimony on Stamiris Contention No. 1, at pp. 6-7, following Tr. 1560.

<sup>286/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 7 and Attachment Nos. 2-7, following Tr. 1560.

<sup>287/</sup> Id.

<sup>288/</sup> Howell, Tr. 2624-25.

<sup>289/</sup> Kimball, Tr. 1614.

quite voluminous and not normally contained in docketed material of an application for licenses.<sup>290/</sup>

Consumers Power did not indicate a reluctance to make the requested documentation publically available. It was only reluctant to provide it through the burdensome and expensive mechanism suggested by the NRC Staff.<sup>291/</sup> Consumers Power suggested that the material could be provided through the audit mechanism, which would permit an NRC Staff review at a local record center such as the Bechtel offices in Ann Arbor, Michigan as opposed to requiring the documents to be sent to Washington D.C.<sup>292/</sup>

On April 1, 1980, the NRC Staff formally requested the documentation through the application process.<sup>293/</sup> Consumers Power forwarded all but five of the documents on May 5, 1980.<sup>294/</sup> Two of the five documents had been superseded; the two replacement documents were forwarded to the NRC Staff as soon as they became available.<sup>295/</sup> Mr. Hood testified that Consumers Power cooperated fully with the NRC Staff with respect to these four documents,<sup>296/</sup> and any

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<sup>290/</sup> Hood, NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 8, following Tr. 1560.

<sup>291/</sup> Hood, NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 8, following Tr. 1560.

<sup>292/</sup> Id.

<sup>293/</sup> Id., Attachment No. 10.

<sup>294/</sup> Hood, NRC prepared testimony on Stamiris Contention No. 1, at p. 9, following Tr. 1560.

<sup>295/</sup> Id.; Hood, Tr. 2675, 2734; Gallagher, Tr. 2603.

<sup>296/</sup> Hood, Tr. 2675.

delay in sending them did not reflect adversely on Consumers Power's managerial attitude.<sup>297/</sup> These four documents discussed the Sondex System and Borros Anchor procedures.<sup>298/</sup> However, the manner in which Consumers Power dealt with the Sondex system data is irrelevant to the question of whether Consumers Power promptly forwarded the requested Sondex document to the NRC Staff. The implication that somehow Consumers Power's decision not to rely on the Sondex data reflects poorly on its management is unfounded.

Paragraph 110. The fifth document requested was a qualification report for compaction equipment presently being used in ongoing soils compaction work.<sup>299/</sup> Contrary to Ms. Stamiris' assertion, the NRC Staff had not requested this particular information in December, 1978.<sup>300/</sup> At the December, 1978 meeting, the NRC Staff requested that Consumers Power provide qualification reports for compaction equipment used on the soils beneath the diesel generator building several years earlier.<sup>301/</sup> Consumers Power never supplied that report because such a report did not exist.<sup>302/</sup>

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<sup>297/</sup> Hood, Tr. 2734; NRC Staff testimony on Stamiris Contention No. 1, at p. 10, following Tr. 1560.

<sup>298/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 9, following Tr. 1560.

<sup>299/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 9, following Tr. 1560; Gallagher, Tr. 2551.

<sup>300/</sup> Gallagher, Tr. 2551.

<sup>301/</sup> Id.

<sup>302/</sup> Id., 2550.

Knowing that no 1977 equipment qualification report existed, the NRC Staff changed the thrust of its April, 1980 request. They asked that Consumers Power submit a qualification report for equipment presently in use in ongoing soils work.<sup>303/</sup> On August 15, 1980, Consumers Power forwarded, among other things, a report on the Test Fill Program, that had been conducted to requalify designated compaction equipment.<sup>304/</sup> Consumers Power also committed to perform and report qualification tests on certain other compaction equipment, if any were used in the future.<sup>305/</sup> Such reports had not been made because Consumers Power had not used any equipment other than the equipment qualified in the August, 1980 report.<sup>306/</sup> No one from the NRC Staff has indicated dissatisfaction with the August, 1980 Consumers Power response, nor do they consider it only a "partial reply".<sup>307/</sup>

Mr. Gallagher asserted that the delayed response to the requests for qualification reports showed poor cooperation by responsible Consumers Power quality assurance officials.<sup>308/</sup> However, he cited no examples of any quality

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<sup>303/</sup> Id., Tr. 2604.

<sup>304/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 9, following Tr. 1560.

<sup>305/</sup> Id.; Gallagher, Tr. 2577.

<sup>306/</sup> Gallagher, Tr. 2576-77.

<sup>307/</sup> Id., NRC Staff prepared testimony on Stamiris Contention No. 1, at pp. 9-10, following Tr. 1560.

<sup>308/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 10, following Tr. 1560; Hood, Tr. 2675.



assurance official refusing to aid his request or obstructing the production of such a report. He did not even contact the head of Midland quality assurance, Mr. Walter Bird, about the information until May, 1980.<sup>309/</sup> Mr. Gallagher conceded that his only other quality assurance contact at Midland, Mr. Donald Horn, was trying his hardest to get the report for him.<sup>310/</sup> He added that this was the only instance of "lack of cooperation" on the part of Midland quality assurance officials he could recall.<sup>311/</sup>

Paragraph 111. Part of Consumers Power's response to Mr. Gallagher's concern about qualification of soil compaction equipment was a commitment not to perform soils work in the future without properly qualified compaction equipment.<sup>312/</sup> Mr. Gallagher did not merely "believe" that this commitment was adhered to: he verified that it was.<sup>313/</sup> The reference to an audit finding does not substantiate any implication that Consumers Power failed in its commitments. The fact that a geotechnical engineer did not "verify" equipment does not mean that the equipment had not been qualified.

Paragraph 112. The reluctance Consumers Power expressed was not directed toward having to provide informa-

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<sup>309/</sup> Gallagher, Tr. 2606.

<sup>310/</sup> Id., Tr. 2599.

<sup>311/</sup> Id., Tr. 2578.

<sup>312/</sup> Id., Tr. 2604.

<sup>313/</sup> Id.

tion to the NRC Staff; it was willing to do that. Consumers Power preferred to provide it through a mechanism other than the burdensome and expensive one through which the NRC Staff requested it. Once the information was formally requested by the NRC Staff, Consumers Power forwarded all documents except one. The one exception did not exist in document form. When the information had been documented, Consumers Power sent it promptly to the NRC Staff.

Example 2.

Paragraph 113. Ms. Stamiris has produced no evidence to support her claim that Dr. Peck made the statement that "needlessly conservative decisions may be formulated on the 'what if' type of questions." The source she cites, meeting notes, does not present the statement as a quote from Dr. Peck, or from anyone else.<sup>314/</sup> Mr. Hood, who did not attend the meeting, surmised from the context of the notes alone that the statement might have been made by a Bechtel consultant; he never attributed the statement to Dr. Peck.<sup>315/</sup> Dr. Peck, who did attend the meeting, specifically denied making the statement.<sup>316/</sup> No one who was present at the meeting testified that Dr. Peck made the statement.

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<sup>314/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, Attachment No. 13, p. 2, following Tr. 1560.

<sup>315/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at pp. 10-11, following Tr. 1560.

<sup>316/</sup> Peck, Tr. 3419-20.

There is nothing to connect Dr. Peck with the lack of "caution and conservation" which Ms. Stamiris reads into the statement and charges in her Proposed Findings.<sup>317/</sup>

Paragraph 114. In this paragraph, Ms. Stamiris alters her original contention. She now connects the statement found in the meeting notes to Dr. Peck and his expert opinion as to the reliability of certain scientific tests and then to his analysis of borings and then to Sondex data. Dr. Peck's position on these various matters is irrelevant to Ms. Stamiris' contention. It has no bearing whatsoever on Consumers Power management's alleged reluctance to provide information to the NRC Staff. Her implication that his position on these matters reflects upon his expertise and ethics is also unfounded.

Paragraph 115. Ms. Stamiris has shown no connection between Dr. Peck and either the statement quoted in Example 2 or the lack of "caution and conservation" it allegedly reflects.

Example 3.

Paragraph 116. No response.

Paragraph 117. Mr. Hood testified that his central concern in the first part of his statement was the NRC Staff's "inefficient review process" of the Midland plant.<sup>318/</sup>

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<sup>317/</sup> Stamiris Proposed Findings of Fact and Conclusions of Law, at p. 43, paragraph 115.

<sup>318/</sup> Hood, Tr. 2634.

He identified several sources of inefficiency. The first was a "poor Consumers Power - NRR interface," exemplified by the NRC Staff's need to reask certain questions of Consumers Power during the earlier phase of the FSAR review.<sup>319/</sup> Mr. Hood did not attribute the need to reask questions to any deliberate attempt by Consumers Power to withhold information from the NRC Staff. All of the information sought was apparently supplied in response to the second round of questions; there is no indication that the questions had to be asked again.<sup>320/</sup> Mr. Hood cited no examples of questions other than the FSAR questions which had to be reasked.

Before the placement of the surcharge on the diesel generator building, Mr. Hood did not caution Consumers Power about any reluctance on the part of the NRC Staff to accept the observational method or indicate that it might make the process of review more difficult.<sup>321/</sup> Further, Mr. Hood acknowledged that it is possible to predict the results of a proof test before it begins and to measure and assure its success once it had been completed.<sup>322/</sup> Mr. Hood also admitted that once the surcharge has been removed, it is fully possible to determine if it was successful in remedy-

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<sup>319/</sup> Id., Tr. 2633-34, 2707.

<sup>320/</sup> Id., Tr. 2633-34.

<sup>321/</sup> Id., Tr. 2678.

<sup>322/</sup> Id., Tr. 2682-83.

ing the soil settlement problem,<sup>323/</sup> and that more data on its success or failure accumulated each day after removal.<sup>324/</sup>

Paragraph 118. Another source of inefficiency in the Midland review, according to Mr. Hood, was the strain on the NRC Staff's time and resources caused by the accident at Three Mile Island in 1979.<sup>325/</sup> Far from "not appreciat[ing]" the connection between the events of Three Mile Island and the delay in the Midland licensing process, Mr. Howell testified that the NRC Staff conducted no review of the Midland application in the last three quarters of 1979.<sup>326/</sup> Mr. Hood acknowledged that the NRC Staff was at least partially responsible for the slow review process at Midland: had the NRC Staff's attention not been primarily turned toward the events in Pennsylvania, he said, Midland review might have occurred in a more timely manner.<sup>327/</sup>

Paragraph 119. The NRC Staff did not express reservations to Consumers Power about the plan to preload the diesel generator building at the December 4, 1978 meeting.<sup>328/</sup> Darl Hood's own meeting notes reveal no reservations.<sup>329/</sup>

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<sup>323/</sup> Id., Tr. 2680.

<sup>324/</sup> Id., Tr. 2681.

<sup>325/</sup> Id., Tr. 2700, 2747-48.

<sup>326/</sup> Howell, Tr. 2860.

<sup>327/</sup> Hood, Tr. 2747-48, 2702.

<sup>328/</sup> See Howell, Tr. 2831.

<sup>329/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, Attachment No. 11, following Tr. 1560.



Nor did anyone present at the meeting testify that the NRC Staff expressed reservations about the plan at that time. No one told Consumers Power not to proceed with the preload at that meeting.<sup>330/</sup> No one told them to wait until the NRC Staff obtained more information about the plan.<sup>331/</sup> No one told them the proof test might make the NRC Staff review process more difficult.<sup>332/</sup> The NRC Staff merely indicated that the "proposed solution is at the risk of the applicant and that the NRC intended to review and evaluate this matter in accordance with the original compaction requirements as set forth in the commitments in the PSAR."<sup>333/</sup> "Any action an applicant takes in constructing its plant is taken at its own risk."<sup>334/</sup> The intention to measure the compaction results of the preload against the compaction commitments did not signify NRC Staff disapproval of the program; as Mr. Howell testified, such a requirement is fairly normal.<sup>335/</sup>

Paragraph 120. The NRC Staff informed Consumers Power in October, 1978 that it "did not view preloading to be

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<sup>330/</sup> Hood, Tr. 2678.

<sup>331/</sup> Id.

<sup>332/</sup> Id.

<sup>333/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, Attachment No. 11 at p. 7, following Tr. 1560; see also Stamiris Exhibit No. 7, pp. 5-6; see also Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 79-80.

<sup>334/</sup> Hood, Tr. 2678-79.

<sup>335/</sup> Howell, Tr. 2831.

a fix or resolution of the problem at this time."<sup>336/</sup> The NRC Staff comment, however, does not signify disapproval of the surcharge. First, the NRC Staff testified that no one from the NRC Staff ever told Consumers Power not to place the surcharge or that it disapproved of the surcharge.<sup>337/</sup> Second, in October, 1978 Consumers Power had not yet explained the surcharge option to the NRC Staff or indeed decided upon it as the appropriate remedial measure.<sup>338/</sup>

Paragraph 121. Mr. Gallagher emphasized that this conclusion was his own personal opinion; he did not purport to speak for the NRC Staff.<sup>339/</sup>

Paragraph 122. Mr. Gallagher did recommend that Consumers Power remove the fill material beneath the completed portion of the diesel generator building. He admitted, however, that this was just a personal recommendation, and not the position of the NRC Staff.<sup>340/</sup> Mr. Hood added that even if the removal and replacement option had been selected, Consumers Power would still have been subjected to an inquiry from the NRC Staff.<sup>341/</sup>

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<sup>336/</sup> Stamiris Exhibit No. 1, Attachment D, p. 3.

<sup>337/</sup> Gallagher, Tr. 2391-92, Hood, Tr. 2736.

<sup>338/</sup> Howell, prepared testimony at pp. 22-23, following Tr. 2802.

<sup>339/</sup> Gallagher, Tr. 2329.

<sup>340/</sup> Id., Tr. 2393.

<sup>341/</sup> Hood, Tr. 2658-59.

The NRC Staff's position that Consumers Power could proceed at its own risk in using the surcharge was not intended to signify disapproval of the program. As Mr. Hood explained, "this is merely acknowledging the fact that the applicant is proceeding without the explicit approval of the NRC, and he is therefore proceeding at his own risk."<sup>342/</sup> The "risk" referred to is financial risk, the risk that the remedial action will not fulfill the applicable regulatory requirements, and the risk that a successful end product will not be achieved.<sup>343/</sup> All of these risks, especially the last, are risks normally taken by any applicant with respect to any construction at the facility.<sup>344</sup>

Paragraph 123. See response to paragraphs 3-4.

Paragraph 124. Neither Mr. Hood nor anyone else on the NRC Staff objected to Consumers Power's decision to remove the preload. Mr. Hood testified that he objected to Consumers Power's decision to proceed with the preload without first providing an adequate response to 10 CFR §50.54(f) Question 4.<sup>345</sup> However, Mr. Hood admitted that no member of the NRC Staff ever advised Consumers Power that its response to Question 4 was inadequate, or that further work should be delayed until more information was received.<sup>346/</sup>

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<sup>342/</sup> Id., Tr. 2664.

<sup>343/</sup> Id., Tr. 2678-79.

<sup>344/</sup> Id.

<sup>345/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 12, following Tr. 1560.

<sup>346/</sup> Hood, Tr. 2688.

There was no requirement that Consumers Power receive specific NRC Staff approval before it began the preload removal. On the contrary, the NRC Staff had explicitly told Consumers Power it could proceed at its own risk.<sup>347/</sup> Further, the NRC Staff had not requested or required Consumers Power to await such approval.<sup>348/</sup>

Paragraph 125. The second example cited by Mr. Hood of Consumers Power's alleged "tendency to push ahead despite the lack of adequate assurances" was not Consumers Power's "decision to proceed with the construction of the borated water storage tanks...despite their location on [allegedly] questionable fill soils". This characterization of Mr. Hood's statement suggests that Mr. Hood believed that the management of Consumers Power proceeded with construction of the tanks despite questions in their own minds or questions communicated to them by the NRC Staff about the adequacy of the soils underneath the tanks. Mr. Hood entertained no such belief and his second example did not refer to any such belief. He testified specifically that Consumers Power thought the soils in question were sound when it resumed construction<sup>349/</sup> and that NRC Staff doubts regarding the stability of the soil had not been communicated to Consumers

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<sup>347/</sup> Id., Tr. 2664, 2678-79; Stamiris Exhibit No. 7 at pp. 5-6; NRC Staff prepared testimony on Stamiris Contention No. 1, Attachment No. 11 at p. 7, following Tr. 1560.

<sup>348/</sup> Hood, Tr. 2688.

<sup>349/</sup> Id., Tr. 2722, 2715.

Power.<sup>350/</sup> Mr. Hood's second example referred only to Consumers Power's decision to proceed with construction without first performing a finite element analysis in response to 10 CFR §50.54(f) Question 14.<sup>351/</sup>

Consumers did not perform a finite element analysis in response to 10 CFR §50.54(f) Question 14 because neither Question 14 nor the NRC Staff requested such an analysis.<sup>352/</sup> Further, Consumers Power had no reason to believe the analysis was necessary to its Question 14 response.<sup>353/</sup> Question 14 requested only an evaluation of (1) the effects of existing and/or anticipated cracks on the intended function of the tanks<sup>354/</sup> and (2) the ability of the tanks to withstand increased differential settlement.<sup>355/</sup>

As part of the preparation for its response to Question 14, Consumers Power dug a test pit and took borings beneath the ring in order to evaluate the properties of the foundation soils of the tanks.<sup>356/</sup> Based on the results of these investigations, Consumers Power concluded that any cracks in the tank were shrinkage cracks, and that the soils

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<sup>350/</sup> Id., Tr. 2720, 2724-26.

<sup>351/</sup> Id., Tr. 2721; NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 11, following Tr. 1560.

<sup>352/</sup> Hood, Tr. 2723, 2741-42.

<sup>353/</sup> Id., Tr. 2723-24.

<sup>354/</sup> Id., Tr. 2716.

<sup>355/</sup> Id., Tr. 2723.

<sup>356/</sup> Id., Tr. 2716-17.



under the foundation ring were basically sound.<sup>357/</sup> These tests confirmed Consumers Power's earlier conclusion, at the close of investigations into soil settlement in the diesel generator building area, that although some soil in the area of the Seismic Category I structures had been inadequately compacted, the "compacted fill (at the BWST) is adequate", and did not require corrective action.<sup>358/</sup> Consumers Power saw no need, therefore, to perform a test to evaluate the ability of the tanks to withstand increased settlement.<sup>359/</sup> A finite element analysis would have been such a test.<sup>360/</sup>

Mr. Hood explained why Consumers Power believes that the problems with the borated water storage tank are unrelated to its foundation soils.<sup>361/</sup> Consumers Power recognizes that settlement has occurred beneath the tanks; the settlement, however, occurred within the predicted amount.<sup>362/</sup> The root of the problem lies with faulty design of the ring beam: miscalculation of weight of the ring beneath the tanks led to differential settlement.<sup>363/</sup>

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<sup>357/</sup> Id., Tr. 2718, 2722.

<sup>358/</sup> Stamiris Exhibit No. 29, Attachment No. 1.

<sup>359/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 88-89, paragraphs 119-120.

<sup>360/</sup> Id.

<sup>361/</sup> Hood, Tr. 1149-50.

<sup>362/</sup> Id.

<sup>363/</sup> Id.

Paragraph 126. Ms. Stamiris concludes that "even the 'proof test' approach is discarded when its results are undesirable." However, Consumers Power has disavowed none of the proof tests which it has performed.

Ms. Stamiris' claim that Consumers Power's "choice to follow the observational approach was due at least in part to its affording the opportunity to proceed with construction without first having acceptance criteria" is equally unfounded. Ms. Stamiris produced no documents and elicited no testimony from any witness that even suggested that Consumers Power chose to follow the observational approach because of its lack of acceptance criteria. The evidence and arguments adduced in her Proposed Findings do not support such a claim. The only conclusion suggested by the evidence before the Licensing Board is that Consumers Power selected the proof tests because such tests were recommended by their technical consultants as the best remedy for the soil settlement problems.<sup>364/</sup>

Paragraph 127. There is no basis in the record for the claim that Consumers Power demonstrated a "managerial attitude of willingness to take the chance that they will succeed in the end because they can't afford to await NRC approval in the beginning." No evidence has been cited which supports the claim that Consumers Power displays a "careless disregard for the ultimate safety issues."

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<sup>364/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 118-24, paragraphs 177-88.

Example 5.

Paragraph 128. The NRC staff testified that Consumers initially withheld information regarding the building from the NRC.<sup>365/</sup> However, the NRC Staff admitted that such information did not have any health or safety consequences and did not impede the NRC Staff soils investigation.<sup>366/</sup> Under such circumstances it is difficult to determine how the information was "relevant" to the NRC Staff soils investigations.

Despite the connotations of deliberateness in the word "withheld", Mr. Gallagher stated several times that there was no basis for believing the information was deliberately kept from the NRC.<sup>367/</sup> Mr. Keeley affirmed this, testifying that there was no intent or purpose on the part of anyone at Consumers Power to keep this information from the NRC Staff.<sup>368/</sup> When questioned, Mr. Howell said that he had never instructed anyone not to tell the NRC Staff about the administration building settlement.<sup>369/</sup>

Paragraph 129. There is no evidence that Consumers Power thought the administration building problems significant enough to discuss with their experts. Dr. Peck could not

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<sup>365/</sup> NRC Staff prepared testimony on Stamiris Contention No. 1, at p. 14, following Tr. 1560.

<sup>366/</sup> Gallagher, Tr. 2555.

<sup>367/</sup> Id., Tr. 2342, 2412, 2594-95.

<sup>368/</sup> Keeley, Tr. 1319-20.

<sup>369/</sup> Howell, Tr. 2926-28.

recall being told about the administration building settlement during 1978.<sup>370/</sup> Although he was present at a meeting in September, 1978, convened to discuss structures south of the turbine building that were founded on fill,<sup>371/</sup> Dr. Peck could not recall whether the settlement of the administration building was discussed.<sup>372/</sup>

Nor is there any evidence that someone at Consumers Power "consulted" Dr. Hendron about the relationship between the fill beneath the two buildings in July, 1978. Dr. Hendron did testify that whoever told him about the administration building in October, 1978 must have considered it relevant.<sup>373/</sup> However, he clarified this testimony a few minutes later when he explained that he did not remember "being told" about the administration building: he only remembered "learning about it."<sup>374/</sup> He added that he might have drawn the information out of someone through his own questioning.<sup>375/</sup> He noted further that he preferred to make the judgment of relevance for himself.<sup>376/</sup>

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<sup>370/</sup> Peck, Tr. 3246.

<sup>371/</sup> Id., Tr. 3245-47; Stamiris Exhibit No. 6.

<sup>372/</sup> Id.

<sup>373/</sup> Hendron, Tr. 7075-76.

<sup>374/</sup> Id., Tr. 4076.

<sup>375/</sup> Id., Tr. 4076-77

<sup>376/</sup> Id., Tr. 4077.

Paragraph 130. Consumers Power neither "forgot" to tell the NRC Staff about the administration building nor deliberately withheld the information. Consumers Power did not report the incident to the NRC Staff because it saw no need to do so. Mr. Howell explained that Consumers Power's commitment to full disclosure encompassed those matters which Consumers Power is required to disclose and those which are "pertinent".<sup>377/</sup> Witnesses from Consumers Power and the NRC Staff agreed that there was no legal requirement to disclose the administration building information to the NRC Staff.<sup>378/</sup> Consumers Power's investigation of the soil settlement beneath the administration building had led them to believe the settlement was localized,<sup>379/</sup> and therefore not pertinent to the soils problems at the diesel generator building.<sup>380/</sup>

Paragraph 131. There is no evidence that Consumers Power recognized the relationship between the grede beam failure and the diesel generator building settlement in July, 1978. Mr. Horn did not remember making the connection between the problems at the two buildings.<sup>381/</sup> He testified

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<sup>377/</sup> Howell, Tr. 2927-28.

<sup>378/</sup> Keeley, Tr. 1315; Howell, Tr. 2927-28; Gallagher, Tr. 2356, 2405.

<sup>379/</sup> Gallagher, Tr. 2556-57; Keeley, prepared testimony at p. 5, following Tr. 1163.

<sup>380/</sup> Id.

<sup>381/</sup> Horn, Tr. 7986.



that he did not conclude that the two borings outside of the administration building were an insufficient investigation until he had reviewed the soil data of the additional borings taken after discovery of the diesel generator building settlement.<sup>382/</sup> These additional borings were taken over a three to four month period, beginning in September, 1978.<sup>383/</sup> Although Mr. Keeley testified that he eventually realized that the soils problem was not localized,<sup>384/</sup> he did not assign a date to this recognition.

Paragraph 132. In paragraph 132, Ms. Stamiris changes the nature of her contention. Ms. Stamiris' Contention 1 alleges that Consumers Power has been reluctant to provide the NRC Staff with "information relevant to health and safety standards." Ms. Stamiris fails to quote that part of her contention here, because, as Mr. Gallagher testified, neither the information about the administration building<sup>385/</sup> nor the two-month delay in reporting it to the NRC Staff<sup>386/</sup> had any health or safety implications.

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<sup>382/</sup> Id., Tr. 7980.

<sup>383/</sup> Id., Tr. 7987.

<sup>384/</sup> Keeley, Tr. 1200.

<sup>385/</sup> Gallagher, Tr. 2555.

<sup>386/</sup> Id., Tr. 2556.

D. Contested Contention No. 2.

Example 1

Paragraph 133. The NRC Staff testimony on the alleged pre-planned five-month period of the surcharge is speculation. The basis of the speculation is Darl Hood's testimony about some notes from a November 7, 1978 meeting. Mr. Hood was not present at the November 7, 1978 meeting and was not the author of the referenced notes.<sup>387/</sup> His characterization of the statements in the notes as they relate to any connection between the five-month period and Dr. Peck's statement is, at best, conjecture and not entitled to any evidentiary weight.

At the time of the December 4, 1978 meeting Bechtel had conducted an investigation of the root cause of the soils problems.<sup>388/</sup> Such information was also available to Dr. Peck.<sup>389/</sup>

Paragraph 134. Bechtel's December 3, 1978 meeting notes do not support the statement that "the technical information available at the time was speculative." Rather, the notes state, "After the settlement problem of the DGB was observed, an extensive subsurface investigation (e.g., soil boring program, dutch cone penetration tests, and

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<sup>387/</sup> NRC Staff prepared testimony on Stamiris Contention No. 2 at Attachment 3, following Tr. 2530.

<sup>388/</sup> Howell, prepared testimony at p. 21, following Tr. 2802.

<sup>389/</sup> Peck, prepared testimony at p. 2, following Tr. 3211.

various laboratory tests of soil samples) was performed to evaluate the plant fill. The results of these tests indicated soil properties which varied from poor to good."<sup>390/</sup> There is no evidence that Dr. Peck "speculated" as to the reason for the variability of the fill quality.

Paragraph 135. The statement that "the availability of 5 months in the construction schedule was noted"<sup>391/</sup> implies that the preload was planned to last five months to coincide with the construction schedule, regardless of the efficacy or need for more time. The actual quotation is, "Phil Martinez stated that we have five months in the schedule for preloading and asked if this would be adequate time. Dr. Peck said that he did not know at this time, however, once preload did start we would know how long preload would be required." (Emphasis added.)<sup>392/</sup> In its entirety, the quote shows that there was no predetermined scheduled period for the preload.

The statement that "Bechtel considered proceeding with the preload correction to be urgent at this time" is a mischaracterization of Stamiris Exhibit No. 13. The document states that the decision to preload had not yet been made and that the items to which the memo's author, a Bechtel employee, refers were related to preparations for the reme-

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<sup>390/</sup> Stamiris Exhibit No. 7, p. 3.

<sup>391/</sup> NRC Staff prepared testimony on Stamiris Contention No. 2, Attachment No. 6, following Tr. 2530.

<sup>392/</sup> Id.

dial action. The relevant portion of the memo reads:

"Recognizing that there will be some interval between obtaining the consultants' recommendation and embarking on whatever plan is ultimately approved, at this meeting we outlined our plan of activities...."<sup>393/</sup>

Paragraph 136. Ms. Stamiris is incorrect that "the surcharge sand application began on about November 22, 1978, just after release of the electrical duct banks, as a 'frost protection'." The frost protection is actually a thin layer of fill installed to preserve the preload option had Consumers Power decided to adopt it.<sup>394/</sup> The frost protection was not a part of the "surcharge sand application." It was a part of the preparation for possible preload, not the actual commencement of the preload.<sup>395/</sup>

The sequence of loading for the surcharge was described by the consultants in November, 1978.<sup>396/</sup> The preload would commence when the initial 10 feet of fill was placed in and around the building; then readings of the instruments would be taken for two weeks; another 10 to 20

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<sup>393/</sup> Stamiris Exhibit No. 13, at p. 1.

<sup>394/</sup> See Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 120-21, paragraph 183, especially footnote 473; Keeley, prepared testimony at pp. 8-9, following Tr. 1163.

<sup>395/</sup> Keeley, prepared testimony at p. 9, following Tr. 1163.

<sup>396/</sup> Stamiris Exhibit No. 16, at p. 5 (November, 1978 consultant meeting).

feet of fill would be placed.<sup>397/</sup> This sequence, begun on January 26, 1979, was followed.<sup>398/</sup>

The attempt to demonstrate through a chronological history that Consumers Power was not aware of the root causes of the soils problem or the NRC Inspection Report No. 78-20 findings prior to the imposition of the surcharge fails. As Mr. Gallagher, the NRC Staff inspector who made the findings testified, Consumers Power was aware of his findings prior to the imposition of the surcharge.<sup>399/</sup>

Paragraph 137. As previously noted, Consumers Power had investigated the root causes of the diesel generator building settlement prior to the placement of the surcharge.<sup>400/</sup> In any event, the thrust of this paragraph appears to be that root cause determination of the soils settlement was important to preclude repetition of a similar problem.<sup>401/</sup> However, the actual surcharge procedures were unrelated to the previous problems with the placement of soil. Finally, the NRC Staff has stated that the preload was a valid solu-

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<sup>397/</sup> Id.

<sup>398/</sup> Keeley, prepared testimony at pp. 8-10, following Tr. 1163.

<sup>399/</sup> Gallagher, Tr. 2325.

<sup>400/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 104-06, paragraphs 144-148, especially footnotes 415, 416, 419.

<sup>401/</sup> Stamiris Proposed Findings of Fact and Conclusions of Law, paragraph 133.



tion;<sup>402/</sup> it is therefore not relevant whether it was once considered experimental.

This paragraph also alleges that the preload began prior to the correction of "organizational deficiencies". It is assumed this means prior to the determination of organizational deficiencies. However, further assumptions are impossible. Ms. Stamiris neither defines or refers to the record to define what is meant by "organizational deficiencies." The contention assumes that some sort of organizational deficiencies related to the preload existed prior to the institution of the preload. Consumers Power has stated that it was not aware of any deficiencies in either the quality assurance program or personnel qualifications as they related to the surcharge program.<sup>403/</sup> The NRC Staff also had no concerns with quality assurance aspects of the preload program.<sup>404/</sup> Even assuming that no cause determination was made and that organizational deficiencies existed, there has been no showing that these two factors adversely affected resolution of the soils settlement issue.

Example 2.

Paragraph 138. The statement that "the NRC Staff testimony supports this contention" is incorrect for two

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<sup>402/</sup> Hood, Tr. 4435.

<sup>403/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at p. 105, paragraph 146; Howell, Tr. 2941.

<sup>404/</sup> Id.; Hood, Tr. 4435.

reasons. First, a crucial portion of the contention has been omitted. The contention asserts that the pond filling sequence is an example of how Consumers Power's "financial and time schedule pressures have directly and adversely affected resolution of soil settlement issues, which constitutes a compromise of applicable health and safety regulations."<sup>405/</sup> Second, the NRC Staff testified that the preload pond raising sequence may have adversely affected resolution of the soil settlement issues.<sup>406/</sup> It did not state that it did.

Regarding Dr. Peck's alleged change in sequence suggestion, Dr. Peck testified that he intended to convey the need to both place the surcharge and raise the cooling pond level. These two operations could be carried out either concurrently or consecutively.<sup>407/</sup>

Paragraph 139. No response.

Paragraph 140. This paragraph has no relation whatsoever to the filed contention. The filed contention deals with the effects on piezometer readings not with regard to the influence of pond seepage on the soils themselves. NRC Inspection Report No. 78-20, "Effect of Ground Water in Plant Area Fill," cited by Ms. Stamiris, dealt with the early hypothesis postulated by Dr. Peck that the soil

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<sup>405/</sup> Stamiris Contention No. 1.

<sup>406/</sup> NRC Staff prepared testimony on Stamiris Contention No. 2, at p. 14, following Tr. 2530.

<sup>407/</sup> Peck, Tr. 3464.

was placed dry of optimum.<sup>408/</sup> The report notes that Consumers Power was investigating the item and at that time it was considered unresolved. Dr. Peck testified that he later determined that the soil was not placed dry of optimum.<sup>409/</sup>

Paragraph 141. This paragraph asserts that the pond filling sequence followed by Consumers Power affected the ability of the NRC Staff to evaluate the diesel generator building remedy. This, it is alleged, hindered the ultimate resolution of a "safety issue." These allegations have completely altered the thrust of the original Contention 2, Example 2, from the influence of cost and scheduling considerations to the NRC Staff's ability to evaluate the remedial measures. The record is clear that Dr. Peck's ability to interpret the results was not affected by the actions. He could separate out the influence of the pond seepage.<sup>410/</sup> Finally, there were compelling scientific and technical reasons for the sequence used.<sup>411/</sup>

Example 3.

Paragraph 142. No response.

Paragraph 143. See response to paragraph 124.

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<sup>408/</sup> Id., Tr. 3231.

<sup>409/</sup> Id., Tr. 3231-32.

<sup>410/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 106-09, paragraphs 149-156; cf., Peck, Tr. 3252, 3464-65; Kane, Tr. 4415.

<sup>411/</sup> Id., cf. Peck, prepared testimony at p. 3, following Tr. 3211.

Paragraph 144. Ms. Stamiris has mischaracterized the evidence in stating that Drs. Peck and Hendron recognized the availability of five months in the schedule for preloading. The evidence actually is that construction personnel at the Midland site may have indicated that a preload program of five months duration would not significantly interfere with the construction.<sup>412/</sup> Dr. Peck testified that the amount of time the preload was left in place was unrelated to any predetermined duration.<sup>413/</sup> Dr. Hendron testified that the surcharge placement period was not limited to any period suggested by construction personnel and that he and Dr. Peck did not pay any attention to any such comments.<sup>414/</sup>

Paragraph 145. The statement that "the NRC did not fully evaluate surcharge results prior to its removal" is unsupported by the record. There is no evidence regarding the state of the NRC Staff's review, if any, of the surcharge results prior to its removal. There is evidence that the NRC Staff was informed of all preload activities before they were commenced, giving the NRC Staff either time to consider the event or an opportunity to request that an event be deferred until they had.<sup>415/</sup> Moreover, Consumers

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<sup>412/</sup> Peck, Tr. 3236, 3349; Hendron, Tr. 4050.

<sup>413/</sup> Peck, prepared testimony at p. 4, following Tr. 3211.

<sup>414/</sup> Hendron, Tr. 4050; Peck, Tr. 3236, 3348-49.

<sup>415/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 79-83, paragraphs 109-114; Hood, NRC Staff prepared testimony on Stamiris Contention No. 1, Attachment No. 11, following Tr. 1560; Hood, Tr. 2685, 2664, 4169, 2678.

Power cannot be held accountable for the quality or extent of the NRC Staff's evaluation.

Example 4.

Paragraph 146. This paragraph is misleading. It discusses that portion of the contention relating to a failure to grout gaps prior to releasing the electrical duct banks. This, it is alleged, resulted in additional stresses to the diesel generator building which could have been avoided. This failure is offered as an example of Consumers Power's acceding to time and financial pressures to the detriment of safety.

The first sentence of this paragraph is based on Mr. Kane's testimony. The testimony actually reads: "With the benefit of hindsight, it would appear that initially not grouting and a more gradual lowering of the structure after release from the duct banks would have been preferable, rather than the abrupt release of the structure." (Emphasis added.)<sup>416/</sup> Since the contention is that the gaps should have been grouted, Mr. Kane's statement supports Consumers Power's position.

The next two sentences are based on Stamiris Exhibit No. 16 for Identification which was never introduced into evidence. No foundation for its admissibility was ever made. Any statements contained in that Exhibit are not in

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<sup>416/</sup> NRC Staff prepared testimony on Contention No. 2 at p. 18, following Tr. 2530.



evidence and cannot be used to support any contention. In any event, Ms. Stamiris uses the document in this paragraph merely to speculate as to what something in the Exhibit may mean. Without questioning the author of the statement, the speculation is irrelevant.

Paragraph 147. The only authority for the first sentence of this paragraph is Stamiris Exhibit No. 26 for Identification. It was never introduced into evidence and hence cannot support the proposed findings.

The statement, "by waiting for the restraint to occur, the stress damage would have already occurred to the building and the pipe," does not make sense when placed in the context of the preceding sentence in Stamiris Exhibit 13, December 15, 1978. The full quote from this document reads:

The Consumers Power letter concludes that there is a possibility that the condensate lines below the North and South Wall of the Diesel Generator Building may be holding up the building and not allowing free settlement of the building. This item was discussed and it was concluded that if the lines and the encasement did restrain the settlement, the restraint should be removed.417/

The full quotation makes it clear that Consumers Power was not waiting until restraint occurred, but was determining if it had already occurred. If it had, then the lines were to be cut.

Paragraph 148. This paragraph refers to Mr. Hood's impression that condensate lines would be cut at both

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417/ Stamiris Exhibit No. 8, at p. 2.

ends. However, as Mr. Hood later noted: "I just didn't listen closely enough and drew the wrong impression from this discussion."<sup>418/</sup>

Paragraph 149. This paragraph references meeting notes to support the supposition that condensate lines were to be cut at both ends. The statement cited does not support the speculation as to Consumers Power's actual plans.<sup>419/</sup> It only states that if a pipe was to be cut, it could be cut on either side, as opposed to both sides, of the footing. (Emphasis added.)

Paragraph 150. Mr. Hood never testified that the condensate lines should have been cut at both ends.<sup>420/</sup> Indeed, there is no testimony or evidence supporting that view.

Paragraph 151. As was pointed out in Consumers Power's response to paragraph 136, the several feet of surcharge referred to is frost protection.<sup>421/</sup> It was not a portion of the preload, but rather was preparation for the possibility that the preload might be used.<sup>422/</sup> Moreover,

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<sup>418/</sup> Hood, Tr. 4179-80.

<sup>419/</sup> Stamiris, Exhibit No. 18, at p. 2.

<sup>420/</sup> Hood, Tr. 4188.

<sup>421/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 120-21, paragraph 183; Keeley, prepared testimony at pp. 8-9, following Tr. 1163.

<sup>422/</sup> Keeley, prepared testimony at p. 9, following Tr. 1163.

neither Dr. Hendron nor Dr. Peck could recall having recommended breaking up the mudmat.<sup>423/</sup>

Paragraph 152. The contention as filed contends that the failure to break up the mudmat resulted in additional stresses to the diesel generator building which could have been avoided. This is cited as an example of Consumers Power's submitting to financial and time pressures in disregard of safety consequences. In this paragraph, Ms. Stamiris attempts to change this contention to assert that the "choice to leave the mudmat intact was not a conservative one." The issue of the adequacy of the remedial measures will be considered in subsequent hearings and is not relevant to the initial quality assurance decision.

Paragraph 153. This paragraph also attempts to turn examples of alleged time and schedule pressures into examples of unconservative decisions, unrelated to time and schedule pressures. As stated previously, this attempt to change the contention is improper and the change actually makes the contention irrelevant to this portion of the proceeding.

The concluding sentence states: "Whether due to time and financial pressures or to other reasons, these decisions reflect poorly on the attitudes toward safe construction of the plant." (Emphasis added.) This highlights the attempt to change the contention.

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<sup>423/</sup> Peck, Tr. 3383; Hendron, Tr. 4078.

Examples 5, 9 and 2d.

Paragraph 154. This paragraph implies that Consumers Power intentionally mischaracterized Dr. Hendron's recommendation as to the remedial measures for the diesel generator building in its haste to begin work. Exhibit No. 9 for Identification is cited as support for the claim that "yet on October 18, 1978 Mr. Duncliff, the instrumentation consultant, was informed that Dr. Hendron's preliminary recommendation involved preloading the building". This exhibit was never entered into evidence, hence never tested by cross-examination. Dr. Hendron did not know what, if anything, Mr. Dunnicliff was told.<sup>424/</sup> Also relied on for support for the final sentence of paragraph 154 are Stamiris Exhibit Nos. 9 and 10. Since they are not in evidence they cannot support the statement. The cited Howell testimony does not support this contention, as Mr. Howell was not present at the referenced meetings and did not testify as to what occurred there.<sup>425/</sup>

Paragraph 155. No response.

Paragraph 156. Stamiris Exhibit No. 13, cited as support for the first sentence, states that, in Mr. Martinez's opinion, "two possible courses of action appear likely."<sup>426/</sup> The document also states that "recognizing that there will

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<sup>424/</sup> Hendron, Tr. 4033-37.

<sup>425/</sup> Howell, Tr. 2879-81.

<sup>426/</sup> Stamiris Exhibit No. 13.

be some interval between obtaining the Consultants' recommendations and embarking on whatever plan is ultimately approved, ...we outlined our plan of activities...."<sup>427/</sup> These statements indicate that as of the end of October, 1978, Consumers Power had not yet made a final decision on its choice of remedial action.

Paragraph 157. No support for footnotes 322 and 323 is provided; further, Mr. Howell's testimony has been mischaracterized. Mr. Howell testified that the preload was selected after the consultants recommended it over the removal and replacement option.<sup>428/</sup> He did not qualify this as the paragraph suggests.

Paragraph 158. Ms. Stamiris' conclusions concerning the treatment of the removal and replacement of the fill option at the November 7, 1978 meeting are contradicted by the evidence. The November 7, 1978 meeting was memorialized in several documents which are in the record. These documents are Stamiris Exhibit No. 22, a November 17, 1978 letter from Hendron to Afifi; Attachment 3 to NRC Staff testimony on Stamiris Contention No. 2, Bechtel's Meeting Notes No. 882; and Attachment 6 to NRC testimony on Stamiris Contention No. 2, Consumers Power's December 12, 1978 Midland Project Trip Report Notes. Stamiris Exhibit No. 16 for Identification was never entered into evidence.

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<sup>427/</sup> Id.

<sup>428/</sup> Howell, prepared testimony at pp. 22-23, following Tr. 2802.



Attachment 3 to NRC Staff prepared testimony on Contention No. 2 reads in relevant part:

"The possible corrective actions previously discussed were reiterated:...c. Preload and consolidate the soil under the building...f. remove and replace fill....There are only two suitable options to correct the situation:

- a. Remove fill and replace with denser material
- b. Densify existing material in place."

Attachment 6 to NRC Staff prepared testimony on Stamiris Contention No. 2 reads in relevant part:

"Chuck McConnell stated the correction action options considered....3. Preloading....6. Remove and replace fill....Discussion of preferred options followed.... In Dr. Peck's opinion, there are only two options -- preloading or remove and replace fill." (Emphasis added.)

Stamiris Exhibit No. 22, Dr. Hendron's letter, reads in relevant part:

"...the various options which were considered for fixing the observed settlement problem at the diesel generator building were discussed. These options were:.... Option C -- preload the area around the structure and within the structure... Option F -- remove and replace the building"

Stamiris Exhibit No. 22 contains six possible corrective items, the same as Attachments 3 and 6. Moreover, with the exception of the last option, each document is completely consistent in the sequence and description of the options. This is normal, since each document contained a summary of the same meeting. The only item of difference is

that Stamiris Exhibit No. 22 describes the last option as removal and replacement of the building instead of removal and replacement of the fill. Dr. Hendron testified that removal and replacement of the fill was discussed at the meeting and that he thought his letter, Stamiris Exhibit No. 22, covered this; he added he could now see that he did not phrase the removal and replacement option in the letter as clearly as he would have liked.<sup>429/</sup>

These documents demonstrate that removal and replacement of the fill was considered a realistic option and was given careful consideration before the preload option was selected.<sup>430/</sup>

Paragraph 159. Dr. Peck did not write the December 4, 1978 NRC meetings notes referenced in footnote 329 as support for the first sentence of this paragraph. In response to questioning on the specifically cited portion of these notes, Dr. Peck testified:

Q. Do you believe that whoever wrote these meeting notes misinterpreted what you were saying at that meeting?

A. Well, that is a possibility or I might have misspoken or I might have created an impression since these are certainly not verbatim notes. At least that is certainly not what I think now and I rather doubt if it was what I thought then.

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<sup>429/</sup> Hendron, Tr. 4044-48.

<sup>430/</sup> See Consumers Power Proposed Findings of Fact and Conclusion<sup>s</sup> of Law, at pp. 117-25, paragraphs 175-190.

Q. From what you just said am I correct to believe that you can't remember precisely and you are not sure of what you thought at that point in time?

A. That is a very good statement, precisely.

Paragraph 160. This paragraph cites Mr. Hood's testimony as describing Dr. Peck's view of the removal and replacement as an option superior to the preload. This mischaracterizes Mr. Hood's testimony. He stated that on the point his memory was "vague" and that the best he could testify to was an impression.<sup>431/</sup> The assertion that Mr. Hood considered removal and replacement superior to preloading is not supported by the reference cited in footnote 334.

Paragraph 161. Contrary to this paragraph, there is no contradiction between the testimony of Drs. Peck and Hendron and Consumers Power's response to 10 CFR §50.54(f) Question 21. Compaction criteria are used as a means to insure that settlement will not exceed a predicted amount.<sup>432/</sup> They are not significant in and of themselves. Moreover, the documents cited in Consumers Power's response to Stamiris paragraph 158, supra, deal with the removal and replacement of fill option.

Paragraph 162. Only a portion of Mr. Keeley's testimony has been cited. Mr. Keeley further stated:

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<sup>431/</sup> Hood, Tr. 4231.

<sup>432/</sup> Peck, Tr. 3338.

We also factored into the decision some of the recommendations of Dr. Peck, who has always had the philosophy of the best method of determining what settlement is going to take place and to postulate what settlement is going to take place, is to go ahead and surcharge and run, basically, if you want to call it a field experiment, and that also entered into our thinking.

I would also have to indicate that, yes, economics does enter into decision-making, and I guess as project manager, I'd be pretty remiss if I didn't factor in economics costs and schedule effects.

But there was also, as I pointed out, the feeling from Dr. Peck that we would really be putting to bed any question on settlement if we tore the building out, tore the soils out, and we would go back and replace the soils and based upon what we would learn, I know we would have gotten an adequate compaction effort.

But even then, as Dr. Peck had said, the most expensive way to prove a building isn't going to settle is to go ahead and load it. And this is what we did.<sup>433/</sup>

Paragraph 163. This paragraph implies that Consumers Power's choice of the preload over the replacement option was based only on a "conclusion" that preloading was the least costly alternative and that it would minimize impact on construction schedule. The mention of the cost and scheduling item in Consumers Power's response to 10 CFR §50.54(f) Question 21 was in fact not a "conclusion", but only one of many factors that Consumers Power considered in making its decision.<sup>434/</sup>

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<sup>433/</sup> Keeley, Tr. 1266-67.

<sup>434/</sup> Stamiris Exhibit No. 17, p. 21-4.

No support is cited for the assertion that cost estimates "prematurely and erroneously assumed that preloading 'could be carried out without the need for extensive dewatering.'"

Paragraph 164. The conclusions contained in this paragraph are contradicted by the evidence. For example, the record shows that the NRC Staff considers removal and replacement a viable option today.<sup>435/</sup>

Example 6.

Paragraph 165. Example 6 was submitted in support of the contention that time and financial pressures have directly and adversely affected resolution of soil settlement issues. This improperly changed the filed contention. It now states that the cause of the inconsistencies is unknown and, even if it was known, it would not matter. This is because "the focus of this contention is on the inconsistencies or false statements that contribute to soil settlement deficiencies." However, this mischaracterizes the contention, the focus of which must be on the alleged time and financial schedule pressures that caused these inconsistencies. The inconsistencies themselves are not really in issue, since they are covered in the quality assurance and Stamiris Contention No. 3. This change makes this example redundant.

The first sentence of this paragraph gives the erroneous impression that the FSAR should not have been

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<sup>435/</sup> Kane, NRC Staff prepared testimony on Stamiris Contention No. 2, at p. 19, following Tr. 2530; Kane, Tr. 4308.



submitted when it was. As set forth in Consumers Power Proposed Findings of Fact, paragraphs 191-198, the timing of the submittal was proper.

Paragraph 166. This paragraph is speculative. The record citations allegedly supporting it do not relate to it. There is no evidence concerning whether the excessive settlement "might" have been detected earlier and no evidence concerning what effect, if any, this would have had. Moreover, as admitted in paragraph 185 of Stamiris Proposed Findings of Fact and Conclusions of Law, the change to the diesel generator building foundation "was judged to be insignificant by Consumers Power and the NRC Staff in terms of the correct settlement calculations."

Paragraph 167. This characterization of the NRC Staff's and Consumers Power's responses to the contention is inaccurate. The responses speak for themselves.

Paragraph 168. As stated in response to paragraph 165, Ms. Stamiris is attempting to change her contention to focus on the inconsistencies themselves, rather than on the alleged time, schedule and financial pressures that produced them. The statement that "soil settlement problems might have been detected earlier" is, by its own admission, speculative and unsupported by the record.

Paragraph 169. No response.

Paragraph 170. There is no evidence in the record that time and schedule pressures caused the inconsistencies.

Rather, the record demonstrates that they did not.<sup>436/</sup> The use of the word "speculate" underlines the lack of evidence supporting the example.

Paragraph 171. This contention example does not deal with "attention to details and implementation of proper review procedures" unless they can be related to time and schedule pressures. They have not been.

Example 7.

Paragraph 172. See response to paragraphs 133-37.

Paragraph 173. As stated in response to paragraph 122, all work done at Midland is "proceed-at-own-risk."<sup>437/</sup> This paragraph does not relate to the contention example. Mr. James Cook testified that there was no inconsistency between the Crosby philosophy and proof tests, because among other things Consumers Power relied on the best technical advice it could get.<sup>438/</sup>

Example 8.

Paragraph 174. This contention is not supported by the authority cited. The sentence following the one quoted reads, "The attached boring logs and locations confirm

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<sup>436/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 127-29, paragraphs 196-197; Hood, NRC Staff prepared testimony on Stamiris Contention No. 2, at pp. 7-9, following Tr. 2530.

<sup>437/</sup> Cf., discussion at Tr. 6616-18 and 6621-23; Hood, Tr. 2678-79.

<sup>438/</sup> Cook, Tr. 6631-32.

existence of the sands, although the blow counts look very good." Indeed, the blow counts were later determined to be so high that the sands were not classified as "loose."<sup>439/</sup>

Paragraph 175. No response.

Paragraph 176. The sands of the "loose sand" issue are natural sands that were found at the site and were not placed there as part of the fill.<sup>440/</sup> There is no concern with liquefaction with regard to them.<sup>441/</sup> The sands being addressed by the dewatering system are sands that were placed in the plant fill.<sup>442/</sup> The only evidence in the record demonstrates that naturally occurring "loose sands" did not contribute to the necessity for dewatering.<sup>443/</sup>

Paragraph 177. Consumers Power did not fail to remove loose sands, as there are no loose sands.

Example 10.

Paragraph 178. This paragraph argues that Consumers Power's "Motion to Defer Consideration of Seismic Issues Until the Operating License Proceeding", dated March 18, 1981, is

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<sup>439/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 133-34, paragraph 207; Keeley, prepared testimony at p. 16, following Tr. 1163; NRC Staff prepared testimony on Stamiris Contention No. 2, at p. 22, following Tr. 2530; Kane, Tr. 4364-65.

<sup>440/</sup> Kane, Tr. 4366.

<sup>441/</sup> Id.

<sup>442/</sup> Id.

<sup>443/</sup> See Consumers Power Proposed Findings of Fact and Conclusions of Law, at p. 134, paragraph 208.

an example of Consumers Power's alleged poor management attitude. Specifically, the contention alleges a tendency to "push ahead without advance acceptance criteria" because of financial and time pressures. Consumers Power's motion was denied by this Licensing Board in its Prehearing Conference Order dated May 5, 1981. As Ms. Stamiris acknowledges, the mere fact that the motion was made did not adversely affect resolution of soil settlement issues. Based on this admission alone the example should be dismissed.

Paragraphs 179-180. The seismic issues in question concerned whether a Safe Shutdown Earthquake (SSE) greater than that approved at the construction permit stage should be used in evaluating the seismic safety of the Midland facility. The NRC Staff first raised the issue in connection with their operating license review of the Midland facility.<sup>444/</sup> The NRC Staff also took the position that resolution of this question was necessary for approval of the soils settlement remedial actions. Consumers Power urged a deferral of the question until subsequent stages of the operating license proceeding, arguing that the delay resulting from hearing the seismic issues along with (or at least prior to the resolution of) the soils settlement issues would have an adverse impact on its scheduled comple-

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<sup>444/</sup> See Attachment A to Affidavit of Thiru Thiruvegam, attached to Consumers Power's Motion to Defer Consideration of Seismic Issues Until the Operating License Proceeding, dated March 18, 1981.

tion of the facility.<sup>445/</sup> Thus, Consumers Power's motion did reflect management consideration of "time and financial pressures". However, in this context, Consumers Power's candid recognition of those factors do not reflect a poor management attitude.

First, as this paragraph acknowledges, Consumers Power's exercise of its legal rights in making such a motion is not subject to Licensing Board scrutiny. Moreover, to condemn Consumers Power for seeking to have the potential costs of delay considered in determining the scope of this proceeding is contrary to public policy. Explicit instructions to minimize such delays have been issued not only by the Commission itself, but also by the President of the United States.<sup>446/</sup>

Second, this is not a case in which Consumers Power was proceeding without acceptance criteria, as Ms. Stamiris alleges. Consumers Power designed and built the plant in accordance with the seismic design basis approved by the NRC Staff at the construction permit stage. After being informed that this acceptance criterion might no longer be appropriate, Consumers Power incorporated into the design of the remedial underpinning work what it considered

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<sup>445/</sup> See Affidavit of James Cook dated March 16, 1981, attached to Applicant's Motion to Defer Consideration of Seismic Issues Until the Operating License Proceedings.

<sup>446/</sup> Weekly Compilation of Presidential Documents, Volume 17, No. 41, at p. 1102 (October 8, 1981).



to be a reasonable margin of conservatism.<sup>447/</sup> Consumers Power's position was that it should not be required to obtain advance NRC Staff approval of this new acceptance criterion, reasoning that the financial risks associated with proceeding with a reasonable margin but without advance NRC approval were outweighed by the financial penalties of delay.<sup>448/</sup> Subsequent testimony in this proceeding indicates that the margin of conservatism was in fact reasonable.<sup>449/</sup>

That there are time and financial pressures on Consumers Power's management to complete the Midland plant on schedule is undeniable. However, management actions in response to these pressures would not reflect a "poor attitude" unless they show a willingness to accept compromises in safety because of them. Consumers Power's response to the seismic question raised by the NRC Staff in this proceeding does not reflect any such intended compromise.

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<sup>447/</sup> Affidavit of Thiru Thiruvegadam dated March 6, 1981 at pp. 6-7, and Affidavit of James Cook dated March 16, 1981 at p. 4, attached to Applicant's Motion to Defer Consideration of Seismic Issues Until the Operating License Proceedings. Subsequent testimony showed this margin was achieved by multiplying FSAR SSE loads by a factor of 1.5 in designing the remedial underpinning work. Tr. 5996-5997.

<sup>448/</sup> Affidavit of James Cook dated March 16, 1981, attached to Applicant's Motion to Defer Consideration of Seismic Issues until the Operating License Proceedings.

<sup>449/</sup> There has been testimony from Applicant's expert, Dr. Robert Kennedy, that Applicant's margin of safety (1.5 x FSAR SSE loads) generally exceeds the seismic loads generated using the Site Specific Response Spectrum ultimately agreed upon by NRC Staff and Applicant as representing the maximum vibration ground motion at the site. See Tr. 5996-6005; Kimball, prepared testimony at pp. 2-3, following Tr. 4690.

Example 11.

Paragraphs 181-182. Ms. Stamiris again has attempted to alter the thrust of her original contention. Ms. Stamiris admits that she is no longer contending that financial or time schedule pressures were involved with Example 11. In light of this admission, Example 11 should be dismissed.

Example 12.

Paragraph 183. The thrust of this contention has been changed from what was originally filed. On that basis alone it should be dismissed. In any event, by stating that "it is impossible to document whether changes to design and procedural specifications, or to specified materials are due to time and financial pressures," Ms. Stamiris concedes that there is no support in the record for her contention.

Paragraph 184. This paragraph has no relevance to the contention.

Paragraph 185. This paragraph attempts to support the theory that design changes to the diesel generator building and borated water storage tank had an adverse effect on settlement with a citation to the entire 29-page NRC Inspection Report No. 78-20. It does not cite either the specific ways it was affected or a specific page in the report which might supply such an explanation. Moreover, the report does not deal with a change to the borated storage water tank foundation.

Examples 2b and 2c:

Paragraph 186. The filed contention states that material was inappropriately used because of financial and time pressures. By stating, "it is impossible to document whether the substitution of concrete for Zone II fill, as allowed by Consumers Power specifications, is a result of time and financial pressures," Ms. Stamiris concedes that there is no support in the record for the contention. It should be dismissed. Moreover, the Modification Order does not state that the substitution of concrete for Zone II fill affected the free settlement of the diesel generator building. Rather, this refers to differential settlement.

Paragraph 187. The statement that "the lack of proof that it [substitution of concrete for Zone II fill] was due to time and financial pressures" concedes that this contention should be dismissed. Further, no evidence is cited to support the allegation that this affected health and safety issues.

E. Contested Contention No. 3

(1) 3a and 3b

Paragraph 188. The assertion that Consumers Power "has not implemented its QA program regarding soils settlement issues according to CFR 50, Appendix B regulations" is a conclusory statement. No factual support in the record is cited.

Paragraph 189. Consumers Power has agreed not to contest the legal or factual basis for the Modification Order as it applied to quality assurance. Accordingly, the quality assurance deficiencies set forth in Appendix A of the Modification Order are not at issue in this proceeding. Ms. Stamiris suggests that the soils related deficiencies are ongoing in nature, referring to Part B, Items 10-12 of her proposed findings. Consumers Power has responded to Part B. To reiterate briefly, the record demonstrates that the soils related deficiencies were closed out.<sup>450/</sup>

(2) Pattern of Conduct

Paragraphs 190-91. No response.

Paragraph 192. Earlier rebar and "embeds" work, concrete and cadwelding work, and in liner plate erection matters are cited as examples of quality assurance program "breakdowns." No evidence is cited for the assertion that these deficiencies constituted quality assurance "breakdowns". The Region III Midland Summary Report of February 15, 1979, which noted the problems with rebar and embeds work, concrete and cadwelding work and liner plant erection, concluded that "the problems experienced [at Midland] are not indicative of a broad breakdown in the overall quality assurance program."<sup>451/</sup> Furthermore, as noted by the NRC Staff, "Although facts prior to December 6, 1979 can bear on future implementation

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<sup>450/</sup> See paragraphs 10-91 supra.

<sup>451/</sup> Board Exhibit No. 1(a), at pp. 1-4, 13.

of quality assurance, the evidentiary record of events since December 6, 1979 is quite complete and is far more probative with respect to the future of quality assurance implementation."<sup>452/</sup>

Ms. Stamiris characterizes problems with the heating, ventilation and air conditioning system and small bore piping as "serious QA deficiencies." These deficiencies are fully treated in Consumers Power's Proposed Findings of Fact and Conclusions of Law and in paragraph 45 above. The NRC Staff concluded that these deficiencies were isolated problems which were not indicative of a broader breakdown in the overall quality assurance program.<sup>453/</sup>

This proposed finding also raises two separate, but related, issues. First, its assertion contests the NRC Staff's conclusion that the various quality assurance deficiencies listed do not represent a broad breakdown in quality assurance at the Midland plant. This is not a new criticism and has been addressed above.<sup>454/</sup> It must be remembered that the NRC Staff, and Director Keppler in particular, provide this Licensing Board with a very valuable perspective. The construction of a nuclear plant is a multi-billion dollar project and the significance of each quality assurance

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<sup>452/</sup> NRC Staff Proposed Findings of Fact and Conclusions of Law, at p. 80.

<sup>453/</sup> Keppler, NRC Staff prepared testimony at p. 4, following Tr. 1864; Keppler, Tr. 1884-85, 2006-2007; NRC Staff Exhibit No. 1 at p. 1; Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 56-57, 169-171.

<sup>454/</sup> See supra at paragraphs 45, 49-50.



deficiency cannot be evaluated without taking into account the scope of the construction effort.

Second, unable to establish that any single event constitutes a broad quality assurance breakdown, Ms. Stamiris argues that the incidents display a pattern of conduct indicating a managerial attitude inconsistent with the regulatory requirements. The record does not support this assertion. Not only are the quality assurance deficiencies referenced by Ms. Stamiris totally dissimilar, but Ms. Stamiris fails to take into account that the regulatory environment governing construction of a nuclear plant has changed significantly over the last decade.<sup>455/</sup> Deficiencies reported in the early 1970's cannot be equated with noncompliances reported in the 1980's. Managerial attitude must be evaluated against attitudes prevailing in the industry at a particular time. Finally, while Ms. Stamiris repeatedly argues that events are not isolated and that the entire picture must be considered, she fails to acknowledge the successes of Midland's quality assurance program. Every member of the NRC Staff who testified in this proceeding agreed that there is reasonable assurance that the Midland quality assurance program is and will be properly implemented.<sup>456/</sup> They acknowledged that the adequacy of the

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<sup>455/</sup> Marguglio, prepared testimony at p. 10, following Tr. 1424.

<sup>456/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 43-44, paragraph 61.

quality assurance program itself has never been in question.<sup>457/</sup> The Staff Members affirmed that Consumers Power has kept all of its past commitments,<sup>458/</sup> and praised the dedication of Consumers Power's present management.<sup>459/</sup> When the NRC Staff brought nine of its top inspectors to Midland in May, 1981, the inspection affirmed that quality assurance implementation was adequate.<sup>460/</sup>

Paragraph 193. No response.

Paragraph 194. The evidence does not support the assertion that Consumers Power "decided to begin construction of the DGB in the face of unresolved questions about plant fill soils." Questions raised by the grade beam failure were resolved by the subsequent Bechtel investigation, which concluded that the problem was localized.<sup>461/</sup> No "significant questions" about the adequacy of soils were raised by Audit F-77-32. As noted in Consumers Power's Proposed Supplemental Findings of Fact and Conclusions of Law, Audit Report F-77-32 did not deal with actual field soil testing; it merely considered documentation.<sup>462/</sup>

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<sup>457/</sup> Id., at pp. 47-48, paragraph 66.

<sup>458/</sup> Id., at pp. 176-78, paragraphs 280-81.

<sup>459/</sup> Id., at pp. 45-47, paragraphs 62-65.

<sup>460/</sup> Id., at pp. 56-57, paragraphs 78-79.

<sup>461/</sup> Keeley, Tr. 1312, and prepared testimony at p. 5, following Tr. 1163; See also, Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 182-86.

<sup>462/</sup> Consumers Power Supplemental Proposed Findings of Fact and Conclusions of Law, at pp. 212-13.

Paragraph 195. This paragraph incorrectly states that the long-term monitoring program was not responsible for identifying the diesel generator building's excess settlement.<sup>463/</sup> As noted, it did.<sup>464/</sup>

Paragraph 196. No support is provided for the assertion that Mr. Keppler's determination that the soils deficiencies "did not represent a serious breakdown in QA" is a distortion of the facts.

Paragraph 197. It is impossible to discern the meaning of paragraph 197. The relevant time period for the statement "the NRC had not completed its investigation and had not yet determined the basic cause of the [soils] problem," is not provided. The paragraph implies that Mr. Keppler wrote the letter to Mr. Myron Cherry, dated December 14, 1978, prior to the NRC investigation into the soils problem. The NRC Staff conducted its first investigation into the diesel generator building's excess settlement on October 24-27, 1978.<sup>465/</sup> Mr. Keppler had an opportunity to review the impact of the soils quality assurance deficiencies in December, 1978, after the initial investigation was completed.<sup>466/</sup>

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<sup>463/</sup> Keppler, Tr. 2048-49; Keeley, prepared testimony at pp. 3-7, following Tr. 1163.

<sup>464/</sup> See supra at paragraph 1.

<sup>465/</sup> Stamiris Exhibit No. 3, Attachment No. 2.

<sup>466/</sup> Consumers Power Exhibit No. 5, paragraph 2; Keppler, Tr. 2030-31.

Paragraph 198. There is no support for the assertion that Mr. Keppler's statement that past problems "did not represent a serious breakdown in quality assurance" did not refer to the diesel generator building's excess soil settlement. Mr. Keppler explicitly wrote, "While some deficiencies in the implementation of the quality assurance programs have been found during construction since the cadwelding suspension in 1973, in our judgment these deficiencies were isolated rather than generic in nature, . . . and did not represent a serious breakdown in quality assurance."<sup>467/</sup> The diesel generator building's excess settlement occurred during the period of time referenced in Mr. Keppler's letter. Also, as noted immediately above, the NRC Staff conducted its first investigation into the diesel generator building's excess settlement in October, 1978. Preliminary results of the investigation were available to Mr. Keppler in December, 1978.<sup>468/</sup> Moreover, Mr. Keppler stated during this proceeding that he had not forgotten his commitment to take strong enforcement action should a serious breakdown in quality assurance occur.<sup>469/</sup> Mr. Keppler did not take such action at that time.

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<sup>467/</sup> Consumers Power Exhibit No. 5, paragraph 2.

<sup>468/</sup> Id.

<sup>469/</sup> Id.

(3) NRC Inspection Report No. 81-01: 1980 Audit Findings

Paragraph 199. This paragraph contends that Mr. Gallagher's assessment of the "1980 audit findings" was based on "a cursory review of documents he was unfamiliar with." The quoted language does not appear anywhere in the record. The transcript shows that Ms. Stamiris inquired whether Mr. Gallagher had seen the nonconformance report referenced on page 9 of NRC Inspection Report No. 81-01 (Nonconformance Report 3041).<sup>470/</sup> Mr. Gallagher responded that he had in fact seen Nonconformance Report 3041. Further, he testified that the soils testing related nonconformances, including those noted in the other audit reports referenced in this paragraph, were not a repetition of past soil problems.<sup>471/</sup> No citation to the record is provided as support for the statement that Mr. Gallagher "later admitted some portions of the findings were similar to those in the past." Finally, Mr. Gallagher conducted an extensive geotechnical inspection in May, 1981, before testifying in this proceeding that he was now satisfied with Consumers Power's soils testing procedures.<sup>472/</sup>

(4) SALP Appraisals

The assertion that Mr. Marguglio's statement that the "Zack inspector had not informed either CPC or Bechtel

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<sup>470/</sup> Gallagher, Tr. 2447.

<sup>471/</sup> Id., Tr. 2447-48.

<sup>472/</sup> Id., Tr. 2574-75, 2594.



prior to contacting the NRC is unsupported in the record" is incorrect. Witnesses' statements under oath, as well as their prepared testimony and any exhibits successfully introduced into evidence, comprise the evidentiary record for this proceeding. Mr. Marguglio's uncontradicted testimony that the Zack quality control inspector contacted the NRC Staff without informing either Consumers Power or Bechtel is itself part of this proceeding's evidentiary record.<sup>473/</sup>

(5) Past Commitments and Management Attitude

Paragraphs 200-204b. Paragraphs 200-204b challenge Consumers Power's management attitude by asserting a "pattern of frequency" of improper quality assurance implementation in past quality assurance deficiencies. As noted above, the evidentiary record of this proceeding, recounting events since issuance of the Modification Order, is quite complete and far more probative with respect to the future implementation of quality assurance than the facts which occurred prior to the Modification Order.<sup>474/</sup>

Nonetheless, this proceeding's limited record on past quality assurance deficiencies demonstrates that Consumers Power has kept its promises concerning improvements in quality assurance.<sup>475/</sup> In Appeal Board decision ALAB-106, certain reporting requirements concerning quality assurance

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<sup>473/</sup> Marguglio, Tr. 1481.

<sup>474/</sup> See supra at paragraph 192.

<sup>475/</sup> See generally Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 176-178.

matters were required of Consumers Power.<sup>476/</sup> Consumers Power has kept these commitments.<sup>477/</sup>

In 1974, the Atomic Energy Commission (NRC) held a show-cause hearing concerning quality assurance problems involving cadwelding activity.<sup>478/</sup> At the hearing, Consumers Power made certain commitments to insure that the Project would continue to be built with reasonable assurance to the public health and safety.<sup>479/</sup> Consumers Power has also kept these commitments.<sup>480/</sup>

Mr. Keppler testified during the 1974 cadwelding hearing that he had noted a positive change in Consumers Power's management's attitude.<sup>481/</sup> During the current proceeding, Mr. Keppler noted that there has not been a substantial change in Consumers Power management's attitude because Consumers Power management's attitude towards quality assurance has been consistently good.<sup>482/</sup>

Paragraph 201. This paragraph inaccurately portrays the circumstances surrounding many of the deficiencies

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<sup>476/</sup> Consumers Power Company (Midland Plant, Units 1 and 2), ALAB-106, 6 AEC 182 (1973).

<sup>477/</sup> Keppler, Tr. 1918, 2022, 2026-27.

<sup>478/</sup> Consumers Power Company (Midland Plant, Units 1 and 2), LBP-74-71, 8 AEC 584 (1974).

<sup>479/</sup> Howell, Tr. 2808.

<sup>480/</sup> Id., Tr. 2807; Keppler, Tr. 1918.

<sup>481/</sup> Keppler, Tr. 1918.

<sup>482/</sup> Id., Tr. 1918, 2022; See Consumers Power Proposed Findings of Fact and Conclusions of Law, at p. 178.

referenced in paragraphs 200-204b. For example, paragraph 201 states that quality assurance engineers reported to a project engineer who held cost/schedule responsibilities. If true, this situation would violate 10 CFR 50, Appendix B. It is not true. The quality assurance engineers were entirely independent of the Project Supervisor and all other officials having immediate responsibility for the cost and scheduling aspects of the plant's construction.<sup>483/</sup>

Paragraph 202. Paragraph 202 improperly quotes language from a letter which was never introduced into evidence in this proceeding.

Paragraph 204b. Also paragraph 204b characterizes the Zack deficiencies as a "breakdown" and references the small bore pipe errors to minimize the value of Consumers Power's past quality assurance program improvements. These deficiencies are fully treated in Consumers Power Proposed Findings of Fact and Conclusions of Law<sup>484/</sup> and in paragraphs 45 and 50 above. To reiterate briefly, the NRC Staff concluded that these deficiencies were not indicative of a broader breakdown in the overall quality assurance program.<sup>485/</sup>

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<sup>483/</sup> Consumers Power Company (Midland Plant, Units 1 and 2) ALAB-147, 6 AEC 636, 637-40 (1973).

<sup>484/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law at pp. 57, 169-71.

<sup>485/</sup> Keppler, NRC Staff prepared testimony at p. 4, following Tr. 1864; Keppler, Tr. 1884-85, 2006-2007; NRC Staff Exhibit No. 1.

(6) Contention 3c

Paragraph 205. See Consumers Power Reply to Stamiris Proposed Supplemental Findings of Fact and Conclusions of Law, at paragraphs 38-39.

Paragraphs 206-207. Consumers Power's investigation into the administration building grade beam settlement was extensively discussed in Consumers Power Proposed Findings of Fact and Conclusions of Law.<sup>486/</sup> Ms. Stamiris states that Mr. Gallagher agreed that it would have been fortuitous for a single boring in a given area to determine that there was not a soils problem in that area. She also cites testimony that Consumers Power's investigation was insufficient to determine if the soils problem was localized. Ms. Stamiris fails to note, however, that Mr. Gallagher admitted that he was making such statements with the benefit of hindsight.<sup>487/</sup>

Paragraphs 208-210. The NRC Staff, in hindsight, was not in agreement as to whether the administrative building grade beam investigation was adequate. Mr. Kane testified that the unique re-excavation and re-fill under the grade beam could have indicated that the soils problem was localized.<sup>488/</sup> Contrary to the assertion in paragraph 209, Mr. Kane's statement that he could have concluded the soils problem was localized was not based solely on the grade beam settlement.

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<sup>486/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 91-98, 182-86.

<sup>487/</sup> Gallagher, Tr. 2569-70.

<sup>488/</sup> Kane, Tr. 4300-4301.

Mr. Kane testified that the blow counts recorded during the grade beam boring investigation indicated competent soils material.<sup>489/</sup>

Paragraph 211. This paragraph implies that "extensive audit findings" had been known "prior to DGB construction." She provides no authority for this statement. Prior to the diesel generator building construction, Audit Report F-77-32 did identify problems with soils tests documentation.<sup>490/</sup> However, as Mr. Donald Horn testified, the audit findings, because they pertained to documentation problems did not indicate a connection with the administration building grade beam failure.<sup>491/</sup>

The purpose of the quotation from Mr. Bird's testimony is unclear. It may have been cited to imply that Bechtel's investigation of the grade beam settlement was inadequate and unprofessional. First, it should again be noted that Consumers Power has agreed not to contest the NRC Staff's conclusion that the quality assurance deficiencies predating the Modification Order constituted a "breakdown" of the quality assurance program. The administration building's grade beam settlement and the construction of the diesel generator building occurred prior to December 6, 1979.

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<sup>489/</sup> Id., Tr. 4302-4303.

<sup>490/</sup> Consumers Power Supplemental Proposed Findings of Fact and Conclusion of Law, at pp. 213-15; Horn, Tr. 7961-64.

<sup>491/</sup> Id.; Board Exhibit No. 3, sections I and IV.



Second, contrary to the assertion, the record shows that the investigation concentrated on the causes of the grade beam failure. The investigation considered the plant-wide implications of the causes it identified. It is clear, even in hindsight, that there was no myopic concentration of the investigation on grade beams alone.<sup>492/</sup>

Paragraph 212. This paragraph references testimony concerning quality assurance deficiencies which occurred prior to the NRC Staff's issuance of the Modification Order. Consumers Power has agreed not to contest the NRC Staff's conclusion that the soils-related quality assurance deficiencies which occurred before December 6, 1979 constituted a breakdown in the quality assurance program. The record shows that Consumers Power has taken corrective actions to remedy the soils testing deficiencies. Mr. Gallagher is now satisfied with Consumers Power's and U.S. Testing's soils testing procedures.<sup>493/</sup>

Paragraph 213. This paragraph asserts that soils quality assurance problems similar to those existing prior to December, 1979 occurred subsequent to that date. When compared to the evidence in the record, this assertion is incorrect. Mr. Gallagher testified that the soils testing deficiencies referenced by Ms. Stamiris and identified in NRC Inspection Report No. 81-01 and Audit Report 18.4.3.6

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<sup>492/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 91-98, 182-86.

<sup>493/</sup> Gallagher, Tr. 2475-75, 2594.

were not a repetition of past soils problems.<sup>494/</sup> Indeed, the specific conditions relied on in the paragraph were identified in an audit. As such, corrective action had to be taken to immediately close out and remedy the conditions identified after they occurred. The geotechnical engineer whose qualifications the NRC Staff questioned was onsite at Midland only from sometime during December, 1980 until January 10, 1982.<sup>495/</sup>

Paragraph 214. This paragraph incorrectly states that the proof-test approach failed "in the case of the DGB settlement, and the BWST settlement . . . ." The proof test approach was the remedial approach used to rectify the diesel generator building's excess settlement, and was not used during the placement of the soils material.<sup>496/</sup> The proof test used to observe the borated water storage tank showed that the soils beneath the tank were good.<sup>497/</sup> The adequacy of Consumers Power's soils remedial actions will be the subject of future evidentiary hearings to be held in this proceeding.

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<sup>494/</sup> Id., Tr. 2448.

<sup>495/</sup> Gallagher, Tr. 1836 and NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 4 at p. 10, following Tr. 1723.

<sup>496/</sup> Cook, Tr. 6631-32.

<sup>497/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 83-86, paragraphs 115-116; Hood, Tr. 2716-18.

(7) Stamiris Response to Interrogatory 3A

Paragraph 215. Ms. Stamiris' response to Interrogatory 3A alleges that Consumers Power has failed to avoid undue cost/schedule influence. As fully elaborated in Consumers Power's Proposed Findings, there is no evidence that cost and schedule considerations have impacted upon the quality assurance program, its implementation or any of the deficiencies identified in Consumers Power's reponse to 10 CFR §50.54(f) Question 23.<sup>498/</sup> It is also implied that Consumers Power has not assumed its responsibility in overseeing quality assurance. In light of the extensive evidence presented concerning Consumers Power's direction of the MPQAD and the effectiveness of the MPQAD, this accusation is unwarranted.

Paragraph 216. This paragraph attempts to cast doubt upon the acceptability of Mr. Cook's cost and scheduling responsibilities. The reporting procedure whereby the department responsible for quality assurance at the Midland Project, MPQAD, reports directly to Mr. Cook has been determined to be in compliance with the NRC requirements set forth in 10 CFR Part 50 Appendix B.<sup>499/</sup>

Paragraph 217. No factual support has been provided for the statement that Consumers Power failed to meet its

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<sup>498/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 187-88, paragraphs 295-97.

<sup>499/</sup> Keppler, Tr. 2053-54.

responsibilities in regard to the quality assurance organization or have acted in response to undue cost and schedule influences.

(8) Management Attitude Contentions 1, 2 and 3

Paragraph 218. This paragraph mistakenly asserts that NRC Inspection Report No. 80-32 identified the lack of "attention to detail," similar to that which she alleges caused the soils settlement problems, "as a significant contributor to the FSAR re-review problems . . . ." In fact, the language in NRC Inspection Report No. 80-32 reads, "Overall, the personnel contacted [by the NRC Staff] conveyed their QA knowledge and their sincerity and dedication towards performing the [FSAR re-review] activities described above. However, as a result of the findings identified during this inspection, it is clear that more emphasis must be placed on the attention to detail in the preparation and review of documents."<sup>500/</sup> This language does not support the assertion that the procedural irregularity in the re-review process resulted from conditions similar to those involved in the diesel generator building's settlement.

It is also implied that the NRC Staff's distinction regarding quality assurance implementation before and after issuance of the Modification Order was due to the Quality Assurance stipulation. This is not accurate. Mr.

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<sup>500/</sup> NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 3, at p. 10, following Tr. 1754.

Gilray testified that the delineation of time periods used for comparison by the NRC Staff was partially chosen as the basis of the Quality Assurance stipulation. However, he further testified that he had investigated quality assurance activities from both before and after issuance of the Modification Order, and that he had concluded that the implementation of quality assurance had improved and was now adequate.<sup>501/</sup>

Paragraph 219. This paragraph implies that there was not a qualified geotechnical engineer on the Midland site during 1981. This is not an accurate representation of the deviation reported in NRC Inspection Report No. 81-01. In 1979, the NRC Staff accepted the onsite geotechnical engineer who had been at Midland since April of that year, as adequately qualified.<sup>502/</sup> In December, 1980, that engineer left the Midland Project and was replaced. Consumers Power and Bechtel believed this second individual was qualified for the geotechnical engineering position.<sup>503/</sup> The deviation reported in NRC Inspection Report No. 81-01 in January, 1981 concerned the second engineer's qualifications in January, 1981. Thereafter, the second engineer was replaced by someone whose qualifications satisfied the NRC Staff.<sup>504/</sup>

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<sup>501/</sup> Gilray, Tr. 3869.

<sup>502/</sup> Gallagher, Tr. 1836.

<sup>503/</sup> Keeley, Tr. 1326.

<sup>504/</sup> Id., Tr. 1327, 1396-1400.



It is also suggested that Consumers Power managerial attitude is amiss because Consumers Power acceded to the NRC Staff in replacing the engineer. This, of course, is contrary to previous positions taken in alleging that Consumers Power exhibits poor managerial attitude when it opposes an NRC Staff request.<sup>505/</sup> The suggestion exposes the unfairness of all the contentions and proposed findings Ms. Stamiris has submitted; anything Consumers Power has done is interpreted in the most negative manner.

Paragraph 220. This paragraph quotes Mr. Gilray's testimony in order to challenge what is characterized as Consumers Power's contention that "there has been no attempt to hide or camouflage problems." Contrary to this assertion, however, Mr. Gilray was not testifying on the subject of Consumers Power's soils corrective actions and management attitude. Rather, Mr. Gilray was responding to the Licensing Board's inquiry as to his reaction to the testimony presented during this proceeding on the MAC Report. Mr. Gilray explicitly recognized that it was difficult to appraise this information because it was presented in a hearing environment.<sup>506/</sup>

F. Licensing Board Findings As to Managerial Attitude and QA Reasonable Assurance

Paragraph 221. The allegations in this paragraph have no factual support in the record. The statement that

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<sup>505/</sup> See, e.g., Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 65-68, paragraphs 91-94.

<sup>506/</sup> Gilray, Tr. 5318-5320.

"long standing weaknesses . . . remain unresolved such as untimely corrective actions and insensitivity to root causes and generic implications" has been rebutted by the testimony of the NRC Staff and Consumers Power witnesses.

Paragraph 222. No response.

Paragraph 223. It is clear, at least through the supplemental hearings held on the question, that the MPQAD organizational changes are important to the Licensing Board. The evidence has shown that the changes in the MPQAD, both in 1980 and in 1982, operated to strengthen the Project. Ms. Stamiris also states in this paragraph that the "organizational" change has not been at issue. This contradicts her statements in paragraph 215 and her Response to Interrogatory 3A.

Paragraph 224. No response.

Paragraph 225. There is no support in the record for the assertion in this paragraph.<sup>507/</sup>

Paragraph 226. The Stamiris' bald assertion that the results of "the 1980 and 1981 NRC inspections contravene the testimony of NRC witnesses that QA has improved" has no factual support in the record.

Paragraph 227. This paragraph argues that the procedural irregularity in the FSAR re-review noted in NRC Inspection Report No. 80-32 was similar to the problems which resulted in the inconsistencies identified in NRC

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507/ See supra at paragraphs 212-13.

Inspection Report No. 78-20. For the reasons identified above,<sup>508/</sup> this statement is untrue.

Paragraphs 228-29. Mr. Gallagher testified that the soils testing irregularities identified in the NRC Inspection conducted in January, 1981 were not a repetition of past soils problems.<sup>509/</sup>

Paragraph 230. The assertion that Consumers Power failed to take corrective actions to remedy the procedural irregularity which it discovered in the FSAR re-review effort was answered above and in Consumers Power Proposed Findings of Fact and Conclusions of Law.<sup>510/</sup>

Paragraph 231. The statements concerning Consumers Power's corrective actions in response to the findings of NRC Inspection Report No. 81-01 and an MPQAD audit in July, 1980 are unsupported by the record. Not one witness, from Consumers Power or the NRC Staff, questioned the adequacy of the corrective actions. On the contrary, Mr. Gallagher said he is satisfied with the procedures now in place.<sup>511/</sup>

Paragraphs 232-236. The results of NRC Inspection Report No. 81-12 are addressed in earlier sections of this response.<sup>512/</sup> Inspection Report No. 81-12 is referenced to

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<sup>508/</sup> See paragraph 60, supra.

<sup>509/</sup> Gallagher, Tr. 2448; see also paragraphs 212-13 supra.

<sup>510/</sup> See paragraph 78, supra; Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 162-66, paragraphs 259-67.

<sup>511/</sup> Gallagher, Tr. 2594.

<sup>512/</sup> See paragraphs 16, 18, 70, 73-74, 81-83, supra.

support her assertion that there have been no "improvements in QA. implementation as a result of the organizational or programmatic revisions CP has instituted since the soil settlement issues arose." It does not. NRC Inspection Report No. 81-12 concluded that the deficiencies identified during the inspection were isolated and not sufficiently serious to contravene the NRC Staff's conclusion that Consumers Power has established an effective organization for the management of construction and implementation of quality assurance at the Midland site.<sup>513/</sup>

The characterizations of the various findings in NRC Inspection Report No. 81-12 are inaccurate and out of context. The five items on dewatering noted in paragraph 232 were not "unresolved findings" as claimed. They were simply concerns of the Region III inspection team which were left open pending Consumers Power's response.<sup>514/</sup> Also with reference to a deficiency identified in the electrical area, paragraph 233 states that the NRC Staff considered this an "inability to identify root cause relationships." No such statement or implication was made in that section<sup>515/</sup> of NRC Inspection Report No. 81-12. Paragraph 235 states that NRC Inspection Report No. 81-12 identified procedural irregularities similar to those cited in the Modification Order. No support

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<sup>513/</sup> NRC Staff Exhibit No. 1, at p. 1; Keppler, NRC Staff prepared testimony at pp. 5-8, following Tr. 1864; Keppler, Tr. 1884-85.

<sup>514/</sup> NRC Staff Exhibit No. 1, at p. 21.

<sup>515/</sup> Id., at pp. 24, 28.

or rationale for the statement is provided. These inaccuracies make the conclusion in paragraph 236 -- that there has been no improvement in quality assurance implementation -- untenable.

Paragraph 237. This paragraph implies that Consumers Power failed to take corrective actions concerning quality assurance weaknesses identified in the MAC Audit. This is incorrect. Mr. Bird testified as to the measures taken by Consumers Power both before and after the MAC audit to improve the timeliness of corrective actions.<sup>516/</sup> The paragraph also inaccurately asserts that the NRC Staff somehow attributed "untimely corrective actions to qualifications of QA, QC personnel . . . ." No citation to the record is provided for this statement.

Paragraph 238. The assertion that the Consumers Power and NRC Staff witnesses did not provide examples to support their testimony that Consumers Power's managerial attitude has improved and has been answered above.<sup>517/</sup>

To reiterate briefly, Consumers Power's improved managerial attitude was illustrated during this proceeding with the following examples, among others: (1) the reorganization of the Midland Project organization;<sup>518/</sup> (2) the restructuring of the Midland Project's quality assurance department to integrate the Consumers Power and Bechtel

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<sup>516/</sup> Bird, Tr. 5119-5200.

<sup>517/</sup> See, e.g., paragraphs 46, 48, 74, supra.

<sup>518/</sup> Howell, prepared testimony at p. 13, following Tr. 2802.



quality assurance organizations into a single entity;<sup>519/</sup>  
(3) the various improvements in Quality Assurance implementation detailed in Consumers Power's Response to 10 CFR 50.54(f) Questions 1 and 23 such as the FSAR re-review;<sup>520/</sup> (4) the hiring of Philip Crosby and Associates;<sup>521/</sup> (5) the appointments of Messrs. Cook and Rutgers;<sup>522/</sup> (6) the involvement of Consumers Power's Chief Executive Officer, John Selby;<sup>523/</sup> and (7) the improved relationship between the NRC Staff and senior officials at both Bechtel and Consumers Power.<sup>524/</sup>

Further evidence presented included extensive NRC Staff testimony on the issue of quality assurance implementation since the issuance of the Modification Order. The NRC Staff conducted three inspections concerning quality assurance and soils matters subsequent to issuance of the Modification Order. NRC Staff officials testified and were subject to exhaustive examination by all parties, including Ms. Stamiris, with respect to the sum and substance of each inspection.<sup>525/</sup>

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<sup>519/</sup> Cook, prepared testimony at p. 8, following Tr. 1693; Marguglio, prepared testimony at pp. 8-9, following Tr. 1424.

<sup>520/</sup> Marguglio, prepared testimony, Attachment No. 10 at pp. 23-6 to 23-7, following Tr. 1501.

<sup>521/</sup> Gilray, Tr. 3712-16.

<sup>522/</sup> Id., Tr. 3717, 3875-76, 3790.

<sup>523/</sup> Id.

<sup>524/</sup> Id., Tr. 3754.

<sup>525/</sup> See, e.g., Gallagher, NRC Staff prepared testimony on Stamiris Contention No. 3, Attachment No. 3, following Tr. 1754; NRC Staff Exhibit No. 1; Gilray, Tr. 3742-45, 3787-88; Gallagher, Tr. 2359-64, 2427-29, 2438-39; Williams, Tr. 2212, 2227, 2235-36, 3027-28; Landsman, Tr. 4848-4852; Keppler, Tr. 1884-85, 2076-84.

Paragraph 239. The allegation that Consumers Power has "pushed ahead without proper assurances" has been dealt with in detail in Consumers Power's Proposed Findings of Fact and Conclusions of Law. However, it may be important to note further that Ms. Stamiris has never defined what "proper" assurance is. A review of the record will demonstrate that there is no evidence that Consumers Power ever undertook an action to which the NRC expressed disapproval beforehand.

Paragraph 240. Here, the proof test approach used to place the surcharge is mistakenly equated with Consumers Power's recognition that it was proceeding with the surcharge remedy at its own risk. With respect to the latter, Consumers Power knew at the time it chose to proceed with the surcharge that the NRC Staff had not committed itself to accepting either the remedy chosen or its results.<sup>526/</sup>

Paragraph 241. Consumers Power did not fail to provide acceptance criteria "to themselves" prior to placement of the surcharge. First, the evidence shows that the consultants who had extensive experience with preloading were fully cognizant of the projected reactions of the building to the preload. Their past experience thus gave them "acceptance" criteria.<sup>527/</sup> Second, in using this "observational method" or "proof-test" approach, the actual

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<sup>526/</sup> Hood, Tr. 2679-80.

<sup>527/</sup> Hendron, Tr. 4050-53; Peck, Tr. 3212-15.

information concerning the success of the surcharge was developed during the course of the surcharge program.<sup>528/</sup> Verification of the success of the surcharge could only be obtained by observation after the surcharge was removed.<sup>529/</sup> This was also a part of the acceptance criteria. In addition, although it is stated that construction proceeded "in the face of unresolved questions," these questions are never identified.

Paragraph 242. The assertion that Consumers Power commenced construction of the diesel generator building despite unresolved questions concerning the administration building grade beam settlement is dealt with in response to paragraph 194. As that notes, at the time the construction of the diesel generator building was begun, there were no unresolved questions regarding the grade beam settlement.

Paragraph 243. This paragraph asserts that a "proceed-at-own-risk approach" is indicative of a managerial attitude "unconservative" in economy and safety. First, as the NRC Staff noted, the "proceed-at-own-risk" approach is inherent in the NRC regulatory process.<sup>530/</sup> Second, Ms. Stamiris has yet to identify one adverse safety consequence of the use of preload.

Paragraph 244. As noted above, the "observational" or "proof-test" approach concerned the scientific method

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<sup>528/</sup> Hood, Tr. 2679-80.

<sup>529/</sup> See pp. 106-07, paragraph 141, supra.

<sup>530/</sup> See discussion at Tr. 6616.

used to verify the results of the preload program. It is entirely unrelated to procedures designed to prevent construction errors.<sup>531/</sup>

Paragraph 245. Consumers Power Proposed Findings of Fact and Conclusions of Law at paragraphs 140-236 address Ms. Stamiris' Contention No. 2 and her assertion that financial and scheduling pressures adversely affected resolution of soils settlement issues and have led to the compromising of NRC health and safety regulations.<sup>532/</sup> Earlier sections of this response have dealt with Ms. Stamiris' specific proposed findings concerning this issue.<sup>533/</sup>

Paragraph 246. Ms. Stamiris' ultimate conclusion -- that the evidence does not support a finding of reasonable assurance -- is contradicted by both the NRC Staff and Consumers Power Proposed Findings of Fact and Conclusions of Law.

Paragraph 247. The allegations in this paragraph have been addressed in Consumers Power's Proposed Findings of Fact and Conclusions of Law at paragraphs 168-70.<sup>534/</sup>

Paragraph 248. As noted before, at minimum, the evidence shows that Consumers Power has effective control of

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<sup>531/</sup> See paragraphs 117 and 126, supra.

<sup>532/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 102-144.

<sup>533/</sup> See pp. 141-42, at paragraphs 215-17, supra.

<sup>534/</sup> Consumers Power Proposed Findings of Fact and Conclusions of Law, at pp. 114-15.

the quality assurance program and maintains it independently of cost and schedule considerations.

Paragraph 249. The FSAR is not used as the controlling design document during construction.<sup>535/</sup> The fact that the FSAR must be revised to reflect the plant's actual construction does not indicate that the plant's design is different from the concept which was the basis for the issuance of the construction permit.

Paragraph 250. No response.

Paragraph 251. Ms. Stamiris proposes that the Licensing Board order the NRC Staff to accept "no compromise" to the original PSAR "compaction or other construction requirements." She fails to define compromise. If "no compromise" is equated with literal adherence to the PSAR data, the proposal misperceives the NRC construction and licensing process. A nuclear plant, when finished, must have been built according to its specifications, of course. However, safety and logic demand that if circumstances arise during construction which indicate a way to construct the plant preferable to those discussed in the PSAR, the preferable method should be adopted. This is in fact what happens on a regular basis: improved techniques, changed specifications and remedial measures alter the original design of the plant, and are incorporated into the FSAR.<sup>536/</sup> Thus, the

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<sup>535/</sup> Landsman, Tr. 4916-4918.

<sup>536/</sup> See, e.g., Hood, Tr. 2665-67; Keppler, Tr. 2085.



Licensing Board should not bind Midland to the rigid commitment proposed by Ms. Stamiris.

Paragraphs 252-253. In these paragraphs Ms. Stamiris suggests that health and safety commitments should be given precedence over financial considerations. Consumers Power has never suggested less. The NRC Staff must always base their judgment on the pure technical and scientific merits of a proposal. That is not to say that when safety is not at issue, financial considerations cannot be weighed.

## II. Conclusions of Law.

Paragraph 254A. Consumers Power does not contest the Modification Order as it pertains to quality assurance.

Paragraph 254B. In the entirety of Ms. Stamiris' findings there is no evidence that the implementation of Consumers Power's quality assurance program is not in compliance with 10 CFR Part 50 Appendix B requirements.

Paragraph 254C. The evidence demonstrates that Consumers Power's management attitude and actions also afford reasonable assurance that the quality assurance and quality control programs will be appropriately implemented with respect to soils remedial actions.

Paragraph 254D. The evidence shows that Consumers Power has met all the commitments made in past proceedings.

Paragraph 254E. Although through the stipulation there is an adequate basis for its issuance, the Modification

Order should not be sustained as it relates to the suspension of work at Midland.

III. Order

Since there is reasonable assurance, there is no need to suspend work at the site.

Appendix A

INDEX OF EXHIBITS

A. Licensing Board

Exhibit No. 1(a): Memorandum from Keppler to Thornburg,  
dated 2/15/79.

Exhibit No. 3: Audit Report F-77-32 regarding October  
3-7, 1981 audit of soils placement records.

B. Consumers Power

Exhibit No. 2: Letter from Keppler to Cook, dated  
1/12/81, transmitting NRC Inspection Report Nos.  
80-10 and 80-11 regarding Zack allegations.

Exhibit No. 3: Letter from Cook to Stello, dated  
1/30/81, responding to Zack allegations.

Exhibit No. 5: Letter from Keppler to Cherry, dated  
12/14/81.

Exhibit No. 6: Letter from Keppler to Cook, dated  
12/18/80, transmitting NRC Inspection Report Nos.  
80-35 and 80-36 regarding regional SALP evaluation.

Exhibit No. 14: Letter from Cook to Keppler, dated  
2/9/81, responding to 1/12/81 letter transmitting  
NRC Inspection Report Nos. 80-32 and 80-33.

C. NRC Staff

Exhibit No. 1: Letter from Keppler to Cook, dated  
7/13/81, transmitting NRC Inspection Report No.  
81-12 regarding NRC Staff May, 1981 assessment  
of MPQAD.

Exhibit No. 4: MAC Final Report, dated 5/27/81.

D. Intervenor Stamiris

Exhibit No. 1: Memo prepared by Keeley and T. Cooke,  
dated 12/4/78, regarding diesel generator building  
settlement meeting on 11/2/78.

Exhibit No. 2: Audit Finding Report, dated 7/9/80.

Exhibit No. 3: NRC Staff Testimony of Eugene J. Gallagher with Respect to Quality Assurance Implementation Prior to December 6, 1979.

Exhibit No. 3, Attachment No. 2: NRC Inspection Report No. 78-12, dated 11/17/79.

Exhibit No. 6: Meeting notes prepared by Afifi regarding 9/28/78 meeting on settlement of structures.

Exhibit No. 7: Meeting Notes prepared by B. Dhar, regarding diesel generator building settlement meeting on 12/4/78.

Exhibit No. 8: Meeting notes prepared by Dunnicliff (Soil & Rock Instrumentation), dated 11/1/78, regarding 10/18/78 meeting on diesel generator building instrumentation.

Exhibit No. 10: Memo from Marshal (Bechtel) to Afifi, dated 11/6/78, regarding 10/18/78 meeting and planned diesel generator building surcharge instrumentation. [Not in evidence].

Exhibit No. 13: Letter from Martinez (Bechtel) to Keeley, dated 11/1/78, confirming 10/25/78 meeting regarding work on diesel generator building.

Exhibit No. 16: Handwritten notes regarding meeting in Champaign on 11/6/78. [Not in evidence].

Exhibit No. 17: Consumers Power Response to 10 CFR §50.54(f) Question 21 regarding diesel generator building preload.

Exhibit No. 18: Memo prepared by Peck, dated 12/15/78, regarding 12/8/78 meeting of consultants on surcharge program.

Exhibit No. 22: Letter from Hendron to Afifi, dated 11/17/78, summarizing 11/7/78 meeting in Champaign.

Exhibit No. 29: Report from Rutgers (Bechtel) to Cooke, dated 9/1/81, regarding MCAR 24 Final Report on diesel generator building settlement.

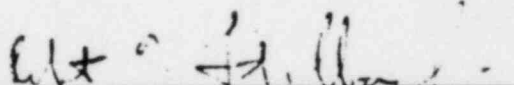
UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	Docket Nos. 50-329-OM
CONSUMERS POWER COMPANY	)	50-330-OM
	)	50-329-OL
(Midland Plant, Units 1	)	50-330-OL
and 2)	)	

CERTIFICATE OF SERVICE

I, Robert G. Fitzgibbons, Jr., one of the attorneys for Consumers Power Company, hereby certify that a copy of "Consumers Power Company's Response to Stamiris Proposed Findings of Fact and Law for Partial Decision on Quality Assurance and Management Attitude Issues" was served upon all persons shown in the attached service list by deposit in the United States mail, first class, this 26th day of April, 1982.

  
Robert G. Fitzgibbons, Jr.

SUBSCRIBED AND SWORN before  
me this 26 day of April,  
1982.

  
Notary Public



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