



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

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Government Accountability Project  
Institute for Policy Studies  
ATTN: Ms. Billie P. Garde  
Director  
Citizens Clinic for  
Accountable Government  
1901 Que Street, N. W.  
Washington, D. C. 20009

Dear Ms. Garde:

This is in reply to your October 5, 1982 letter concerning the Midland Nuclear Power Plant construction site. I suspect that our letters crossed in the mail and that my October 12, 1982 letter to you may already have responded to some of your questions and comments. I would also note that the Supplemental Safety Evaluation Report on Midland was issued in early October, and it essentially approves the licensee's remedial soils program.

Two points made in your letter, however, need a specific response -- the issue of "open meetings" on Midland project matters and the assessment of the adequacy of the Midland quality assurance program.

First, the open meetings. It is my basic position that meetings with the licensee concerning SALP findings and the adequacy of the quality assurance program be held in public. I have not "discarded" that position, as you suggest. I would note that Commission policy does not dictate that all meetings conducted by the staff be open; it is my practice, however, that most meetings be public.

The meetings with the Chairman of Consumers Power Company were, I believe, valid exceptions to my basic "open meetings" policy. The purpose of the meetings was to seek top management involvement in the Midland project -- and to assure that Messrs. Selby and Cook were fully aware of the scope of NRC concerns about the quality assurance program at Midland. Frankly, such a meeting could not be effective with a large number of attendees. I therefore restricted the attendance of my own staff, as well as additional licensee representatives and members of the public. In my view, the regulatory interests of the NRC and the interests of the public were best served by this meeting format.

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The second issue in your letter that I want to address is the quality assurance program. By now, you may have seen the Region III testimony for the Midland hearing. If not, I am enclosing the QA-related testimony (excluding the somewhat lengthy enclosures).


The point I want to make is that quality assurance is not a static program. Construction continues at Midland, and I must assure that there is an adequate quality assurance program to cover that work. If I become convinced that the quality assurance system is incapable of monitoring construction, clearly I would move to stop construction until the quality assurance system reaches acceptable competence.

Over the years there have been lapses in the quality assurance program -- not of sufficient seriousness for the NRC to halt all construction, but still requiring some modification in the program. We at the NRC must continue to review the quality assurance activities and to require changes when needed.

Our concern at this point is the implementation of the QA program. The basic program is considered adequate. Contrary to your assertion, we have not turned away from the issue of implementation. That remains in focus in our inspection activities and our meetings with the licensee.

I hope this discussion addresses your concerns and interests with the Midland project.

Sincerely,

  
James G. Keppler  
Regional Administrator

Enclosure: As stated

10/29/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

CONSUMERS POWER COMPANY

(Midland Plant, Units 1 and 2)

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Docket Nos. 50-329 OM & OL  
50-330 OM & OL

TESTIMONY OF JAMES G. KEPPLER  
WITH RESPECT TO QUALITY ASSURANCE

Q.1 Please state your name and position.

A.1 My name is James G. Keppler. I am the Regional Administrator of the NRC's Region III office. My professional qualifications have been previously submitted in this proceeding.

Q.2 Please state the purpose of your testimony.

A.2 In my testimony to the Board in July 1981, I testified on the more significant quality assurance problems that had been experienced in connection with the Midland project and the corrective actions taken by Consumers Power Company and its contractors. I stated that, while many significant quality assurance deficiencies have been identified, it was our conclusion that the problems experienced were not indicative of a breakdown in the implementation of the overall quality assurance program. I also noted that while deficiencies have occurred which should have been identified earlier, the licensee's QA program had been effective in the ultimate identification and subsequent correction of these deficiencies. Furthermore, I discussed the results of Region III's special quality

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assurance inspection of May 18-22, 1981, which reflected favorably on the effectiveness of the Midland Project Quality Assurance Department, which was implemented in August 1980. The thrust of my testimony was that I had confidence that the licensee's QA program both for the remedial soils work and for the remainder of construction would be implemented effectively.

It was not until April 1982 that I was made aware of additional problems with the effectiveness of implementation of the QA program. The problems came to my attention as a result of the April 1982 meeting between NRC and Consumers Power Company to discuss the Systematic Assessment of Licensee Performance (SALP) report for Midland and the discussions held within the Staff in preparation for that meeting. The SALP report addressed the Midland site activities for the period July 1, 1980 through June 30, 1981. During this period, the soils work activities were rated Category III, the lowest acceptable rating given by the SALP review process.

During the April 1982 public meeting on the SALP findings, Mr. Ronald J. Cook, NRC Senior Resident Inspector at Midland, stated that as of that date he would rate Consumers Power Company soils work Category III, the same rating as it received for the SALP period. He had similar comments on other work activities. Based on my July 1981 testimony, I expected Consumers Power Company would be rated a Category I or II in the soils area, as well as other areas, by April 1982, and I was certain that my July 1981 testimony had left that impression with the Board.



On the basis of the above, I decided it was appropriate to supplement my July 1981 testimony.

Q.3 What actions have been taken by Region III in response to the information contained in your previous answer?

A.3 I met with the NRC supervisors and inspectors who had been closely involved with Midland during the past year to get a better understanding of their concerns. As a result of these meetings, I concluded that the problems being experienced were ones of program implementation rather than problems with the QA program itself.

Because of my concerns, I requested the Region III Division Directors most actively involved with the Midland inspection effort to try to identify the fundamental problems and their causes and to provide me with their recommendations to resolve these problems. They provided me with an assessment of technical and communications problems experienced by the licensee and made recommendations with respect to the licensee's workload, institution of independent verification programs, and QA organization realignments. This response is included as Attachment A. (Memorandum from Norelius and Spessard to Keppler, dated June 21, 1982)

In July 1982 I recognized that more NRC resources were going to have to be provided in overseeing activities at Midland and created the Office of Special Cases (OSC) to manage NRC field activities at Midland (and Zimmer). Mr. Robert Warnick was assigned Acting Director. A Midland Section was formed comprised of a Section Chief, two regional based

inspectors, and two resident inspectors (the second resident inspector reported onsite in August 1982).

Before meeting with representatives of the Office of Nuclear Reactor Regulation (NRR) to discuss options for NRC action in connection with Midland, Mr. Warnick requested Senior Resident Inspector Cook to provide a summary of the indicators of questionable licensee performance.

Mr. Cook provided a memorandum documenting a number of problems and concerns, which is included as Attachment B. (Memorandum R. J. Cook to R. F. Warnick, dated July 23, 1982)

Mr. Warnick and I met with representatives of NRR on July 26, 1982 to discuss Consumers Power Company's performance. This meeting resulted in recommended actions concerning third party reviews of past work and ongoing work which are described in Attachment C. (Memorandum, Warnick to Files, dated August 18, 1982)

Following the meeting with NRR, Mr. Warnick discussed with members of the Midland Section positions concerning third party reviews developed at the meeting with NRR. The members of the Midland Section were not convinced the recommended actions were the best solution, since the causes of the problems had not been clearly identified. Instead, they proposed a somewhat different approach consisting of an augmented NRC inspection effort coupled with other actions to strengthen the licensee's QA/QC organization and management. This proposal is documented in Attachment D. (Memorandum, Warnick to Keppler, dated August 18, 1982)

In response to these suggestions, Mr. Darrell Eisenhut, Director, Division of Licensing, NRR, and I met with top corporate management representatives from Consumers Power Company on August 26, 1982, and

again on September 2, 1982, to discuss NRC's concerns and possible recommended solutions. Because it was not clear to the NRC staff why Consumers Power was having difficulty implementing their QA program, we requested them to develop and propose to the NRC, actions which would be implemented to improve the QA program implementation and, at the same time, provide confidence that the program was being implemented properly.

Consumers Power subsequently presented its proposal for resolution of the identified problems in two letters dated September 17, 1982, which are included as Attachments E and F. (Letters Cook to Keppler and Denton, dated September 17, 1982)

These proposals were lacking in detail, particularly with respect to the plant independent review programs. Following a meeting between NRC staff members and Consumers Power Company in Midland on September 29, 1982, Consumers Power submitted a detailed plan to NRC on October 5, 1982 concerning the planned third party activities (Attachment G). Consumers Power Company's proposals (Attachments E, F, and G) are currently under review by NRC.

Q.4 Do you believe that soils remedial work at the Midland plant should be permitted to continue?

A.4 Yes. This portion of my testimony discusses what has been accomplished and what will be accomplished in the near future to provide a basis for continued construction at the Midland plant.

We expect that Consumers Power Company will have independent third party assessments of the Midland construction project. These assessments will include reviews of safety related work in progress and of completed

work activities. The scope of, and contractors for, the third party assessments are presently under review by the NRC staff.

Along with the independent third party reviews, the Office of Special Cases, Midland Section, has expanded its inspection effort and has taken actions to assure compliance with the Licensing Board's April 30, 1982 requirement that the remedial soils work activities receive prior staff approval. Specifically, the Midland Section has (1) established a procedure for staff authorization of work activities proposed by Consumers Power Company (Attachment H, Work Authorization Procedure, dated August 12, 1982), and (2) has caused a stop of the remedial soils work on two occasions once in August 1982 and again in September 1982 (Attachments I and J, Confirmatory Action Letters dated August 12, 1982, and September 24, 1982, respectively). The Section has also started an inspection of the work activities which have been accomplished by Consumers Power Company in the last twelve months in the diesel generator building, the service water building and other safety related areas. This inspection was started during October 1982 and is continuing as of the filing date of this testimony.

Based upon (1) the third party assessments of the plant which will be performed, (2) the increased NRC inspection effort, and (3) the work authorization controls by the NRC, I believe that soils remedial work at the Midland plant may continue. As demonstrated by the previous stop-work effected in the remedial soils area, the staff will take whatever action is necessary to assure that construction is in accordance with applicable requirements and standards.



10/29/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF TESTIMONY OF JOHN W. GILRAY  
RELATIVE TO THE QUALITY ASSURANCE PROGRAM FOR  
THE MIDLAND PROJECT UNDERPINNING ACTIVITIES  
OF THE SERVICE WATER PUMP STRUCTURE  
AND AUXILIARY BUILDING

- Q. Will you please state your full name, employer, job title, and specifically your responsibilities relative to the Midland Project.
- A. John William Gilray, U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Division of Engineering, Quality Assurance Branch; Principal Quality Assurance Engineer.
- Q. Have you previously submitted a statement of your education and professional qualifications in this proceeding?
- A. Yes.
- Q. Has Consumers Power Company (CPC) submitted to NRC for review a QA plan for soils remedial work?
- A. Yes, on January 7, 1982, J. W. Cook of CPC submitted a letter to H. R. Denton and J. G. Keppler enclosing Midland Quality Plans for the remedial soils activities.

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Q. Describe the scope of these quality plans.

A. These plans describe the basic quality assurance controls to be applied to items and activities associated with the soils remedial work which includes underpinning activities, service water pump structure underpinning activities and auxiliary building underpinning system and the feedwater isolation valve pit areas. These plans provide a commitment to follow the quality assurance program controls of the NRC previously approved Consumers Power Company's Quality Assurance Topical Report CPC-1A Revision 12 and Bechtel's Quality Assurance Topical Report BQ-TOP-1 Revision 1A.

Q. Who in NRC was assigned the responsibility of reviewing these plans for acceptability?

A. Dr. Ross Landsman of Region III and myself.

Q. What were the results of your reviews?

A. We found the Midland Quality Plans conditionally acceptable. The acceptance and conditions are described in the NRC D. Eisenhower letter to J. W. Cook dated May 25, 1982. (Attachment 1).

Q. What were the conditions of acceptance of these quality plans?

A. The conditions are that the quality plans are to apply to (1) all items and activities identified in the ASLB Memorandum and Order of April 30, 1982, and (2) all the to-go underpinning Q-listed and non-Q-listed work described in CPC's April 5, 1982 letter to J. Keppler (Attachment 2), except for work stated in attachment 1

of that letter. In addition we emphasized in the May 25, 1982 letter that the NRC interprets these quality plans to mean that the Midland Project Quality Assurance Department be <sup>actively</sup> involved in reviewing contractor's, sub-contractor's and consultant's quality assurance capabilities and assuring through review of procedures and verifications that hardware is built and work is performed in accordance with design, specifications, and procedural requirements.

Q. Has Consumers Power Company revised the quality plans for remedial soils work to incorporate these conditions?

A. Yes, the Consumers Power Company's letter of August 9, 1982 to H. Denton (Attachment 3) transmitted copies of the revised quality plans.

Q. What are the results of NRC's review of these revised quality plans?

A. The revised plans have been reviewed and found acceptable. See Chapter 17 of Supplement No. 2 of the Midland Safety Evaluation Report dated October 1982 (NUREG-0793).

Q. Summarize the important elements of these quality plans.

A. Midland Project Quality Plan 2, Revision 0 "Quality Plan for Remedial Soils Activities & Soils Related Work in Q Areas" describes the overall Consumers Power Company and Bechtel Power Corporation quality assurance plan for remedial soils activities whereas Midland Project Quality Plan 1, Revision 3, "Quality Plan for Underpinning Activities" describes in more detail the quality

assurance plans for the underpinning activities associated with the auxiliary building and service water pump structure. These plans, which apply to safety related and non-safety related remedial soils activities comply with the previously NRC approved quality assurance requirements described in Consumers Power Company's and Bechtel's Quality Assurance Topical Reports CPC-1-A, and BQ-TOP-1 Revision 1A respectively. The important areas covered by the quality plans are:

1. Underpinning of service water pump structure.
2. Removal, replacement of fill, and underpinning beneath the feedwater isolation valve pit areas, auxiliary building electrical penetration areas, control tower, and beneath the turbine building.
3. Installation of monitoring system and the monitoring of both permanent and temporary dewatering systems.
4. Dewatering systems. The installation, operation, and monitoring of both permanent and temporary dewatering systems.
5. Freeze wall.
6. BWST foundation repairs and tank releveling.
7. Underground service water and BWST piping rebedding or replacement.
8. Any placing, compacting, excavating, or drilling soil materials under or around safety-related structures and systems, as defined by Bechtel drawing C-45(Q).

The Consumers Power Company Midland Project Quality Assurance Department is responsible for the review of design documents, procurement orders and implementing procedures of Consumers Power Company, Bechtel and subcontractors to assure that the necessary quality requirements are specified. Throughout the implementation phase Midland Project Quality Assurance Department is also



responsible for overseeing and auditing the soils activities to verify that they are correctly being carried out in accordance with previously approved requirements.

These plans meet the conditions specified in the May 25, 1982 letter of D. Eisenhut to J. Cook and in the ASLB Memorandum and Order of April 30, 1982.

- Q. Will NRC be involved in reviewing and commenting on revisions to these quality plans prior implementing the revision?
- A. Yes, Consumers Power Company letter of August 9, 1982 to H. Denton provides the commitment to submit revisions of the quality plans to NRC for comment prior to implementation.
- Q. Have any additional QA improvements for the remedial soils areas been initiated since August 9, 1982?
- A. Yes. As a result of discussions between Consumers Power Company and NRC Region III office, Consumer Power Company submitted two letters to H. Denton and J. Keppler which address additional quality assurance improvements over and above those controls described in the quality plans.
- Q. What is the NRC review status of these two letters?
- A. As of October 19, 1982, NRC, (with NRR and Region III involvement), has not completed its review of the additional quality assurance improvements.

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF TESTIMONY OF R. J. COOK, R. B. LANDSMAN,  
R. N. GARDNER AND W. D. SHAFER WITH RESPECT TO QUALITY ASSURANCE

Q.1 Please state your names and positions.

A.1 My name is Ronald J. Cook. I am the Senior Resident Inspector for the NRC at the Midland Plant. I attach a copy of my professional qualifications.

My name is Ross B. Landsman. I am an Inspector for the NRC (Region III) at the Midland Plant. My professional qualifications have previously been submitted in this proceeding.

My name is Ronald N. Gardner. I am an Inspector for the NRC (Region III), assigned to the Midland Plant. My professional qualifications have been previously submitted in this proceeding.

My name is Wayne D. Shafer. I am the Chief, Midland Section, Office of Special Cases for the NRC (Region III). A copy of my professional qualifications is attached.

Q.2 Dr. Landsman and Mr. Gardner, has Region III recently addressed the issue of the qualifications of Bechtel QC Inspectors at Midland? (July 7, 1982 Order, p. 4.)

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A.2 Yes. There were several instances in the past where the qualifications of Bechtel QC inspectors at Midland in the areas of mechanical and electrical work activities were questionable. See, for example, Inspection Reports 82-06 (Attachment 10, discussed at pages 5-6, infra) and 82-07 (Attachment 1). As a result, Region III has urged CPC to take control of the QC activities, including requalifying and recertifying of all Bechtel QC inspectors to Consumers Power Company's standards. CPC has agreed to do so.

Upon witnessing the QC requalification oral exams for the soils remedial work, we determined that the requalification effort was not acceptable. A Confirmatory Action Letter (CAL) was issued on September 24, 1982 (Attachment 1a.).

A public meeting between CPC and the NRC was held on September 29, 1982 to discuss the requalification and recertification of QC personnel involved in the remaining safety-related work at the Midland Plant. During this meeting, the licensee committed to developing a retraining program for QC personnel and to use a combination of written and oral examinations for the QC requalification effort. At the time of this filing, CPC has not submitted its program.

Q.3 Dr. Landsman and Mr. Gardner, what is your response to the questions concerning the effects of structural movements during the underpinning process, posed by Judge Harbor at Tr. 7122-7128? (July 7, 1982 Order, p. 4.)

A.3 Consumers Power Company's program for systematic detection of and arresting of structure movement is described in Specification 7220-C-200(Q), Revision 0 (Attachment 2).

The protective plan for arresting structure movement is implemented through procedures OP40, Monitoring, Reducing and Reporting (Attachment 3) and OP41, Data Acquisition System Investigation in the Event of Observed Large Movements (Attachment 4) which describe the methods for monitoring and assessing structure movement and load data.

The program and procedures have been reviewed by Region III inspectors and no major concerns were identified.

On August 23, 1982, we conducted an inspection (82-18, pp. 3-4) (Attachment 5) of installed underpinning instrumentation to determine the capabilities of the computerized instrumentation system to monitor and respond to simulated structural movements. We selected three instruments for testing. For each of the selected instruments, baseline data were initially recorded. Then displacement shims were installed and the subsequent computer printout examined to determine the system response to the simulated displacement.

An audible alarm condition was noted after the 0.110 inch displacement shim was installed. The subsequent computer printout further identified the alarm condition.

During each of the displacement simulations, the underpinning instrumentation system identified, within the allowable tolerances, the displacement simulated and, when required, the resulting alarm condition.

The results of the tests performed on the selected instrumentation were acceptable. No concerns were identified.

During the underpinning activities, the Bechtel Resident Structural Engineer will evaluate and trend the instrument data. The decision to proceed or not to proceed with the underpinning activities (See Board



question at Tr. 7125) will be made by Bechtel Construction and must be consistent with the acceptance criteria set forth on pp. 2-48 through 2-51 of SSER #2.

Q.4 Dr. Landsman, describe the QA program for soils related activities (July 7, 1982 Order, p. 4.)

A.4 The Quality Assurance Program for remedial soils activities is described in MPQP1 and MPQP2 (Attachment 6). These procedures have been reviewed by the Staff and are addressed in Section 17 of the SSER #2.

The Region III office will perform periodic inspections of the remedial soils work in progress. The major underpinning activities at pier 12, the first pier to be constructed, will be closely monitored by the Staff and additional critical underpinning activities will not be authorized until the Staff is assured that all quality elements have been met.

Q.5 Dr. Landsman, what is the Staff response to the various nonconformance reports referenced by the Board in its Orders of April 30, 1982 and July 7, 1982?

A.5 The NRC Staff has reviewed NCR #M01-4-2-008 (Attachment 7A), NCR #M-01-9-2-038 (Attachment 7B), NCR #M-01-9-2-051 (Attachment 7C), NCR #4245 (Attachment 7D), NCR-4199 (Attachment 7E). Region III has taken no action regarding these specific nonconformance reports. The Staff recognizes that these reports represent instances where the quality assurance requirements were either not established or not adequately implemented. However, the Staff feels that the Work Authorization Procedure (Attachment H to testimony of James Keppler) as well as

procedures implemented by Bechtel to control excavation on site should ensure that future work activities in the remedial soils area will be accomplished in accordance with the quality requirements.

Q.6 Dr. Landsman, please discuss Staff Inspection Report 82-05 (Attachment 8). (July 7, 1982 Order, p. 4.)

A.6 This inspection report documents an inspection conducted in February and March 1982, by me. I identified one item of noncompliance and one deviation from a commitment as described below.

The item of noncompliance represented a significant weakness in the quality of the procedures being used for the remedial soils work. There were four examples of poor quality assurance ranging from "failure to review and approve" to inadequate procedure content. The significance of this violation was recognized by the assignment of a severity level IV classification.

The deviation addressed in Appendix B of the report identified a failure on the part of the licensee to comply with a commitment to provide additional qualified QA personnel. This commitment was made to me during a previous inspection (Inspection Report 81-12, pp. 16-17) (Attachment 9). It was my assessment that CPC's QA staff was not fully adequate and was judged not to be commensurate with the complexity of the task.

Page three of the inspection report (82-05) details further commitments made by CPC regarding the previously described deviation. This concern, however, is still under review and will be pursued in future inspections. In addition, in the documented exit interview (p. 9

of 82-05). I noted that it was clear that upper management was not playing an active role in conveying the principles of Quality Assurance to the working staff.

Q.7 Dr. Landsman and Mr. Gardner, please discuss Inspection Report 82-06 (Attachment 10). (July 7, 1982 Order, p. 4.)

A.7 This inspection report documents an inspection conducted in March 1982 by us. The report contains two items of noncompliance considered to have a severity level IV significance.

The first noncompliance addresses CPC's failure to apply the Quality Assurance Program commitments to the installation of the underpinning instrumentation. This concern was identified on March 17 through 19, 1982. We determined that the installation work had been initiated on March 11, 1982, one day after CPC had been notified that all remaining underpinning activities were classified as "Q," therefore requiring the application of the Quality Assurance Program.

The second item of noncompliance addressed inadequate QC inspections in that fifty-five (55) class IE cables were inspected and accepted even though the cables were not correctly routed; and that class IE cables were inspected and accepted after nonconforming cable reel numbers were identified. These problems were identified during overinspections conducted by CPC since May 1981.

The significance of these concerns are twofold. First, the installation of the cables was improper and second, the QC inspections, which are intended to identify improper installation, failed to do so. The second concern reflects on the QC inspectors' ability to perform

inspections. To ensure that there are no other misrouted cables, CPC was directed by Region III to perform a 100% overinspection of all safety related cables.

The concern about QC inspector qualifications is being addressed as described in the response to question 2 of this written testimony.

Q.8 What is the Staff's response to the suggestion in the interim ACRS report of June 8, 1982, that there be a broader assessment of Midland's design adequacy and construction quality. (July 7, 1982 Order, p. 5.)

A.8 Mr. Keppler addresses the third party independent assessment of Midland construction in his testimony.

Q.9 Dr. Landsman, what are the results of the Staff evaluation of drawing 7220-C-45 (July 7, 1982 Order, p. 5.)

A.9 Staff requirements for this drawing were provided by the Staff on May 7, 1982, to Messrs. J. Mooney, J. Schaub and others of CPC. These were:

(1) The seismic Category I retaining wall to the east of the service water pump structure is shown to be located in the non-Q zone. CPCo should review the drawing to provide for Q-listed control in the vicinity of this wall.

(2) The drawing should be revised to provide for Q control of soils activities for the emergency cooling water reservoir (ECWR), the concrete service water discharge lines, and the perimeter and baffle dikes adjacent to the ECWR.

(3) CPC should implement Q controls for two types of situations. The first is that which is intended to occur outside the Q zone of



Drawing 7720-C-45, but actually occurs within that zone. The second is that which actually occurs outside the Q zone of Drawing 7720-C-45 but nonetheless may impact safety related structures and systems. Examples include potential removal of fines by dewatering wells, improper location of borings near the Q boundary, and soil excavations at the boundary involving both Q and non-Q areas.

(4) CPCo should re-confirm that no seismic Category I underground utilities extend beyond the Q area bounds of the drawing.

CPC has submitted a revised Drawing 7720-C-45. With respect to (1) revising the drawing to provide Q Controls for the perimeter and baffle dikes adjacent to the ECWR and (2) reconfirmation by CPC that no seismic Category I underground utilities extend beyond the Q areas of the drawing, the Staff does not find the submittal acceptable. With respect to the other requirements for the drawing, mentioned above, the Staff finds the submittal acceptable.

RONALD J. COOK  
STATEMENT OF PROFESSIONAL QUALIFICATIONS

My name is Ronald J. Cook. I was born May 24, 1934 at Niles, Ohio. I am employed by the U.S. Nuclear Regulatory Commission as the Senior Resident Inspector at the Midland Nuclear Plant. I graduated from the Ohio State University in 1967 with a Bachelor of Mechanical Engineering degree and again in 1974 with a Master of Science degree.

I have worked with the AEC/NRC since April 1971 and have been the Senior Resident/Resident Inspector at the Midland site since July 1978 with responsibilities for planning, supervising and conducting NRC inspections of the construction activities at the site to determine whether the licensee is complying with the provisions of the construction permit. Prior to involvement with the reactors under construction, I was a Regional Based Reactor Inspector in the Nuclear Support Section for the Operating Reactors Branch. In this capacity, I primarily inspected operating reactors which had experienced mechanical, thermalhydraulic, vibration and corrosion events and assisted in the implementation of selected portions of the basic AEC/NRC inspection program. Before joining the Nuclear Support Group, I was the Principal Inspector for the LaCrosse Boiling Water Reactor and the Palisades Nuclear Generating Station.

Prior to joining the U.S. Atomic Energy Commission, I was the Operations Supervisor for the Ohio State Nuclear Reactor Laboratory and was responsible for the safe operation of this research facility.

In 1962-1963, I was a Licensed Reactor Operator and Instrumentation Machinist responsible for experiment equipment fabrication and installation and reactor operation at the NASA Plum Brook Research Reactor.

From 1958 to 1962, I was associated with the Navy Nuclear Program and was advanced to Chief Machinist's Mate and was a Qualified Chief Machinery Operator. I was responsible for the implementation of safe construction, testing, maintenance and operation of the eight reactor complex of the U.S.S. Enterprise CVA(N)-65 and the A1W dual reactor prototype plant for the U.S.S. Enterprise. I was an instructor and shift crew supervisor.

Prior to being assigned to the Navy Nuclear Program, I had been a First Class Machinist's Mate aboard the U.S.S. Irwin DD-794, a fossil fueled destroyer. I was responsible for the safe operation and maintenance of the main propulsion steam plant.

Prior to joining the U.S. Navy, I was a Machinist Apprentice at the New York Central Railroad and performed maintenance and overhaul on diesel and steam driven locomotives.

WAYNE D. SHAFER

STATEMENT OF PROFESSIONAL QUALIFICATIONS

My name is Wayne D. Shafer. I was born October 11, 1937 at Chicago, Illinois. I am employed by the U. S. Nuclear Regulatory Commission as the Chief, Midland Section, Office of Special Cases.

I graduated from Iowa State University in 1972 with a Bachelor of Science Degree in Mechanical Engineering.

I worked for Argonne National Laboratory at the Experimental Boiling Water Reactor from 1959 to 1967. I was a qualified Senior Operator and Assistant Shift Supervisor.

I worked for Ames Laboratory at the Ames Laboratory Research Reactor from 1967 to 1972. I was a qualified Chief Operator and Shift Supervisor.

I worked for Northern Indiana Public Service Company from 1972 to 1974. I was an Engineer in the Nuclear Engineering Group.

From October 1974 to March, 1982, I was employed by the NRC/AEC as a Reactor Inspector and Inspection Specialist. As a Reactor Inspector I was qualified to inspect Boiling Water Reactors (BWRs) and Pressurized Water Reactors (PWRs), and was a project inspector at four BWR facilities. I was selected as an Inspection Specialist in November 1979. I have participated in five management appraisal inspections, one as a team leader. I served as the Acting Chief, Performance Appraisal Branch, from May 1980 to March 1982.

From March 1982 to July, 1982, I served as the Chief, Management Program Section, Engineering Inspection Branch in Region III. I received my present assignment in July, 1982.