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April 13, 1983

Note to:  James G. Keppler, Regional Administrator
Region III

SUBJECT: LICENSING BOARD REQUEST FOR QA POLICY
AND IMPLEMENTATION WITNESS

Several months ago I discussed with you a request by the Midland Licensing Board for a witness to testify concerning QA policy and implementation. You indicated your willingness to address these matters. Because of the scope and nature of the subject matter of the request, I also discussed this request with representatives of NRR and I&E. It was generally agreed that you were the appropriate witness to deal with these questions. I have so advised the Board.

For your information I am attaching pages 8790-8795 from the November 16, 1982 session of the Midland evidentiary hearing, where the Board explains its reasons for making the request. I also attach pages 12397-12398 from the March 8, 1983 session where I advise the Board that you will be the witness.

As you know the evidentiary hearing starts on Tuesday, April 26, 1983. If you have any questions concerning this note please give me a call.


William D. Paton
Attorney, OELD

cc w/enclosure:
D. Eisenhut
T. Novak
E. Adensam
D. Hood
J. Sniezek (IE)
J. Taylor (IE)
J. Stone (IE)
S. Lewis (Reg. III)
E. Christenbury
J. Rutberg
J. Lieberman
M. Wilcove
N. Wright

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PDR FOIA
RICE84-96
PDR

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1 CHAIRMAN BECHHOEFER: That's correct. Then if
2 you prefer to start with Mr. Lewis, that is all right, too

3 MR. PATON: That is what we are going to talk
4 about.

5 CHAIRMAN BECHHOEFER: I don't think we have any
6 strong feelings one way or the other, so we will come back
7 in 15 minutes, and whatever witness is up, then we will
8 know how you came out.

9 MR. PATON: Thank you.

10 (Brief recess.)

11 CHAIRMAN BECHHOEFER: Back on the record. Have
12 the parties decided which witness they will start off?

13 MR. PATON: We would prefer to proceed as we
14 had intended, with 4-A. But before I do that, Mr. Chairman
15 I have a brief preliminary matter.

16 CHAIRMAN BECHHOEFER: All right.

17 MR. PATON: Mr. Chairman, you had indicated to
18 me recently that you wanted the Staff to bring a witness
19 during the quality assurance hearing, and I want to make
20 very certain that I understand exactly what your request
21 is and I want to say it and ask you if I have it right.

22 As I understood your request, you wanted an NRC
23 witness who can address NRC enforcement policy with
24 respect to quality assurance issues. I believe you stated
25 to me that you will have facts before the Board presented

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1 by Region III, possibly NRR, and you want a witness who
2 can testify to this Board on NRC enforcement policy with
3 respect to those facts that relate to quality
4 assurance.

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That is what I understood your question to be.

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CHAIRMAN BECHHOEFER: Well, it is a little dif-

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ferent from that. What I had in mind, it was my under-

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standing that the responsibility for determining what

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an adequate QA program is, is maybe it is not completely

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transferred but it is at least shifting from NRR to I&E

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headquarters' offices; and that therefore, someone ought

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to be here to discuss what the current Commission policies

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with respect to adequate QA plans are.

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MR. PATON: Mr. Chairman, let me direct your

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attention.

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You said program. Now I would distinguish it

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as we always have in this proceeding. I would make a

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clear demarcation between program and implementation.

15

We are going to be talking mainly about implementation.

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CHAIRMAN BECHHOEFER: That's correct. What I

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should have said --

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MR PATON: You did say program. I want to make

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sure, do you really want us to limit it to program or --

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CHAIRMAN BECHHOEFER: That was a slip. Program

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plus implementation policy, policy toward implementation.

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If my understanding is wrong, I have seen some documenta-

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tion and I understand that there have been several papers

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before the Commission dealing with this but I don't have

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any particular references. So it was our thought that

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1 someone from headquarters ought to be able to speak on
2 whether given QA, both programs and the likely implementa-
3 tion of it, will meet current NRC standards.

4 MR. PATON: Now you said given the program and
5 the likely implementation. I am wondering now, I had
6 understood your request to be, in light of the facts that
7 are given to this Board on what has happened -- in other
8 words, we are going to present a lot of testimony to the
9 Board on QA implementation as it has been implemented.
10 In other words, this is our inspection report. This is
11 what we have found. I understand you want a witness who
12 can take into account both the QA program and the history
13 of implementation, recent history of implementation and
14 address NRC enforcement policy with respect to those
15 quality assurance matters. Is that more accurate?

16 CHAIRMAN BECHHOEFER: Enforcement or maybe
17 acceptance.

18 JUDGE HARBOUR: The standards.

19 MR. PATON: Are you indicating that when I use
20 the word "enforcement," that the implication that some-
21 thing has gone wrong, is that the correction you are
22 making?

23 CHAIRMAN BECHHOEFER: Well, I don't want to
24 necessarily imply that there is something going wrong
25 on the future.

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MR. PATON: Let me try it one more time.

The question is, the witness should be able to take into account the QA programs and recent QA implementation and determine from an NRC policy point of view, is that acceptable.

CHAIRMAN BECHHOEFER: That's correct. We were just not positive whether the NRR representative who will be here, can now speak to that. If he can, then you need not produce anybody. If he can't, it may be desirable to bring something from I&E headquarters.

MR. PATON: I appreciate that, Mr. Chairman. I think that would be helpful to others to be able to --

CHAIRMAN BECHHOEFER: There are other head-quarter divisions which may have responsibility. Now I am not really sure what is going on, but in terms of responsibility for this type of thing --

MR. PATON: It is helpful, I think, if we have this on the record and the people involved can sit down and read the precise words and make their decision. But I appreciate your help on this.

CHAIRMAN BECHHOEFER: Right. Direct testimony need not be presented, but maybe somebody can be here to answer questions.

MR. PATON: Fine.

CHAIRMAN BECHHOEFER: With the other QA witness

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that you have.

MR. PATON: Yes. Thank you, Mr. Chairman.

Shall we proceed with Mr. Kane?

CHAIRMAN BECHHOEFER: Yes.

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1 CHAIRMAN BECHHOEFER: Why don't you proceed now
2 and after you are through we will take a break and then
3 start the testimony right after that?

4 MR. PATON: Mr. Chairman, on November 16, you made
5 a statement, you and I had an exchange on the record,
6 transcript 8790 through 8795. I have those pages with me
7 if the Board wants to read them again. But I have considered
8 that exchange at length. I have asked people in I&E to read
9 it, Region III and NRR, to all read that exchange. The
10 Staff position is that the witness we would propose to
11 respond to the matters that you proposed there is Mr.
12 Keppler. We think Mr. Keppler is the Staff witness most
13 familiar with the overall facts of the Midland case, going
14 back a number of years. He is aware of NRC policy with
15 respect to QA and he can best address how those two come
16 together.

17 CHAIRMAN BECHHOEFER: Our thought and my thought
18 was that perhaps there would be somebody at headquarters
19 who might be more familiar with developing QA policy. If
20 not, Mr. Keppler is familiar with Commission policy in this
21 area and that is fine. We thought it might be somebody at
22 headquarters by me or who might be closer to the Commission,
23 shall we say? But if not, Mr. Keppler will be fine.

24 MR. PATON: That is a possibility, Mr. Chairman,
25 but when you apply the facts to the policy, we believe

1 Mr. Keppler is the witness. I think if you're asking for
2 a witness who used to discuss policy in the abstract, perhaps
3 there is a witness who conceivably might be more current
4 than Mr. Keppler. But we will obviously bring to Mr.
5 Keppler's attention the exchange you and I are having today
6 and we believe he will be able to address current NRC QA
7 policy along with his knowledge of the facts of the Midland
8 case.

9 CHAIRMAN BECHHOEFER: If you think Mr. Keppler is
10 familiar with our policy it is okay with us.

11 MR. PATON: The other matter involves the staff
12 of the Midland investigation. I think that the last time
13 I was here I learned after I last addressed this and some
14 of the information I gave the Board was not exactly correct.
15 So I would like to go down the list again.

16 There are four matters and again I would like any
17 of the Board or any party who is aware of any other matters
18 that anyone believes is being investigated by the NRC, please
19 let me know. I made that request last time and I didn't
20 hear from anybody.

21 The four matters are: Number One, an investigation
22 by Region III to determine whether misleading information
23 was provided the NRC inspection March 12, 1982 at Midland.
24 That report is complete and the report was issued on
25 January 18th.

GOVERNMENT ACCOUNTABILITY PROJECT
Institute for Policy Studies
1901 Que Street, N.W., Washington, D.C. 20009

2 file
midland GAP

response to this
drafted 7/16/83

(202) 234-9382

March 10, 1983

Mr. James E. Keppler
Director, Region III
Inspections and Enforcement
Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois

PRINCIPAL STAFF			
RA	WJ	INF	
D/RA		SCS	3
A/RA		PAO	
OPRP		ISLO	
DE/RA		RO	
DRMSP			
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Dear Mr. Keppler:

On March 7, 1983 I attended a meeting with Mr. Darrell Eisenhut, Mr. Daryl Hodd, Mr. Tom Novack, Ms. Elinor Adamson of the Office of Nuclear Reactor Regulation (NRR), and Mr. Robert Warnick of your staff. Mr. Warnick confirmed a number of items of great concern to the Government Accountability Project (GAP) in regards to the Midland Nuclear Power Plant.

More specifically, Mr. Warnick confirmed that you and members of your staff have been meeting with management officials of Consumers Power Company ("Consumers") to iron out the details of the Construction Completion Plan (CCP). It was our understanding from your public statements at the February 8, 1983 public meeting that you intended to open up the CCP evaluation process for more public overview and comment. Yet it is clear the meetings that you and your staff have been having are on the very points that most need public input.

I am personally distressed that you have not responded to the overwhelming public concerns about the credibility of Consumers and the Bechtel Corporation. Surely you cannot expect the public to continue to trust the utility and its contractor to be able to allay public fears about their self-examination. This is the solution that the CCP is proposing.

GAP is not prepared to spend the next year haranguing over the methodological details of a third-party review that has not had the basic opportunity to review the condition of the plant. The inspection of the Diesel Generator Building clearly indicates that Midland is not, and never has been, in the condition that the utility would have us all believe. It is inconceivable that the NRC could even consider a solution to the problems without first having a legitimate, independent, competent third party identify the actual condition of the plant.

Mr. Warnick identified a number of areas of discussion and debate surrounding the details of the CCP, these included such major items as whether there should be 100% inspection or sampling,

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what the reporting structure would be for the Quality Assurance/Quality Control personnel within the teams, how the teams would be established, etc. These are items which betray the position that your Regional office has taken in the absence of either public input or analysis, or even the courtesy of a preliminary announcement.

If you intend to approve the Construction Completion Plan that draws its legitimacy from the third-party reviews (See CCP, Figure 3-1) of the plant --including the identification of the problems on site -- than please do so immediately.

If you intend to close the public input into the process of reviewing the acceptability and adequacy of the plan that Consumers has offered, than please make such an announcement.

If you have no intention of even considering having a third-party determine the extent of the problems on site, than you have effectively undermined the entire promise that you made to the residents of Midland.

Please answer the following questions concerning the steps that you have taken since the February 8, 1983 meeting concerning the CCP:

(1) What meetings (either personally or by conference call) have you, Mr. Robert Warnick, or members of the Midland Team had with management officials of Consumers Power Company regarding the CCP?

(2) For every meeting identified, what was the topic of discussions?

(3) What directives, policy statements, verbal approvals, tentative approvals, or strong indications have been given to Consumers as to the acceptability of the CCP?

(4) What approvals have been given by your staff in regards to any work on site going forward? (This excludes, of course the on-going soils work, and the steam turbine work.)

(5) What official holds - if any - have you placed on Consumers Power which would restrict its initiating work on the site when it saw fit?

(6) What plans does the staff have for its own determination of the "as-built" condition of the plant, either prior or subsequent to a third-party/Consumers review?

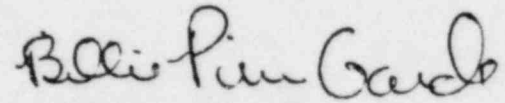
Mr. James Keppler

- 3 -

March 10, 1983

I look forward to your response within the next few days.

Sincerely,



BILLIE PIRNER GARDE
Director, Citizens Clinic

BPG/bl



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

GAP file

DEC 14 1982

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

Dear Ms. Garde:

Thank you for your letters dated October 22, 1982 and November 11, 1982 addressed to Mr. Denton and me, conveying the Government Accountability Project's views on quality assurance matters and the third party assessment at the Midland Nuclear Power Station. We are considering your comments and concerns.

There have been two public meetings on the independent review program, one held October 25, 1982, and the second on November 5, 1982.

After the October 25 meeting Mr. Eisenhut and I informed Mr. James Cook of Consumers Power Company by telephone that our preliminary thoughts were that the following elements were necessary, but may not be sufficient, to accomplish an adequate overall review of QA matters:

1. The third party design review, which focused on the auxiliary feedwater system (proposed by TERA Corporation), should be broadened by including one or two additional safety systems and that the reviews should encompass an evaluation of the actual system installation (i.e., construction). In addition, consideration should be given to perhaps expanding the program for confirming construction quality.
2. The INPO and biennial QA audits are not an acceptable substitute for the third party review. While these activities do have merit, they do not fulfill the total needs we have identified.
3. Questions were raised concerning whether Management Analysis Company was sufficiently independent to assume lead responsibility for the independent review.

Regarding the ability of the Stone and Webster personnel to perform the third party independent review of the remedial soils work, the final decision will be made in the near future.

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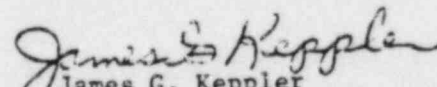
The remainder of the independent review effort is still under consideration. We intend to hold a public meeting, probably in Midland, regarding the independent review programs at the Midland site, but the date has not yet been scheduled.

You requested a series of documents in the November 11, 1982 letter. None of these are in the NRC's possession, although they would be available for our review at the plant site or corporate offices. You may wish to request access to the documents from Consumers Power.

I also understand from my staff that you have indicated to them that the Government Accountability Project has additional affidavits concerning construction activities at the Midland site. If you do have further information, I would hope that you would forward it to us promptly so that we may include it in our investigation of the affidavits you previously submitted.

I can assure you that the NRC shares your concern that any third party at Midland be both independent and competent. We also must be careful that we, the NRC, do not intrude into the review process ourselves and thus compromise its independence. We will, however, provide sufficient direction to assure the thoroughness and objectivity of the review.

Sincerely,


James G. Keppler
Regional Administrator

GOVERNMENT ACCOUNTABILITY PROJECT

Institute for Policy Studies
1901 Que Street, N.W., Washington, D.C. 20009

(202) 234-9382

October 22, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. J.G. Keppler
Administrator, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

RE: Midland Nuclear Power Plant, Units I & II
-Consumers Power Company Quality Assurance
Program Implementation for Soils Remedial Work
-Consumers Power Company Midland Plant Independent Review
Program

his letter provides additional comments to the current negotiations between the Nuclear Regulatory Commission ("NRC") and Consumers Power Company ("CPCo") regarding two major areas of concern to local citizens and our own staff:

- 1) soils remedial construction; and
- 2) Independent Review Program.

On behalf of those former employees, local citizens and the Lone Tree Council, the Government Accountability Project ("GAP") reviewed the various proposals submitted by the licensee of an independent review program as well as their description of the independent soils assessment program. Our questions and comments about both programs are outlined below. We appreciate the opportunity to provide this information.

Based on our review of the licensee proposals, we are asking the NRC to not approve the independent audit proposal in its present form. Further, we request on behalf of the local residents that live and work around the plant that the details of the independent contract be finalized in a series of public meetings--one in Jackson, Michigan (the corporate home of CPCo) and one in Midland, Michigan (the plant site). Further, we ask that the public comment offered at these two meetings, as well as this letter, be included in the analysis of CPCo's proposal.

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This request is consistent with Mr. Keppler's stated intention to invite public comment surrounding Midland's problems; and also in line with Region III policy surrounding the Zack controversy at LaSalle, which allowed several public participants to comment and suggest improvements in the independent audit of the Heating, Ventilating and Air Conditioning ("HVAC") equipment imposed on Commonwealth Edison by the NRC.

As you know, it is the position of our project that the only avenue to restore public confidence in a nuclear power plant that has suffered from extreme loss of credibility is to offer the public the opportunity to participate in the decision-making process. This is particularly applicable to the situation at the Midland plant.

Clearly the utility and the regulators are aware of the substantial problems that have occurred in building the Midland plant. Indeed, it is the history of these problems that have led to this meeting in the first place. Yet, apparently there has been little desire to tackle the real issue of corporate negligence in the construction of this plant.

Background

The Government Accountability Project is a project of the Institute for Policy Studies. It is a national public interest organization that assists individuals, often called "whistleblowers," who expose waste, fraud or abuse in the federal workplace; or safety and health hazards within communities through GAP's Citizen's Clinic for Accountable Government. As an organization dedicated to protecting individuals who have the courage to bring information forward on behalf of their fellow citizens GAP has had a close working relation with various Congressional and Senatorial committees, government agencies and other public interest organizations.

In recent years GAP has been approached by a growing number of nuclear witnesses from various nuclear power plants under construction. In keeping with its objectives the GAP Whistleblower Review Panel and the Citizens Clinic Review Panel have directed the staff to pursue aggressively the complaints and problems that nuclear workers bring forward. Our first case involving a nuclear witness began when we were approached by a Mr. Thomas Applegate about serious problems at the William H. Zimmer Nuclear Power Station near Cincinnati Ohio. As you are aware Mr. Applegate's allegations and the subsequent investigations, reinvestigations, Congressional inquiries, and intense public scrutiny have revealed the Mr. Applegate exposed only the tip of the iceberg of problems. Zimmer was recently described in the Cleveland Plain Dealer as "the worst nuclear construction project in the midwest, possibly the country...." (October 3, 1982.)*

*This article also referred to the Midland Plant. Mr. John Sinclair, an NRC inspector, responded to the question of whether there are other "Zimmers" around the country by stating that Zimmer's problems "were similar to those found at [Midland]."

Following the GAP staff work at Zimmer we received a request from the Lone Tree Council of the Tri-City Michigan area to pursue worker allegations of major problems at the Midland Nuclear Power Plant in Midland, Michigan. Our preliminary investigation resulted in six affidavits being filed with the Nuclear Regulatory Commission on June 29, 1982. Since then we have filed an additional four affidavits resulting from the HVAC quality assurance breakdown revelations. We are also preparing an expanded affidavit of one of our original witnesses, Mr. E. Earl Kent, of serious welding construction problems at the Midland site. Other worker allegations-ranging from security system breakdowns to worker safety problems have come to our attention at an alarming rate.

The Citizens Clinic Review Panel a panel of seven respected individuals, met recently to review the status of Clinic cases. It was their unanimous recommendation to begin a thorough and aggressive probe of Midland's problems. We look forward to beginning that probe shortly. Unfortunately our previous experience at Zimmer and LaSalle has given us a good idea of what to look for and what we will find.

I. SOILS REMEDIAL WORK

The 1980/81 SALP Report, issued April 20, 1982 gave CPCo a Category 3 rating in soils and foundations.

A Category 3 rating, according to the SALP criteria states:

Both NRC and licensee attention should be increased... weaknesses are evident; licensee resources appear to be strained or not effectively used such that minimally satisfactory performance with respect to operational safety or construction is being achieved.

Clearly this rating, the lowest rating that can be given was deserved by the licensee. Although the soils settlement problems have resulted in the most serious construction problems that CPCo has faced, the SALP report points out in its analysis:

In spite of this attention, every inspection involving regional based inspectors and addressing soils settlement issues has resulted in at least one significant item of non-compliance. (p. 9)

This trend continues to the present date. As recently as May 20, 1982, Mr. R.B. Landsman the soils specialist of the Region III Midland Special Team discovered significant differences between the as-built condition of the plant in relation to the soils remedial work and the approved April 30, 1982 ASLB order.

Although Mr. Landsman had no quarrel with the technical aspects of the excavation in question he had a significant disagreement with the licensee's failure to notify NRR of their plans. He aptly captured the essence of the problem in his August 24, 1982 memo to Mr. W.D. Shafer, Chief of the Midland Section:

Since the licensee usually does not know what is in the ground or where it is, as usual the 22 foot duct bank was found at approximately 35 feet. It also was not in the right location. . . in addition, . . . they inadvertently drilled into the duct bank. . . .

On August 20, 1982 Mr. Keppler requested the Office of Investigations to investigate two instances of apparent violation of the April 30, 1982 ASLB Order.

This latest experience with the licensee's failure to comply with NRC requirements is indicative of the reasons that the Advisory Committee on Reactor Safeguards, in a letter to NRC Chairman Nunzio Palladino, deferred its approval of full power operation of the Midland plant until an audit of the plant's quality. This QA program audit is to include electrical, control, and mechanical systems as well as underground piping and foundations.

Now CPCo is again asking for "another chance" to get its corporate act together. They offer to institute a series of steps to "enhance the implementation of the quality program with regard to the soils remedial work" (Letter to Mr. Harold Denton from Mr. James Cook, September 17, 1982, p. 2.) Unfortunately, as pointed out below, the program on soils remedial work leaves much to be desired if public confidence is to be restored in the ultimate safety of the Midland plant.

A. Consumers Power Company Retention of Stone & Webster as a Third Party to Independently Assess the Implementation of the Auxillary Building Underpinning Work

Based on a careful investigation of Stone & Webster's ("S&W") performance in the nuclear power industry this decision, already made, may unfortunately for the licensee prove to be as disastrous as the pre-load operation of several years ago.

Our assessment is based on information obtained from the NRC Public Documents Room, private audits of S&W's performance on nuclear projects, legal briefs from intervenors, NRC "Notice of Violation" reports, public source information, and interviews with intervenors, engineers, as well as current and former employees of the NRC familiar with S&W's work.

1. History

S&W has been the chief contractor and architect/engineer at eight plants now operating, and for six plants presently under construction. In reviewing numerous documents concerning two nuclear plants now under construction at which S&W was, or still is, the Project Manager and chief architect/engineer, this investigation has documented S&W's reputation for massive cost overruns at its nuclear construction sites, major problems with Quality Control and construction management, and significant design errors at a number of these plants. The Shoreham plant on Long Island, N.Y., and the Nine Mile 2 plant near Syracuse, N.Y., are both infamous nuclear boondoggles constructed by S&W.

a) Nine Mile 2

The Nine Mile 2 plant has been described as a "disaster area." Cost overruns have gone from an original 360 million to 3.7 billion dollars, and the NRC has cited the plant for numerous violations. According to an article in the Syracuse Post-Standard newspaper (May 17, 1982), "Nearly everything that can go wrong with a major construction project has beset Nine Mile 2."

In 1980 Niagara Mohawk, the utility which is building the plant, hired the firm of Black and Veatch Consulting Engineers to conduct an "independent assessment" of the management systems, costs, and work accomplished at the Nine Mile 2 plant. The final Project Evaluation Report (September 1980) was extremely critical of S&W's performance, describing their work as "poor," "lacking" and "confused." The evaluation found 127 problem areas at the plant. Below is a list of some of the problems S&W were explicitly cited for:

- * Failure to effectively implement the Quality Control program.
- * Significant overruns against budget.
- * Ineffective Project Management Reports.
- * Inadequate management control of engineering work.
- * Engineering Management System was "never properly implemented on the Unit 2 project."
- * "Key components of good cost control are not present.
- * Inadequate "problem identification, impact analysis, and descriptions of corrective action plans."
- * Failure to keep abreast of regulatory changes.

- * Drawings used for construction based on unapproved documents.
- * Inadequate construction pro-planning/constructability review.
- * Inaccuracies in the engineering and procurement status which have diminished user confidence in existing reports.

Many of the conditions cited in this audit have not been improved. According to a May 17, 1982 inspection letter from the NRC, S&W has failed to remedy these identified problems:

There is a significant problem in the timeliness of corrective action resulting from S&W responses to Niagara Mohawk audit findings. Determination of corrective action to be taken is repeatedly delayed due to either belated answers by S&W and/or inadequate responses by S&W. NMPC Quality Assurance Management has been unable to correct the problem.

On top of these problems, the NRC cited S&W, in the May 17, 1982 letter, for "significant" nonconformances with NRC regulations. One major problem was found in S&W's philosophy on QC. Instead of analyzing problems to find their causes, S&W would just put the identified mistake into "technical acceptability." According to the NRC, this caused a repetition of problems:

The lack of identification and correction of the root cause of the nonconformance has led to numerous nonconformances being written in a short period of time involving the same functional area. . . .

The QC program was also cited for its lack of training and its high personnel turnover.

S&W also failed to properly oversee subcontractors at Nine Mile 2. For example, over 300 bad welds were identified as made by one sub-contractor. These faulty welds were discovered after S&W inspectors had certified that they met construction standards. (Post-Standard, May 19, 1982.)

b) Shoreham

S&W was the Project Manager and chief architect/engineer at Shoreham. In September 1977 the Long Island Lighting Company ("LILCo"), the utility which is building the Shoreham plant, removed S&W as Project Manager. Although initially denied, LILCo reports obtained by intervenors in discovery, have documented LILCo's dissatisfaction with S&W--dissatisfaction which led to their termination.

In an April 1977 report (Shoreham Nuclear Power Station Schedule and Construction Management Evaluation), prepared by LILCo's Project Manager and other LILCo engineers, S&W was criticized and the utility was urged to terminate their services. Examples of S&W's unsatisfactory performance outline in this report were:

- * Design problems.
- * Inaccurate monitoring and controlling systems.
- * Unnecessary and redundant procedures.
- * Responsibility for cost overruns.

Other LILCo documents charged:

- * Failure to produce or meet work schedules.
- * Inability to adequately define urgent needs.
- * Poor physical work documents.

Shoreham, described by the New York State Public Service Commission as "seriously deficient," has suffered from cost overruns which will make the electricity produced at the plant the most costly of any nuclear plant in the country. The overrun has been from 265 million to 2.49 billion dollars.

S&W was also at fault with Shoreham's largest design error. The reactor size which was originally planned for Shoreham was increased, but S&W failed to make adjustments and increases in the size of the reactor building. According to Newsday, this error had led to costly design problems and changes, and cramped work space within the reactor building.

Shoreham has also been cited by the NRC for numerous violations. Between 1975 and 1981 the Commission cited Shoreham for 46 violations. For example, S&W was cited for repeatedly failing to have electrical cables installed correctly, and for allowing dirt in sensitive areas.

2. Problems Found in S&W Operating Reactors

Most serious for the Midland plant was our discovery of S&W's work at the North Anna Plant.

a) North Anna

According to a Washington Star article (May 5, 1978), the North Anna plant has suffered from serious design problems regarding soils settlement. A pumphouse, designed to funnel cooling water into the

reactor in event of a nuclear emergency, "settled" into the ground at a much higher rate than planned. In only six years the pump-house sunk more than 79% of the amount planned for its forty year life expectancy. This settlement caused "cracks in nearby walls and forced accordion-like pleats to be added to nearby pipes." According to the Star, this soils problem could lead to the plant's premature closing.

Other mechanical malfunctions have also been reported at North Anna. For example, a malfunction in a steam pump and turbine contributed to a "negligible" overexposure of five plant workers to radiation, and the release of contaminated gas. (Washington Post, September 27, 1979.)

It is incredulous to us that the NRC could allow S&W, a construction firm that has caused untold amounts in cost overruns, shut-down damaged plants and lengthy lists of NRC violations to be transformed into an independent party, capable of enough internal reform to audit the work of the Bechtel construction of the Midland plant.

Further, S&W committed a serious design error in the vital cooling system's pipe design. This error potentially rendered the pipes exposed to failure in the event of even a minor earthquake, and could have created a major nuclear accident. Upon discovery of the error, the NRC ordered all five plants temporarily closed for investigation and repair. (Excerpt from the Public Meeting Briefing on Seismic Design Capability of Operating Reactors, NRC, June 28 1979.)

When the NRC entered these plants to inspect the pipes, they found additional problems. According to the NRC document Surry I, Beaver Valley and FitzPatrick all suffered from "significant differences between original design and the 'as built' conditions...." For example, Surry I had the following problems: "mislocated supports, wrong support type, and different pipe geometry."

b) Other plants

All of the other operating nuclear plants investigated reported numerous problems. For example, in 1981 a faulty weld at the Beaver Valley plant caused a "minor leakage" of radioactivity into the local environment. Within one year after the Maine Yankee was turned on in 1972, 58 "malfunctions" were reported, including leaks in the cooling water systems. A review of the NRC report--Licensed Operating Reactors Status Report--of May 1982 revealed that all S&W plants were operating at an operating history of below 80% of the industry goal. Beaver Valley, for example, had a lifetime operating history of only 30%.

3. Stone & Webster Corporate Attitude

Our review of S&W's past attempts at constructing nuclear power plants prevents us from being convinced of anything but a future that is a dismal repeat of the past.

This fear was confirmed by an article written by the Chairman and Chief Executive Office of Stone and Webster, Mr. William T. Allen, Jr. in the Public Utilities Fortnightly, May 13, 1982, entitled "Much of the Anxiety about Nuclear Power Is Needless."

In this article Mr. Allen displays a critical disregard and disrespect for the regulatory system that this nation has mandated to protect its citizens from the corporate instincts of profit and survival. His dialogue begins by labeling the public as apathetic about energy needs. He wishfully hypothesizes a 12% boost of electrical demand for a single year when the economy recovers.

Mr. Allen moves quickly to his conclusion that the energy needs of the future can be met with only coal and nuclear power, but his real point is made when he calls for the "necessary institutional adjustments to revitalize the nuclear industry." Mr. Allen's view of the revitalization is a chilling indication of his companies commitment to safety. This excerpt is most revealing:

[W]e are working, along with others in the industry, in support of those activities which we hope will restore nuclear power to a state of robust health. In that connection, one specific effort we have undertaken within Stone&Webster is the consolidation and analysis of recent data pertaining to the amount of radiation which possibly would be released to the environment in the event of an accident in a nuclear power plant. . . . [B]ased on information our people have assembled it now is becoming clear to the scientific and engineering communities that criteria established years ago, but still in use today, are incredibly and needlessly conservative."

This quoted paragraph captures Mr. Allen's observations although he goes on to attempt to convince his "apathetic public" that the three basic components in the source term (the quantity of radioactivity postulated to be available for leakage from the reactor containment into the environment) are needlessly conservative. The arguments into the size of a "safe dose of radioiodine" contradict all other literature we have reviewed on the subject. Mr. Allen's attempts to allay the fears of the public about nuclear power have only increased the fears that GAP has about its allegedly independent audit of the soils work.

If Mr. Allen's corporation believe s the regulations over nuclear power are needlessly conservative, and he is not concerned with the

levels of radiiodine, I find it difficult to believe he will approach the Midland Auxillary Building with the attitude it will take to produce any replica of a safe nuclear facility.

As a result of our investigation, and our well-known support for independent audits of nuclear construction projects, it is impossible for GAP to accept the S&W review of the soils work under the Auxillary Building as anything more than another licensee "rubber stamp."

B. Recommendations

It is the recommendation of the Government Accountability Project that certain minimum requirements be used by the NRC in determining the acceptability of independent audit charters. Further we recommend that the Midland public meeting (infra, at 15) include a presentation of the charters, and the availability of the auditors for public questioning into the understanding of this contract responsibility. These charters should include the following:

- 1) The independent contractor should be responsible directly to the NRC, Submitting all interim and final product simultaneously with CPCo and the NRC.

This is somewhat different from the proposal explained in the CPCo letters, which suggests that all reports would first be processed through the licensee.

- 2) The independent contractor should do a historical assessment of CPCo's prior work, including a frank report of the causes of the soils settlement problem.

This suggestion from the ACRS July 9, 1982 letter, is particularly appropriate to get on the public record.

- 3) The charter should ensure that, once hired, CPCo cannot dismiss the independent contractor from the project without prior notice to the NRC and a NRC-sponsored public meeting to justify the decision.

Further, the NRC should make it clear that the licensing conditions will not be met for Midland if the NRC does not approve of any such dismissal. Although CPCo is hiring and paying several auditors, their credibility in the eyes of the public will be voided without a truly independent accountability structure. Otherwise the entire exercise is little better than an expensive public relations gimmick.

- 4) The charter should require that each auditor, at least 5 already identified, sub-contract any services for which its

direct personnel are not qualified.

Proof of qualifications should be provided for every task in the Midland contracts.

- 5) The charter should require that the proposed methodology be disclosed; specifically selection criteria and size of the samples for inspections and testing.

This is particularly critical with the proposed audits of the historical quality assurance breakdown. It is impossible to have any confidence in the results of an independent inspection and testing program if the selection criteria and size of the sample are a mystery.

- 6) The charter should require the auditors to provide calculations demonstrating that it is possible to adequately complete its work during the proposed timeframe.

This is particularly important at the Midland site where "rush jobs" are all too common under the pressure of the 1984 deadline.

- 7) The charter should require the auditors to support its proposed methodology through references to established professional codes (ASIM, ASME, ANSI, AWS, etc.).

This will insure that the methodology is a product of professional standards, rather than CPCo's timetable for operations. This is particularly important in the light of recent disclosures putting the Bechtel codes in opposition to the AWS codes.

- 8) The charter's should require all auditors to report all safety-related information directly to the NRC.

CPCo's own judgment in determining when to inform the NRC, and about what, is highly suspect. Only with stringent guidelines for an independent auditor is there any hope for public trust in the work performed on CPCo's payroll.

- 9) The employees and auditors should demonstrate that the personnel assigned to the project are free from conflicts of interest.

In the October 5 letter, CPCo references the conflict of interest points presented in a February 1, 1982 letter from NRC Chairman Nunzio Pallidino to Representative John Dingell. These five points should apply to all employees of the audit teams. It is insufficient for the company to be free of conflicts of interest if the key fact finders and decision-makers are not.

It seems only reasonable that all auditors should guarantee and demonstrate the absence of any conflicts of interest on the organizational and individual levels. Insignificant conflicts should be fully disclosed and explained, subject to the NRC's approval.

- 10) The auditors must recommend corrective action, and then control its implementation.

If the independent auditors are not allowed to develop corrective actions the teams become a highly paid research department for the licensee. The NRC must receive the independent recommendations of the auditor teams prior to the finalizations of any licensee plan on any system. Without this final and critical step there will be no resolution of the key question--can Midland ever operate safely?

II. CONSUMERS POWER COMPANY INTEGRATION OF THE SCILS QA AND QA/QC FUNCTIONS UNDER THE DIRECTION OF MPQAD

This reorganization, putting CPCo in charge of the Quality Assurance/Quality Control program raises serious questions in our analysis. First, CPCo has consistently disregarded the importance of Quality Assurance/Quality Control in the past. Nothing in their historical performance or their recent past indicates that CPCo's MPQAD has the type of serious commitment to QA/QC that will produce meticulous attention to detail. Further, the experience that GAP's witnesses have had with MPQAD have been far from favorable. In fact, all of our witnesses (but one who resigned after refusing to approve faulty equipment) have tried in vain to get their in-house management to do something about their allegations. All of them were dismissed--the result of their efforts to ensure a safe nuclear plant.

Mr. Dean Darty, Mr. Terry Howard, Mrs. Sharon Morella, Mr. Mark Cions and Mr. Charles Grant have attested to the failure of the MPQAD. If the Zack experience has demonstrated nothing else, it has certainly left a clear warning to construction employees that committing the truth is not a virtue at the Midland site.

GAP's previous experience with nuclear construction projects that take total control of a QA program has firmly been negative. At Zimmer the switch from contractor to owner brought with it deliberate coverups instead of corporate bungling. We believe that based on CPCo's previous performance and attitude that it is unacceptable for CPCo to offer their MPQAD to be the new answer to an old problem.

In a September 30, 1982 Midland Daily News article, Mr. Wayne Shafer stated that the new move to put CPCo at the helm will give

them "first hand knowledge" of the problems with the Midland plant. Mr. Shafer has apparently mistaken Midland for Zimmer on a very serious point.

At Zimmer the owner, Cincinnati Gas and Electric Company, was fined \$200,000.00 in November 1981. They claimed that their main failure was to supervise their contractor, Kaiser, in the construction. At Midland there has never been a question of who is in control of the construction decisions. CPCo has consistently had some degree of involvement--usually substantial--with the history of problems on the site.

III. CONSUMERS POWER COMPANY HAS PROPOSED A SINGLE-POINT ACCOUNTABILITY SYSTEM TO ACCOMPLISH ALL WORK COVERED BY THE ASLB ORDER

Although none of the documentation defines what "single-point accountability" is, there is some hint through other comments from CPCo. In both the September 17, 1982 letter from Mr. Cook to Messrs. Keppler and Denton and several local newspapers, there is a specific reference to "good and dedicated" employees. Even Robert Warnick, acting director of the Office of Special Cases, stated in the September 30, 1982 Midland Daily News article, "Consumers to Take Responsibility for QC":

It'll only work if you've got good, strong people doing the job. I guess the proof of the pudding is in the performance.

We agree whole heartedly with Mr. Warnick. GAP has always maintained that the only way to make any regulatory system work effectively is to have strong, trustworthy individuals of high integrity. As a project GAP has watched many "good, strong people" attempt to do their jobs correctly, only to be scorned, fined and ostracized by corporations or bureaucracies that ignored their responsibility to the public.

Ironically, perhaps the strongest, most credible good person GAP has worked with recently was fired by Bechtel and CPCo from the Midland site--Mr. E. Earl Kent.

Mr. Kent's allegations were among those submitted on June 29, 1982 to the NRC. After GAP submitted his allegations to the NRC, Mr. Kent prepared his evidence and documentation for the anticipated visit by NRC investigators. Unfortunately the investigators never arrived. In mid-August, at Mr. Kent's own expense, he went to the Regional Office of the NRC to talk to the government officials charged with investigating his allegations. He wanted to insure that the investigators understood completely the detail and specifically of his claims about the problems at Midland. Further he

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wanted to clarify that the NRC was aware of his knowledge about serious hardware problems at the two other sites. Mr. Kent was seriously disappointed in his reception.

Following the mid-August visit, GAP wrote a letter to Mr. James Keppler, Regional Director, emphasizing our concerns about Mr. Kent's visit. In the three months following the submission of Mr. Kent's claims--serious construction flaws--there remained no efforts on the part of the NRC, other than Mr. Kent's own, to begin to untangle the mystery of Bechtels' inadequate welding procedures.

Mr. Kent's personal life has been irrevocably harmed as he has waited patiently for his allegations to be substantiated by the nuclear regulators that he placed his trust in. He has been unemployed for nearly a year. His professional reputation hangs in the balance of an ongoing federal investigation. His financial condition has dropped daily. However, it was not until a few weeks ago that Mr. Kent gave up on the NRC. Like so many other good strong workers before him, Mr. Kent sincerely believed that the regulators would pursue his allegations made in defense of the public health and safety, instead he discovered an agency promoting the industry positions.

Last week WXYZ Television Station, in Detroit, the Los Angeles Times, the Wall Street Journal, the Detroit Free Press, numerous local stations in California and Michigan--both radio and television, and national wire services carried the details of Mr. Earl Kent's allegations.

In the wake of the public revelation of Mr. Kent's claims the NRC has finally acted. The Region III office, in a flurry of "catch-up work," finally sent the affidavit to the Region V office. Region V investigators met with Mr. Kent for a seven and a half hour session on October 15, 1982. Unfortunately, the intent of their questioning raises extensive concerns among GAP staff who have worked with nuclear witnesses and the NRC before. In fact, one of the first comments made by one of the investigators was to inform Mr. Kent that his allegations were well-known now all over the United States, as "well as Russia."

The direction of the NRC's questioning was obvious to Mr. Kent. He remains unconvinced that there will be an aggressive investigation into the allegations he has been making for the past eighteen months. His concerns over serious structural flaws at three nuclear plants remain as real as when he risked--and lost--his career to bring them to the attention of his industry supervisors.

Mr. Kent is by far one of the most credible and honest individuals with whom GAP has had the opportunity to work. Our investigation

of his qualifications, professional experience, and contributions to the field of welding impressed us even more than his humility and integrity. I urge either or both of you to personally talk to Mr. Kent if there is any doubt about the allegations that he is making, or about the seriousness of the consequences if these problems that he has identified remain unresolved.

Mr. Warnick's statement about the "proof being in the pudding" seems hopelessly blinded as to the experience of nuclear witnesses at the Midland facility.

A single-point accountability system certainly depends on strong individuals, but with CPCo's reputation for swift and cruel disposition of those workers who point out problems, only a fool would allow himself to be placed in a position of single-point accountability ("SPA").

In order for this proposition to have any credibility GAP recommends that this critical QA/QC link be explained fully at the GAP-proposed meeting in Jackson, Michigan. Along with specific details of this SPA system, we would request that the individual or individuals who are to perform this function explain their personal approach to their position.

Along with the above, GAP recommends the following structural elements be included in this ombudsman program:

- 1) Final approval of the individual(s) should rest with the NRC in a courtesy agreement between CPCo and Region III.
- 2) The SPA officials should have at least one meeting with those public nuclear witnesses who do not believe their allegations have been resolved. This visit should include a site tour structured by the witness to satisfy himself/herself whether repairs have been made on the systems he/she raised questions about. No group of individuals is better prepared to or qualified to assist with identifying problems to be corrected than the witnesses themselves.
- 3) These SPA officials should have frequent (weekly) regularly scheduled meetings with the public to discuss the status of the repair work. These meetings should include an honest discussion of all problems encountered in construction. This "good faith" measure on the part of the utility would do much to recapture some of its lost credibility.

IV. UPGRADED TRAINING ACTIVITIES AND THE QUALITY IMPROVEMENT PROGRAM

The concepts incorporated into the proposals on upgraded retraining were largely positive steps forward. GAP's analysis specifically

approves of the extensive training efforts--including the test pit--to provide as much direct training for workers and quality control personnel involved in the massive work involved. Most specifically GAP appreciates the efforts to increase communication between "individual feedback."

We would like to have more specific information on the mechanisms within the Quality Improvement Program for feedback. Further, if these steps are deemed appropriate to the soils project it would seem only reasonable to incorporate them throughout the construction project. Our analysis of the QIP was limited by the lack of information and we look forward to receiving more detail before the final assessment.

GAP recommends that the training session that covers Federal Nuclear Regulations, the NRC Quality Programs in general and the Remedial Soils Quality Plan be expanded significantly and that the NRC review and comment on the training materials.

Further, that the NRC provide a summary of its intentions and expectations of workers-in soils remedial work as well as QA in general.

GAP also requests that Mr. Keppler conduct a personal visit to the site, similar to his visit to Zimmer, and talk to all the QA/QC employees as soon as possible.

V. INCREASED MANAGEMENT INVOLVEMENT

Finally we express reservations about the increased senior management involvement. While we recognize the intent of this commitment, we are concerned with the lack of corporate character demonstrated to date. It appears quite clear to us that there has been extensive senior management level direct participation to date. That involvement has been less than complimentary to CPCo. In recent months the "argumentative attitude" of CPCo officials have emerged in many forums:

- An August article in the Detroit News, in which President John Selby said he was tired of "subsidizing the public."
- The June and July public "red-baiting" of GAP for its work on behalf of citizens and former workers.
- The recent distribution of a flyer accusing a Detroit television station of "sensationalist and yellow journalism."
- The continuous attempts to influence and intimidate local reporters, editors and newspapers to print only biased accounts of the Midland story.

Although approving in principal of the weekly in depth reviews of all aspects of the construction project, we remain skeptical of this step doing anything to improve the Midland situation. Certainly it should not be confused with the independent audit recommendation of the ACRS, ASLB, and NRC staff.

VI. INPO EVALUATION

The answer to the mystery of Midland's problems is to be provided by an INPO evaluation conducted by qualified, independent contractors. This results from the June 8, 1982 ACRS report, and the July 9, 1982 NRC staff letter requesting such an assessment.

The proposal offered by CPCo, a replica of INPO criteria for independent evaluations, is divided into three parts:

- 1) Horizontal type review;
- 2) Biennial QA Audit; and
- 3) Independent Design Verification (Vertical slice).

It is particularly distressing to us to note that CPCo received proposals and then selected the Management Analysis Company ("MAC") to perform two of the three audits.

MAC is far from an independent contractor on CPCo construction projects. In fact, MAC has been involved with both the Midland and Palisades projects at various times throughout the past decade. For example:

- In 1981 MAC performed an assessment of the hardware problems on site. They failed to identify Zack's continuing HVAC problems, the bad welds in the control panels, and improper welds and cable tray/hanger discrepancies.
- Further, MAC failed to identify the problems of uncertified and/or unqualified welders on site.

GAP strongly disagrees with the choice of MAC. It is an insult to the NRC and the public to accept MAC's review of its own previous analysis as a new and independent audit. Although Mr. L.J. Keebe appears to be both an experienced and credible individual, it does not remove the connection of MAC to two other CPCo-Bechtel productions. This relationship is simply too close for the comfort of the public.

The MAC INPO review may be extremely valuable to CPCo officials as a self-criticism review, however, it should not be presented to the NRC as "independent" by any stretch of the imagination.

Further, there was a marked lack of specific methodology and information about the audit to be performed. GAP staff was particularly disappointed with the lack of specificity into the work to be performed by the "experts." [This report read more like a college term paper review than a technical review of a crucial independent audit.]

It confirms GAP's overall reservations about INPO audits as building an effective wall between the public and the true nature of the problems on the site. Our reservations seems confirmed with reference to establishing layers of informal reporting-- including an initial verbal report to the project--before the actual acknowledgement of identified problems. (October 5, 1982 letter, p. 12.)

The selection of the Tera Corporation to perform the Independent Design Verification is more positive. (GAP was unable to determine whether or not the Tera Corporation has been involved previously with the Midland plant.) Tera's work experience, as presented in the October 5, 1982 letter, at the Vermont Yankee Nuclear Power Plant has been determined to be both extremely thorough and of high quality. The Yankee Plant is rated among the best operating nuclear power plants (those with the least problems) according to the Nuclear Power Safety Report: 1981 (Public Citizen). With the acknowledgement of previous reservations and recommendations about independent audit work at Midland, we concur with the selection of the Tera Corporation for the Independent Design Verification.

The October 5 letter referred extensively to the confirmation of installed systems reflecting system design requirements. GAP hopes that, unlike other audits we have seen, the Tera Corporation does not simply confirm the findings.

Additionally GAP requests that the entire record of comments, investigations and additional information will be provided to the NRC, and also placed in the Public Documents Room, as opposed to CPCo's offer to "maintain" the "auditable record."

There was no reference to the percentage of the work that would be audited by a field verification. This is critical to any type of credible independent review of construction, particularly at plants like Midland and Zimmer where every weld and cable is suspect. We believe the percentage of field review should be established.

The discrepancies documented throughout the review ("findings") should be reported to the NRC simultaneously with the referral to senior level review teams. There is little point to delaying the referral of the findings -- only delays the inevitable, taking time that CPCo doesn't have.

Harold R. Denton
J.G. Keppler

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October 22, 1982

VII. CONCLUSION

The evidence of noncompliances, improprieties, quality assurance breakdowns, misrepresentations, false statements, waste, corporate imprudence and massive construction failures repeatedly meets the general NRC and Region III criteria for suspension of a construction permit or the denial of an operating license. The NRC's own assessment concludes that Midland's Quality Assurance Program--the backbone of any safe nuclear construction--had generic problems. Mr. Keppler concluded that, next to Zimmer, Midland was the worst plant in his region. Last year William Dircks classified it as one of the worst five plants in the country.

In recent months Midland has been the subject of repeated revelations and accusations of construction flaws, coverups, and negligence. The evidence already on the record is indicative of a significant failure on the part of CPCo to demonstrate respect for the nuclear power it hopes to generate, or the agency which regulates its activities.

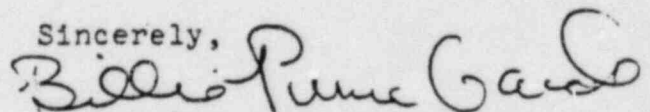
CPCo has taken repeated risks with its stockholders' investments, its corporate credibility and its regulatory image. In each of these risks it has lost. It is too much to expect citizens to accept CPCo's arrogant disregard for the public's health and safety.

GAP recognizes the steps forward by the Regional office--establishing a Special Section to monitor Midland's problems and the request for an independent audit. However, this must only be the beginning.

CPCo has numerous problems to worry about, and it is clearly not in their own best interest to put the strictest possible construction on the regulations under which they have agreed to build this nuclear facility. It is for just this reason that the nuclear industry is regulated -- but even regulation, fines, extensive public mistrust, and corporate embarrassment have not humbled Consumers Power Company. If Midland is ever going to be a safe nuclear facility, someone else is going to have to put their professional credibility on the line. This independent auditor, paid by CPCo, must be given strict guidelines for accountability and responsibility in order to justify its hard line recommendations.

GAP hopes that both the Office of Nuclear Reactor Regulation and the Region III office of the NRC will give serious consideration to GAP's concerns and recommendations set forth above and implement a system whereby there is a truly independent system of auditing the extensive problems with the Midland plant.

Sincerely,



Billie Pirner Garde
Director, Citizens Clinic for
Accountable Government

GOVERNMENT ACCOUNTABILITY PROJECT
Institute for Policy Studies
1901 Que Street, N.W., Washington, D.C. 20009

*C. Winick
& File*

(202) 234-9382

November 11, 1982

Mr. Harold P. Denton
Office of Nuclear Reactor Regulation
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. James G. Keppler
Administrator, Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

PRINCIPAL STAFF			
RA	<i>AD</i>	01	
D/RA		ENF	
A/RA		<i>WPAUG+2</i>	
DPCRP		PAO	
DEP&CS		SLO	
DECTP			
ML			
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Re: Midland Nuclear Power Plant, Units I & II
- Consumers Power Company, Quality Assurance Program
Implementation for Soils Remedial Work
- Consumers Power Company Midland Independent
Review Program

Dear Sirs:

This letter provides a comprehensive review of the written materials and presentations from the October 24 and November 5, 1982 meetings between Consumers Power Company (CPCo) and the NRC at the Bethesda offices. We are submitting these comments on behalf of those former employees, local citizens and the Lone Tree Council of the tri-city area surrounding the plant.

We are pleased with a number of results to date; specifically the inclusion of the Tera Corporation's vertical slice review, the expertise of Parsons and Brinkerhoff, and the impressive qualifications of certain personnel selected to perform the independent assessment. Further, we are pleased with the consensus for the independent auditors to submit their reports simultaneously to CPCo and the Nuclear Regulatory Commission.

In general, however, we remain skeptical of the plan being provided by CPCo to allay legitimate NRC and public concerns over the safety of the Midland project. Although we are operating at a handicap due to the generalized nature of CPCo's presentations, the following specific concerns and observations may be helpful as you review the final CPCo proposal.

I. Summary of October 22, 1982 Recommendations

On October 22, 1982 GAP provided an extensive review of the three Consumers Power Company letters outlining the utility's proposed relief. The review

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included a number of specific concerns which remain unresolved, as well as pertinent recommendations. Based on our review of the licensee proposals (and subsequent presentations) we are asking the NRC:

1. To withhold approval of the independent audit proposal in its present form.
2. To require two further public meetings, in Michigan, that finalize the details of the independent contracts.
 - a. At least one of these meetings should be in Midland, so that local residents can be informed; and one of these meetings should fully explain the proposed single-point accountability (SPA) proposal, including having the individuals who are to perform this function explain their personal understanding of their respective responsibilities.
 - b. Further, GAP recommends that:
 1. Final approval of the SPA individuals rest with the NRC;
 2. SPA officials should commit to at least one meeting and site tour with public nuclear employee witnesses to resolve their allegations;
 3. SPA officials should be accessible to the public on a regularly scheduled basis to discuss the status of the work.
 - c. The second meeting should provide an opportunity for all the contracted independent auditors to meet directly with the NRC staff, in public, and review the terms and requirements of their contracts.
3. To require the expansion of the proposed training sessions, including NRC review of the training materials relating to NRC regulations and requirements.
4. To increase direct contact between NRC regional management officials and QA/QC personnel performing work on the soil remedial project, including written materials for each employee, a site visit by Mr. Keppler, and an "open door" policy with resident inspectors.
5. To reject the INPO evaluation by Management Analysis Company as the independent assessment. (Although GAP believes the INPO evaluation may be beneficial to CPCo management, it does not meet the minimum requirements for either independence or a comprehensive evaluation.)
6. To reject the selection of Stone & Webster for the independent assessment of QA implementation.
7. To request that the entire record, including all relevant, material raw data, be provided to the NRC with the weekly and monthly reports.

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8. To require a mandated percentage of field verification of the systems being reviewed.

Finally, GAP provided a series of specific recommendations for the charters of the independent contractors and subcontractors. These are noted below:

1. The independent contractor should be responsible directly to the NRC, submitting all interim and final product simultaneously with CPCo and the NRC.
2. The independent contractor should do a historical assessment of CPCo's prior work, including a frank report of the causes of the soils settlement problem.
3. The charter should ensure that, once hired, CPCo cannot dismiss the independent contractor from the project without prior notice to the NRC and an NRC-sponsored public meeting to justify the decision.
4. The charter should require that each auditor, at least five already identified, subcontract any services for which its direct personnel are not qualified.
5. The charter should require that the proposed methodology be disclosed: specifically selection criteria and size of the samples for inspections and testing.
6. The charter should require the auditors to provide calculations demonstrating that it is possible to adequately complete its work during the proposed timeframe.
7. The charter should require the auditor to support its proposed methodology through references to established professional codes (ASIM, ASME, ANSI, AWS, etc.).
8. The charter's should require all auditors to report all safety-related information directly to the NRC.
9. The employees and auditors should demonstrate that the personnel assigned to the project are free from conflicts of interest.
10. The auditors must recommend corrective action, and then control its implementation.

Our further comments can be categorized into priority items and methodology.

A.. Priority Items

1. No soils work should be allowed to go forward until all questions on implementation review process are resolved.

- a. Lack of independence. At the November 5, 1982 meeting it was obvious that the most basic questions about Stone & Webster's (S&W) work had not been resolved. The disclosure that S&W in fact had done previous work for CPCo was particularly disturbing. This places S&W in the same position as MAC. According to the "Independency Criteria" outlined in the February 1, 1982 letter from Chairman Palladino to Congressman John Dengell, as well as the previous independence criteria used in Region III, S&W must be rejected.
 - b. Conflict of interest. Further, the conflict-of-interest clause pertaining to "significant amounts" of stock has not been adequately explained, nor has the specific stockholding been adequately disclosed for the members of S&W's management review team and the S&W corporation itself. Insignificant conflicts should be fully disclosed and explained, subject to NRC approval.
 - c. Lines of authority. Additionally, S&W and Consumers representatives could not provide adequate answers to explain who has final decisionmaking authority within and between S&W, Bechtel and Consumers. It was quite clear that Consumers "does not anticipate" any problems between the numerous involved parties. This optimistic attitude belies a sense of security that is inconsistent with both the potential and the historic problems between Bechtel and Stone & Webster. (Specifically, GAP recommends the use of the NRC dissenting professional opinion procedure throughout this process.
2. The CPCo option to provide QA implementation for only a 90-day period must be dropped.

As proposed, the 90-day initial assessment period will cover only the trial period of construction. This limited scope cannot realistically present any assurance that CPCo and Bechtel have reversed a decade-long history of failures and bungling. Anything less than 100% review will fall short of accomplishing the goal of the proposed remedy.

3. Until the specific methodology of how S&W is going to evaluate the adequacy of technical, construction and quality procedures is disclosed, no approval should be issued.

Although the evaluation will be cumulative, it is critical that NRC staff and the public are aware of the methodology for S&W's review. Otherwise, faulty fact-finding techniques will be faits accompli when the public has an opportunity to review them.

4. Release and Review of the Project Quality Plan for soils QA review is essential.

This document evidently holds the key to S&W review. It is through this Plan that the actual implementation will be reviewed and

monitored. It is critical that this document be released for public review and analysis before any NRC approval is given.

5. It is critical that CPCo commission an independent assessment team as quickly as possible.

1. As indicated previously, GAP cannot accept MAC and the INPO evaluation as a substitute for an independent review. (See October 22, 1982 letter, pp. 17-18.) As a result we have refrained from providing specific comment on the MAC proposals. However, some of the major programmatic weaknesses are listed below--

- lack of historical analysis of problems to get to the "root cause," leaving unanswered questions with regards to the causes (contradicting the ACRS's June 9, 1982 request to the NRC staff);
- lack of trending of systems or nonconformances to identify specifically weak areas of construction or QA/QC functions;
- time guidelines dictated by the utility, hampering the independence of any company to define the scope of necessary evaluations;
- lack of specified criteria to identify the qualifications of the key factfinders and inspectors;
- reporting procedures that exclude independent contact with the NRC;
- evaluation/contact report that provides a weak substitute for Nonconformance Reports without verification of corrective action;
- lack of recommendations for resolution of identified weaknesses; and
- lack of recognition for the gravity of Midland's problems, evidenced by attempting to substitute INPO for aggressive independent assessment.

6. Expansion of the role performed by Tera Corporation is appropriate.

- a. The Tera Corporation proposed to look at the Auxiliary Feedwater System for its independent safety system. This system has been reviewed several times in previous audits. GAP recommends that this system be rejected in favor of a combination of two systems: one system under controversy -- the HVAC system specifically^{2/} -- and another system yet unidentified for major review or auditing.

^{2/}In an October 12, 1982 letter from Mr. J. G. Keppler to Ms. Billie Garde, it was suggested that the independent assessment would resolve the questions of the

- b. Tera's work, although admirable, failed to provide an acceptable or even identifiable level of field verification of the as-built condition and failed to explain the disclosed inconsistencies in the scope of its proposed field verification effort.

It is our recommendation that Tera provide additional qualified personnel to conduct comprehensive field review of the system(s) under scrutiny.

- c. Tera should be removed from any reporting line through MAC, answering directly (and simultaneously) to the NRC and the licensee with reports and findings. (This was already reflected in Tera written presentation, but was not clear in the MAC/CPCo comments at the October 24 meeting.)

B. Methodology

Generally, the specific methodology for assessments/audits was non-existent. Without the information on such issues as the size of samples, specific system criteria for examination, evaluation criteria, forms used for evaluations and reporting procedures, it is impossible to accept any review as adequate.

The Tera's presentation was a refreshing deviation from the otherwise public relations-style presentations. It is our request that any further meetings be delayed until after CPCo provides adequate comprehensive methodologies for analysis. (Perhaps the NRC could provide examples of particularly noteworthy independent reviews to CPCo in an effort to demonstrate a truly broad scope assessment.)

It is our earnest hope that this methodology, once provided, will provide a basis to begin restoration of public confidence in the plant. Anything short of an "open book" at this point will fall short of the goals of this expensive effort.

We have attempted to provide a thorough review of the massive independent assessment efforts at the Midland site. But a comprehensive effort is impossible based on the minimal public disclosure to date. As a result, we request the following specific plans or documents from the NRC in order to finish our evaluation.

1. The details of the Quality Improvement Plan (QIP) (September 17 letter to Denton).
2. The Project Quality Plan (S&W presentation, November 5, 1982)
3. The Single Point Accountability System. (September 17, 1982 CPCo letter to Denton)

(footnote continued)

HVAC systems adequacy. It does not appear to be the case in any of the presentations thus far.

Mr. Harry P. Denton
Mr. James G. Keppler

- 7 -

November 11, 1982

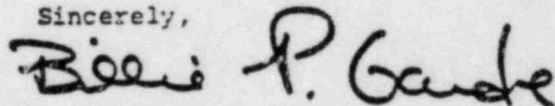
4. The criteria for selection of the independent auditors
5. The criteria for choosing the specific safety system
6. A reporting (communication line) chart, from the worker up and the NRC down
7. The conflict-of-interest disclosures for all independent assessment corporations, individuals and management
8. The training materials to be used as part of the QIP
9. The criteria for selection of field verification inspections by Tera personnel
10. The breakdown of S&W personnel with nuclear experience by plant site.

II. Conclusion

Finally, we wish to thank you for your inclusion of public comment into this procedure. It is a positive step forward on behalf of public safety issues.

We look forward to notification of the next meetings on the independent assessment of the Midland plant, as well as notification of any other pertinent meetings on the Midland project. As the role of the Government Accountability Project in the Midland investigation grows, it seems appropriate to repeat an oft-used phrase of Mr. James G. Keppler about the William H. Zimmer Nuclear Power Station. The "real sin" at Zimmer is that the plant is in the ground at 97% complete. Since Midland is far from complete, there remains an opportunity to avoid the sins of Zimmer -- but it will take concerted effort by all parties at this critical juncture.

Sincerely,



BILLIE P. GARDE
Director
Citizens Clinic for Accountable Government

BG/my



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

OW. [unclear]
(2 files)

NOV 23 1982

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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NOV 23 1982

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).

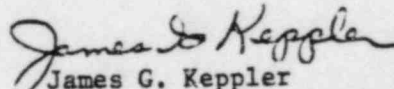
The point I want to make is that quality assurance is not a static program. Construction continues at Midland, and I must assure that there is an adequate quality assurance program to cover that work. If I become convinced that the quality assurance system is incapable of monitoring construction, clearly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

GOVERNMENT ACCOUNTABILITY PROJECT

Institute for Policy Studies
1901 Que Street, N.W., Washington, D.C. 20009

(202) 234-9382

October 5, 1982

Mr. James Keppler
Regional Director - Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyr, Illinois 60137

Dear Mr. Keppler:

It is with some urgency that I again pose the questions that I raised on behalf of Michigan residents in a September 6, 1982 letter to you regarding the Midland Nuclear Power Plant project. Although the NRC's lack of responsiveness to Midland's problems has been publicly attributed to an increased workload and staff shortages, your ability to make serious decisions regarding technical and legal questions does not appear to be affected by either lack of staff or an expansion of the problems.

The likelihood that the Midland plant construction will proceed according to the utility's mandated timetable was reaffirmed in recent weeks. Regardless of the latest rhetoric emanating from Consumers Power and your staff, the facts speak the strongest. They indicate that very little has changed.

- The Special Section of your office, formed in June, has been working less than two months, yet already Mr. Landsman of that staff has requested the national Office of Investigations (OI) to investigate Consumers Power Company for violating the Board's order and making false statements to the NRC.

- GAP's affidavits, though the subject of intense public interest, remain largely uninvestigated with only one of the witnesses interviewed by the NRC. That interview only happened after the witness himself made a personal trip to check on the status of the investigation into his allegations.

- The very status of the investigation remains a mystery. As recently as last week two members of your staff had opposite answers to queries from Detroit and Midland press; Mr. Robert Warnick apparently believed an investigation was underway, while Mr. Bert Davis cited lack of staff as the reason no investigative effort had begun!

- The Zack investigation, although serious enough to require an independent audit at the LaSalle, Illinois plant, remains largely in the hands of Consumers Power Company -- the one utility that could have and should have

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notified the NRC of Zack's quality assurance breakdown in August 1981. (The conflict of interest that the NRC has permitted in allowing the licensee to sit on a situation that is both the subject of intense litigation and also carries the potential for criminal prosecution under the Atomic Energy Reorganization Act is inexcusable.)

In addition, significant decisions must be made regarding the soils settlement issue and your proposed testimony revision to the Atomic Safety and Licensing Board (ASLB). Your decisions will have irreversible consequences for the health and safety of the residents of Michigan -- concerns that outweigh the financial consequences to Consumers Power Company.

As recently as two weeks ago you received from Consumers Power vague details of "promised" improvements and another round of reassuring if you allow the work to begin anew. GAP's Citizens Clinic has offered its independent analysis, but your office has failed to solicit any public input about your decision.

On behalf of those citizens of Michigan whose interests we represent, we offer the following comments on the question of structural integrity,

Can a foundation be reconstructed after-the-fact by a utility whose commitment to its own agenda has significantly endangered its company and stockholders, the plant, and the residents of Central Michigan?

As you know, this problem -- the sinking of the plant as a result of poorly compacted soil -- was addressed by a December 6, 1979 NRC order that modified construction permits for the Midland nuclear plant based upon the following soils issues: (1) a QA breakdown, (2) the lack of technical acceptance criteria for soils remedial work, (3) a material false statement in the FSAR.

This order sought suspension of soils-related work "until the related safety issues are resolved." (Part III, p. 4, 12/6/79 Order.)

These safety issues and related contentions of intervenors were to be resolved by the Atomic Safety and Licensing Board hearing the case. Yet, the soil-related and QA issues of the December 6, 1979 order remain unresolved.

The original problems, compounded by the soils remedial work -- allegedly proceeding under Consumer's own risk -- grow in absurdity and detail. Yet, as a result of the wording of the December 6, 1979 order, the soils-work suspension sought by the NRC is invalid until the hearing issues are resolved. Therefore, the soils remedial work has continued.

In your own July 30, 1980 discussions with Thomas Gibbon, you expressed concern that the ongoing soils work will make resolution of the settlement problem much more difficult. You wanted the work stopped until the problem was solved. The Board shared this concern about the adequacies of and potential safety impact of ongoing construction activities. (Board Memorandum of 4/30/80, p. 10.) They opened the soils hearing by asking the NRC "whether any halt in

planned or ongoing construction activities would be appropriate pending resolution of the soils settlement questions" (Tr. 754-755).

The NRC answered the Board by completely recasting the Board's public-safety concerns into a utility timetable question. The staff answered that "there are two near-term construction activities important to CPC scheduling needs" (7/7/81 Hood testimony, Tr. 1094) of going forward. The NRC never even considered the Board's question of whether any soils-related work needed to be halted for the sake of safety.

Soils remedial work has been similarly permitted since 1978 despite the doubtful performance of Consumers Power Company, as evidenced by (1) false statements, (2) withholding of significant information, (3) defiance of NRC agreements, (4) repeated quality assurance failures and Appendix B violations, and (5) tendency to push ahead without proper assurances to the NRC.

At the time of the 1982 SALP meeting you raised significant questions about Consumer's capability to properly implement soils remedial work. This apparently led to your announcement that you had reconsidered your earlier "reasonable assurance" testimony before the ASLB pertaining to the Midland site's adequacy.

You pledged to conduct these SALP and follow-up QA meetings publicly. We regarded this as a positive step toward assuring the public of a straightforward and open resolution of the difficult QA/safety questions. You stated an intent to "take it to the Board" and "let them decide whether QA was still defensible."

But by July 1982, when Midland's problems were even more serious, Mr. Paton announced an even more liberal approach to resolving the QA dilemma. This new NRC plan consisted of top-level NRC suggestions to top-level CPC executives for QA improvements and QA solutions! These NRC suggestions and CPC commitments are based on expectations for future QA adequacy, ignoring the history of Consumer's poor quality, and their continued inability to conform to NRC guidelines and Board orders.

You have apparently discarded your 'open meeting policy' before it even began, and have vacated your intent to take the question of QA adequacy to the Board for its resolution. These 'high level meetings' from which the public and intervenors were excluded apparently were necessary to discuss the terms of the latest QA agreement with Consumers Power Company officials. It appears that the parties to the OM-OL proceeding and the public will be asked to accept meaningless hearings after the fact on the critical question of QA adequacy. The soils remedial work in question will have already gone forward.

Although we concur with your decision to require an independent third-party review of the soils remedial work, the necessity of this step clearly confirms the NRC's profound lack of confidence that Consumer's QA is able or willing to properly perform the difficult soils remedial task at hand.

The QA "program" at Midland has been updated, refined and improved ad infinitum over the years only to return time and time again to a reevaluation. As pointed out by the Board, in one of the earliest Midland cases (ALAB 106, RAI-73-3 II, p. 184), a QA "program" is only as good as the people implementing it. "Unless

Mr. James Keppler

- 4 -

October 5, 1982

there is a willingness -- indeed desire -- on the part of the responsible officials to carry out the QA program to the letter, no program is likely to be successful."

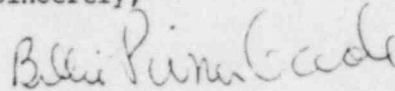
Your new plan to evaluate QA adequacy based upon NRC QA suggestions and CPC QA commitments, as outlined in the September 17, 1982 Cook letter, turns away from the key question of QA implementation.

Indeed, regardless of Consumers Power Company's latest promises and assurances, very little has changed. The residents of Central Michigan expect and deserve the right to be protected from potential nuclear accidents. You have the responsibility to protect their interests from a company whose financial viability depends on the timely completion of the Midland plant.

In considering your testimony revision, we urge you to examine critically the history of Consumers Power Company's nuclear adventures at Palisades and Midland. We believe any reasonable evaluation will convince you to officially inform the Atomic Safety and Licensing Board of the problems you have in maintaining your reasonable assurance that "all is well" on the Midland site.

Further, we notify you of our intent to present in the near future an evaluation of the independent audit proposed by Consumers Power Company.

Sincerely,



BILLIE PIRNER GARDE
Director, Citizens Clinic for
Accountable Government

BPG/mcy



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

OCT 12 1982

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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, NW
Washington, D.C. 20009

Dear Ms. Garde:

I have reviewed your September 6, 1982 letter to me and appreciate the opportunity to respond to your concerns.

The Midland allegations submitted by the Government Accountability Project earlier this year have been forwarded to the NRC's Office of Investigations for review and investigation. Region III will provide technical assistance for the investigators on the case.

Your comment that the special inspection team "has not arrived" is simply not true. The Office of Special Cases was formed in mid-July 1982 and the selection of personnel was made at that time. Robert Warnick is director of the new office and Wayne Shafer is chief of the Midland Section. They have been actively involved since then. I understand from Mr. Shafer of my staff that you would like to meet with the Midland Section personnel. I certainly encourage these types of meetings and urge you to schedule a meeting when it is convenient for both you and my staff.

One point needs to be clarified. I did not organize the Midland Section to perform investigations. They are performed by the NRC's Office of Investigations, and all investigators formerly assigned to me now work for James A. Fitzgerald, Acting Director, Office of Investigations. Region III continues to perform technical inspections and provides technical support for OI as requested. Inquiries about investigation policies should be addressed to Mr. Fitzgerald at the NRC in Washington, D.C.

Regarding the Zack Corporation problems, you are quite correct that the LaSalle plant has had priority over Midland. Many of the problems, however, have generic applicability to all the sites where the Zack Corporation is involved. As the investigation at the LaSalle plant and Zack corporate office continues, many of the generic problems that could apply equally to the Midland site are being reviewed. Specific Zack problems at the Midland site will be investigated as manpower availability permits. The Consumers Power Company investigation of the Zack allegations will not be a substitute for the NRC inquiry; we intend to both assess the adequacy of the Consumers Power investigation and continue our own investigation of the allegations relating to Midland. We have set January 1983 as a tentative date for completion of the Zack investigation. Until the investigation is complete, we will not be able to discuss the findings.

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OCT 12 1982

As I am sure you know, the Systematic Appraisal of Licensee Performance (SALP) Program is an assessment of licensee performance based on input from all the inspectors involved in inspections with the licensee. The SALP rating in Support Systems, VI, applied only to Consumers Power Company's quality effort, not to the Zack Corporation. You may wish to discuss this with the Midland Section when you meet with them. NRC procedures require that the licensee be provided the opportunity to respond to the SALP findings, and the meetings we have held with Consumers Power are to fulfill that requirement.

Regarding the question of why Consumers Power Company did not report the Zack QA breakdown to the NRC in the fall of 1981, the documents provided by another allegor revealed that Consumers Power and Bechtel concluded that the problems would not have adversely impacted the safety of operations at the Midland plant. The basis for this decision will be reviewed during our site specific inspection at the Midland site.

The NRC became aware of the Zack Corporation problems in October 1981 when the Commonwealth Edison Company submitted a 50.55(e) report.

I have made no decision as to whether an independent audit of Zack work will need to be conducted at the Midland plant. Consumers Power Company is presently selecting one or more independent contractors to perform an independent third party review of a critical plant system or subsystem. In addition, Consumers Power plans to have an independent contractor conduct an INPO type construction project evaluation. My decision regarding an independent audit of Zack work at Midland will be based on the findings of our investigation and special inspections and the scope and findings of the licensee's third party independent assessments.

Regarding the interview with one of the allegors whose affidavit was presented to NRC by GAP, as you stated, the interview was taped. My staff has reviewed the transcript of this interview and noted no discussion regarding whether or not this person could go to the site to assist the NRC. Some of the allegor's concerns have been looked at by our Region III welding specialist. The balance of the allegors concerns will be addressed either by investigation or special inspection.

Our policy for taking personnel to the site is well known. The information provided by this individual is being reviewed by my staff. When our review is completed he will be contacted by the NRC and requested to accompany us on site.

OCT 12 1982

Regarding the Bechtel Employee Inventions and Secrecy Agreement, form 3002, we view this document as a standard form used by companies to protect the company's proprietary information and inventions. I have no knowledge of anyone being fired for talking to the NRC, with this document used as a basis for dismissal.

Effective later this month, new regulations will be in effect requiring licensees, including nuclear construction sites, to post notices informing employees of their protection against discrimination for providing information to the NRC. We will review the Bechtel form and its use further to determine if the workers' perception is that it prohibits discussions with NRC personnel. Certainly, the new posting requirement may help alleviate any perceived intimidation for workers desiring to provide information to the NRC. A copy of the required posting, NRC Form 3, is enclosed.

In closing, I want to personally assure you that the NRC is diligently working on the allegations that have been presented to us by GAP. I am sure that GAP wants our office to do a complete and thorough investigation and that is exactly our intent, but this is time consuming. We must assign our priorities to the most safety significant issues and I consider the Midland Remedial Soils Effort the most safety significant issue at the site. As priorities dictate, all relevant safety issues will be investigated.

Further, we sincerely do perceive our role as representatives of the public interest and certainly do not feel constrained by the utilities' timetables. Similarly, we should not feel bound by timetables called for by other interested individuals or organizations. This region has taken and will continue to take, appropriate and decisive action when problems are identified at nuclear plants.

Sincerely,

James G. Keppler
Regional Administrator

Enclosure: As stated

bcc w/enclosure:

- H. R. Denton
- D. G. Eisenhut
- W. D. Paton
- R. C. DeYoung

RIII Midland Files

OFFICE	RIII	RFW	Davis	Keppler	O.I. RIII FOSTER	STRASSER
NAME	Shafiq	Warnick	Davis	Keppler	FOSTER	STRASSER
DATE	10/6/82	10/6/82	10/8/82	10/12/82	10/7/82	10/7/82



UNITED STATES NUCLEAR REGULATORY COMMISSION
Washington, D.C. 20555

NOTICE TO EMPLOYEES

OUR EMPLOYER'S RESPONSIBILITY

If your employer is required to—

- 1. Apply these NRC regulations and the conditions of his NRC license to all work under the license.
- 2. Post or otherwise make available to you a copy of the NRC regulations, rules, and operating procedures as which apply to work you are engaged in, and explain their provisions to you.
- 3. Post Notices of Violation involving radiological working conditions, proposed imposition of civil penalties and orders.
- 4. Refrain from discriminatory acts against employees who provide information to NRC.

OUR RESPONSIBILITY AS A WORKER

You should familiarize yourself with the provisions of the NRC regulations, and the operating procedures which apply to the work you are engaged in. You should observe their provisions for your own protection and that of your co-workers.

WHAT IS COVERED BY THESE NRC REGULATIONS

1. Limits on exposure to radiation and radioactive material in restricted and unrestricted areas;
2. Measures to be taken after accidental exposure;
3. Personnel monitoring, surveys and equipment;
4. Caution signs, labels, and safety interlock equipment;
5. Exposure records and reports;
6. Options for workers regarding NRC inspections;
7. Identities of "protected activities" that employees may engage in;
8. Prohibits discrimination against employees who engage in these protected activities;
9. Identifies the Department of Labor as a source of relief in the event of discrimination; and
10. Related matters.

REPORTS ON YOUR RADIATION EXPOSURE HISTORY

1. The NRC regulations require that your employer give you a written

report if you receive an exposure in excess of any applicable limit as set forth in the regulations or in the license. The basic limits for exposure to employees are set forth in Section 20.101, 20.103, and 20.104 of the Part 20 regulations. These Sections specify limits on exposure to radiation and exposure to concentrations of radioactive material in air.

2. If you work where personnel monitoring is required pursuant to Section 20.202:
 - (a) your employer must give you a written report of your radiation exposure upon the termination of your employment, if you request it, and
 - (b) your employer must advise you annually of your exposure to radiation, if you request it.

INSPECTIONS

All activities under the license are subject to inspection by representatives of the NRC. In addition, any worker or representative of workers who believes that there is a violation of the Atomic Energy Act of 1954, the regula-

STANDARDS FOR PROTECTION AGAINST RADIATION (PART 20); NOTICES, INSTRUCTION! REPORTS TO WORKERS; INSPECTIONS (PART 19); EMPLOYEE PROTECTION

The Nuclear Regulatory Commission (NRC) in its Rules and Regulations: Part 20 has established standards for your protection against radiation hazards from radioactive material under license issued by the Part 19 has established certain provisions for the options of workers engaged in NRC licensed activities. Parts 30, 40, 50, and other parts containing provisions related to employee protection.

POSTING REQUIREMENTS Copies of this notice must be posted in a sufficient number of places in every establishment where activities licensed by the NRC are conducted, to permit employees to obtain a copy on the way to or from their place of employment.

ions issued thereunder, or the terms of the employer's license with regard to radiological working conditions in which the worker is engaged, may request an inspection by sending a notice of the alleged violation to the appropriate United States Nuclear Regulatory Commission Regional Office (shown on map below). The request must set forth the specific grounds for the notice, and must be signed by the worker or the representative of the workers. During inspections, NRC inspectors may confer privately with workers, and any worker may bring to the attention of the inspector any past or present condition which he believes contributed to or caused any violation as described above.

EMPLOYEE PROTECTION If an employee believes that discrimination has occurred due to engaging in the "protected activities" and employees may, within 30 days of the discriminatory act, file a complaint with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor shall conduct an investigation

and shall, where discrimination has occurred, issue an order providing relief to the employee if relief is not provided by other means of settlement.

PROTECTION OF INSPECTORS

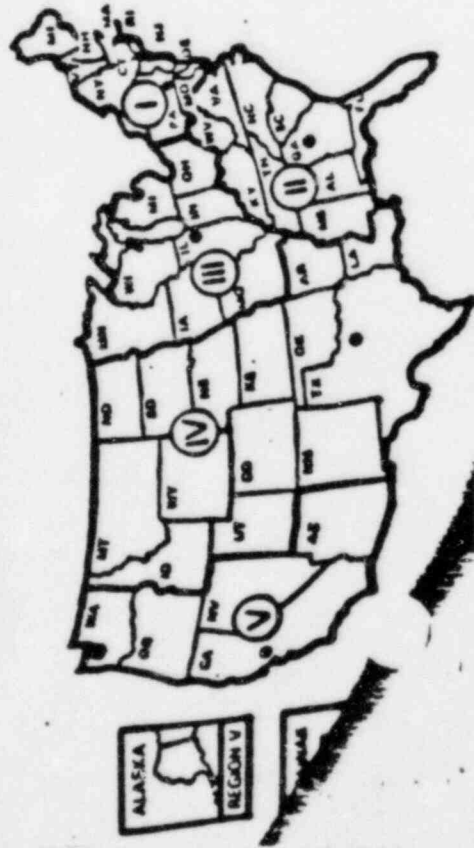
The amended Atomic Energy Act, section 236, provides criminal penalties against any individual who is liable, for: by assault, resist, obstruct, impedes, intimidates or interferes with any person who performs any inspections which (1) are related to any activity or facility licensed by the Commission, and (2) are carried out to satisfy requirements under the Atomic Energy Act or under any other Federal law covering the safety of licensed facilities or the safety of radioactive materials. The acts described above are criminal not only if taken against inspection personnel who are engaged in the performance of such inspections, but also if taken against inspection personnel on account of such duties.

SABOTAGE OF NUCLEAR FACILITIES OR FUEL

The amended Atomic Energy Act, section 238, provides criminal penalties against any individual who is liable, for: physical damage, or attempt to physical damage, or attempt to storage facility licensee, under the or any nuclear fuel or spent fuel regardless of location.

UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICE LOCATIONS

A representative of the Nuclear Regulatory Commission can be contacted at the following addresses and telephone numbers. The Regional Offices will accept collect telephone calls from employees who wish to register complaints or concerns about radiological working conditions or other matters regarding compliance with Commission rules and regulations.



REGION	ADDRESS	TELEPHONE
I	U.S. Nuclear Regulatory Commission Region I 621 Park Avenue King of Prussia, PA 19380	215 337-60
II	U.S. Nuclear Regulatory Commission Region II 191 Riverside Dr., N.W., Suite 2108 Atlanta, GA 30303	404 221-66
III	U.S. Nuclear Regulatory Commission Region III 700 Rosewood Road Green Bay, WI 54307	312 832-26
IV	U.S. Nuclear Regulatory Commission Region IV 811 Ryan Plaza Drive, Suite 1000 Arlington, TX 76012	817 466-81
V	U.S. Nuclear Regulatory Commission Region V 1445 Marina Lane, Suite 210 Walnut Creek, CA 94608	415 943-27

Regional Offices

GOVERNMENT ACCOUNTABILITY PROJECT

Institute for Policy Studies
1901 Que Street, N.W., Washington, D.C. 20009

(202) 234-9382

September 6, 1982.

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Mr. James Keppler
Director, Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

As you know, the Citizens Clinic for Accountable Government of the Government Accountability Project ("GAP"), the Institute for Policy Studies, has adopted the Midland case. GAP investigators have completed an intensive two-part investigation into worker allegations on the Midland site. Further, Citizens Clinic staff have worked closely with citizens, local and state leaders, and organizations to determine the level of anxiety and public opinion about the Midland plant. Our findings have confirmed that the plant qualifies for its position as one of the five worst in the nation.

In June of this year I was impressed by your announcement of plans to begin a special investigation team to deal with Midland's intense problems. In a conversation with Mr. Norelius in May, 1982 concerning our Midland investigation I requested the opportunity to provide input into the planning of that special investigation team. Much has happened since June 29 when GAP submitted the original set of six allegations to your office. Unfortunately, the arrival of the promised special investigation team has not been one of those happenings.

Admittedly, both GAP and Region III have had an intense workload in the past two months. However, a number of developments recently are of great concern to our clients and the Project. I am taking the liberty of addressing these in this letter, as well as a number of administrative matters. I look forward to your clarification and/or response.

I. The Zack Corporation as regards the Midland Nuclear Power Station

Although your office has expended a great deal of time on the problems identified in the Heating, Ventilating and Air Conditioning ("HVAC") system at the LaSalle plant, I am not aware of any ongoing efforts at the Midland site. I am aware that Commonwealth Edison's situation at LaSalle has been a priority item in the three-plant examination. It is, however, no longer justifiable to delay an investigation into the actions by Consumers Power Company's Midland Project Quality Assurance Department ("MPQAD").

The facts in the Midland case reiterate the lessons of our experiences at Zimmer and LaSalle. MPQAD is not an effective substitute for a strong NRC inspection program; instead, as Mr. Terry Howard and the Zack QA Department

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discovered, MPQAD is worthless in protecting workers.

If there had ever been a second thought in your mind as to the Consumers Power Company drive to have Midland meet its Dow Chemical deadline, regardless of the bigger price tag it may have for public health and safety, the Zack incident should have sealed your conclusions. Not only was Consumers Power painfully aware of the Zack QA breakdown after Mr. Dean Dartey exposed the Zack deficiencies in 1980, they were the first utility of the three affected to be contacted, having an entire month longer than Commonwealth Edison and Illinois Power and Light.

Consumers Power also participated directly in the manipulation of the QA breakdown by supplying an employee, Mr. Howard McGrane, to perform an intensive audit. This is a sickening example of manipulating the regulatory process to serve the utility. I am deeply disappointed that you have not taken the initiative to take appropriate action at the Midland site.

At a recent meeting with Commonwealth Edison over their future handling of the Zack allegations, you imposed a third-party audit because you indicated that the public has lost confidence in ComEd's ability to give open unbiased information to either the NRC or the public about problems. Consumers Power's credibility was destroyed long before the latest Zack incident. This latest event only confirms the public's mistrust of a utility caught in a "Catch 22" contract. (Attachment 1, at 9.) If the situation at Midland was historical in nature, I would defer this letter to a later date. Unfortunately, the luxury of extra time at Midland has run out. According to our sources, conditions at Midland deteriorate daily.

II. The Systematic Appraisal of Licensee Performance ("SALP") rating debate

Consumers Power Company has been quite demonstrative toward your office in regards to the 1981 SALP ratings they received. It appears that Consumers' intent is to keep both regulators and public interest groups as busy as possible in defensive positions. Although I have a deep appreciation for their need to do so, nevertheless it does nothing toward either improving or guaranteeing the construction quality at Midland.

The recent meeting held on the SALP rating debate certainly did nothing to improve the construction quality at Midland, nor encourage utility spokespersons to cease their bantering about the deserved low SALP ratings. Even the local paper took exception to the NRC's focus on the SALP debate. (Attachment 2.) It is our position that the SALP rating in support systems, VI, was totally inaccurate and far too generous. Zack never improved their QA program. They merely agreed to transfer the paperwork responsibility to the utility, which has an even greater vested interest in the outcome of the monitoring of Zack's work. In fact, the bottomline in the Zack incident on the Midland site comes down to questions that Region III has not yet asked:

- 1) Why didn't Consumers Power report the Zack QA breakdown to the NRC in the fall of 1981?
- 2) When did the Zack problems become apparent to the NRC (Regional or on-site) following the Dartey investigations? Under what circumstances?
- 3) Will the independent audit apply to Midland also? If not, why? If it does, under what arrangements?

III. The recent meeting between Mr. Earl Kent, former Midland worker, and Mr. James Foster, NRC Investigator

Mr. Earl Kent recently contacted me with concerns about the status of the investigation into his allegations about the Midland Nuclear Power Station. His concerns are well founded and I have agreed to contact you directly concerning the Midland investigation. This letter represents the joint comments of Mr. Kent and myself.

Mr. Kent has an impressive and credible background. He has been a welder for almost two decades, rising to a position of respect and confidence among his professional peers. His information is iron-clad. Two months ago, he and three other workers submitted affidavits on Midland. Last week Mr. Kent made a personal trip to the Glen Ellyn office to check on the status of the investigation into his allegations. What he discovered shocked him. It does not shock me -- I wish it did.

Mr. Kent met with Mr. James Foster. The meeting was taped. During the 1 1/2-hour meeting, Mr. Kent detailed the inherent welding problems at Midland. He detailed with diagrams extensive problems with fillet welds and described the inspection errors. He explained that his affidavit to GAP was only an overview of the problems at Midland and that he was anxious to give explicit details -- about Midland, Palisades and the San Onofre plants he had worked on. However, he was told that it would be months before he was recontacted, and only to answer specific questions that might arise. It is intolerable and inexcusable for Region III to continue to deal with nuclear witnesses as distant observers.

Mr. Kent volunteered to point out to the NRC on the site the areas where the welding problems were most extensive. Yet, he was told that nuclear witnesses can't go on the construction site to identify the problems! An incredulous statement in the light of the LaSalle worker tours and the involvement of Mr. Howard and Ms. Mareello in the Zack investigation. Finally he was told that Region III would get to Midland when it had time.

Mr. Keppler, if Region III doesn't have time for Midland now, it will be necessary to have enough time for another Zimmer later. I am not challenging your priorities for the past two months. But Midland's problems have to be addressed, promptly and effectively, and I was deeply distressed at the comments I learned from Mr. Kent.

I urge you to personally listen to the tapes of the conversation between Mr. Foster and Mr. Kent at your earliest convenience. It appears to both Mr. Devine and myself, as well as to Mr. Kent, that an independent audit of the welding problems will be mandatory.

Mr. Kent, as you know, has remained relatively discreet in his public allegations. He is one of those protected by your confidentiality agreement. In keeping with that, we request you consider this information under his file, or remove his name and any identifying information from it before releasing it. Further, I have included a copy of Mr. Kent's amended notarized affidavit which he said Mr. Foster did not have. (Attachment 3.)

IV. Bechtel's secrecy agreement

As I have indicated to you previously, we have encountered a larger amount of intimidation on the part of nuclear workers at the Midland site. This "intimidation," unlike that encountered at Zimmer, is apparently a result of a serious misunderstanding between Bechtel's employees and outside interests in the safety of the Midland Nuclear Power Plant.

In researching the problem of workers being fearful of talking to any outsider, whether your agency representatives, GAP, or the press, we discovered that they overwhelmingly believed they could be sued by Bechtel on "breach of contract." This situation has extreme ramifications for the premise of 10 C.F.R. 19 that guarantees protection for and, in fact, requires workers to report safety defects.

I understand that you are clarifying this situation. Please address the NRC's position on this Bechtel document. (Attachment 4.)

V. Nuclear Regulatory Commission Investigators and the Government Accountability Project

For the past two years members of the GAP staff and your own staff have worked on several nuclear cases. Recently our efforts at Zimmer and LaSalle have taken the majority of our Project's time. Understandably we are often in conflicting positions, representing those internal nuclear witnesses who did not find an effective avenue for their concerns and/or dissents. We believe this is a natural part of the "checks and balances" system of our government.

The Government Accountability Project has attempted to be cooperative and to assist your own investigators, while maintaining a commitment to the best interests of our clients. We do place the public health and safety as our highest priority. Often we must ensure confidentiality and protection for GAP's clients and other witnesses in order to convince them to deal with the government at all. I am convinced that you understand our position, and regard it professionally with the best intentions.

Mr. James Keppler

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September 6, 1982

However, it appears your best intentions may be seriously compromised if your staff fails to perceive their role as defenders of the public interest, not the utilities' timetables.

You have been anxious for us to work toward a better attitude on your efforts to improve the quality of investigations. I believe they have improved. The Zack situation was a costly, embarrassing lesson. It has placed us in a difficult position in our dealings with members of your staff. We must protect the witnesses, from poor judgments of your investigators, as well as from the utilities' vested interest. It's a position we would rather not be in.

Unfortunately, the recent reorganization of the NRC investigators has not yet been clarified. Until it has been I am unsure of where to address specific concerns raised by our clients over individual investigators.

I anticipate that the administrative reorganization will be explained shortly, and thank you ahead of time for your explanation.

* * * *

In conclusion, I reiterate both GAP's two-month old plea to get the investigative effort going on the Midland site, as well as my request for the opportunity to make input into the structure. I believe that now, more than ever, new investigators from the Office of Investigations be appointed to the Midland case.

Sincerely,



BILLIE P. GARDE

Director

Citizens Clinic for Accountable Government

BPG/mcy

Attachments - 4

STATEMENT OF BILLIE PIRNER GARDE
CITIZENS CLINIC FOR ACCOUNTABLE GOVERNMENT

ON THE

MIDLAND NUCLEAR POWER PLANT

LANSING, MICHIGAN

June 29, 1982

Government Accountability Project
1901 Que Street, N.W.
Washington, D.C. 20009
202-234-9382

~~SHOGASAH~~

I. INTRODUCTION

On behalf of the Government Accountability Project of the Institute for Policy Studies, or "GAP," and on behalf of the Lone Tree Council it is an honor and a privilege to appear before you today.

A brief description is in order of who we are, how we became involved at Midland, the events leading up to this press conference and the issues we believe the public needs to be aware of.

II. BACKGROUND

The Government Accountability Project is a project of the Institute for Policy Studies, Washington, D.C. The purpose of its program is to broaden the understanding of the vital role of the public employee in preventing waste and corruption, to offer legal and strategic counsel to whistleblowers, to provide a unique legal education for law students, to bring meaningful and significant reform to the government workplace, and to expose government actions that are repressive, wasteful, or illegal and that pose a threat to the health and safety of the American public.

Presently the Project provides a program of multi-level assistance for government employees who report illegal, wasteful or improper actions by their agencies. GAP regularly monitors governmental reforms, offers expertise to Executive Branch offices and agencies, and responds to requests by Congress and state legislatures for analysis of legislation to make government more accountable to the public.

The Government Accountability Project also includes a Citizens Clinic for Accountable Government. The clinical program, modeled after GAP's successful Legal Clinic, would assist and instruct citizens groups and individuals who seek to uncover government misconduct, monitor government investigations or force regulatory agencies to recognize significant public health and safety dangers. It is the Citizens Clinic, with GAP investigators, that has adopted the Midland case.

Since its inception, GAP has seen the adverse effect of misdirected government investigations on whistleblowers and communities. Large institutions that are the focus of investigation -- whether they be a public utility ignoring safety issues, government contractors bilking the taxpayers, a factory polluting a neighborhood or a government agency controlled by corrupt private interest -- will "clobber" the community or public interest groups with the conclusions of any official probe that does not clearly prove wrongdoing. An inconclusive result gets translated by public relations departments of the institution that is the subject of the probe into "total exoneration." In the wake are often left cynical, intimidated, harassed and sometimes broken victims who had the audacity to challenge a local power structure.

Public interest or community groups can sometimes reverse the result but it is an incredible uphill struggle. As word of its accomplishments has gotten out, individuals and citizen-oriented groups have sought GAP consultation. Often those requests focus on how to force local and state governments to confront major community problems, how to monitor government efforts once initiated, how to encourage agencies to take effective and appropriate action and how to turn white-washes into exposes. It is this skill that GAP and the Clinic was asked to bring to Midland.

In January, 1982, we were contacted by the Lone Tree Council of Midland, Michigan. For years, they told us, workers -- some anonymous, some named -- had been contacting their organization to talk of serious problems on the Midland site. They alleged that the citizen intervenors had similar experiences and that as the allegations become more serious they decided to seek help in directing these workers. They were referred to the Government Accountability Project by other Washington-based public interest groups.

We listened with great interest to the history of the Midland site and the massive problems facing the future of the plant. Our experiences at the Zimmer nuclear power plant in Ohio had been a sobering one. We were also aware of the fact that the Nuclear Regulatory Commission's own Office of Inspection and Auditor had labeled Midland as one of the five worse plants in the nation. We urged the Lone Tree Council to send us more information.

In March, after an extensive review of the history and an analysis of the problems at Midland, two GAP investigators went to Michigan. They talked to former workers, citizens and intervenors.

They reviewed documentation from the Nuclear Regulatory Commission, court transcripts, and testimony from public hearings. A second investigative trip was made in May, and countless hours were spent with witnesses, verification studies, and technical research.

The Clinic identified nine major areas of concern about the Midland nuclear power plant. To summarize:

- 1) The cost of Midland. It is 1200% over its original cost projections -- now priced at 3.39 billion dollars. That cost will be passed on to Consumer's customers when the plant is deemed "useable and useful." The Michigan Public Service Commission stands responsible to the ratepayers for this decision.
- 2) The soil settlement issue. Major safety related buildings have literally sunk and subsequently cracked as a result of the soils problem. The "fix" for this problem has yet to be approved by the Atomic Safety and Licensing Board of the Nuclear Regulatory Commission although repair work continues because of a legal loophole.
- 3) The location of the plant. Midland's nuclear power plant is located within the city limits of a town of 51,400. There are 2,000 industrial workers within one mile of the site and the cooling pond property backs up to an elementary school.
- 4) The environmental impact. The plant will emit extraordinary amounts of dense fog from the cooling pond in which the routine and accidental radioactive releases will be entrapped. This fog will "rainout" and "ice out" heavily populated areas. Also included is the unresolved issues of high level waste storage on site and the waste discharge into the Tittabawassee.
- 5) The allegations of plant workers. Midland's nuclear site workers have begun to come forward. Six sworn statements turned over to the NRC today reveal over three dozen allegations about plant safety and other related items.
- 6) Inadequate Nuclear Regulatory Commission oversight. A decade of giving the "benefit of the doubt" to the utility even in the face of repeated failures of the utility to live up to its promises of reformation.
- 7) A Quality Assurance breakdown. Repeated QA/QC program deficiencies that have led to piece meal fines, investigations, and audits since 1973. The program continues to have major structural flaws that rely on decision makers who have a built-in conflict of interest.
- 8) Intimidation and reprisals against workers -- ranging from workers being fired for exposing problems to being threatened for pursuing their allegations.

A "Catch 22"

9) Contract. There is no easy answer to this problem; Consumers Power Co. is under a contract to produce steam by December, 1984 for The Dow Chemical Co. If the contract is broken, so is Consumers Power Co. To assure that Midland can be built safely by a management that faces financial ruin if the deadline is not met is at best, hopelessly naive.

III. WHISTLEBLOWER ALLEGATIONS

Since 1975 the Government Accountability Project has provided legal and other assistance to those who blow the whistle on fraud, waste, mismanagement and health and safety hazards. In fact, since 1979 we have legally represented nearly ninety such individuals. During that time we have developed a methodology that might vary in particular circumstances, but which nevertheless remains fairly consistent.

First and foremost, we do not dictate for those who bring information to us how that information will be used or where it will be taken. Those decisions are made solely by those who have obtained the information. If we are not willing to abide by the conditions imposed by the whistleblower, we will decline to use the information in any way. We are ethically bound to protect the client and to keep his or her interests very much in our mind.

If employees are afraid to risk going through the internal channels the utility has outlined, then we would indeed risk our own credibility by encouraging employees to "walk the plant" If we decide to legally represent the person who brings information forward, we would violate our own professional ethics by advising the client to use defective internal channels.

Unless we have sufficient evidence that an "open door" is truly open or an office to deal with problems does not view the whistleblower as "the problem", we will not advise employees to pursue those internal procedures.

Consumers Power Co. has indicated great distress that we are not working with their own QC/QA program with our Midland allegations. Please do not think that we have made any determinations about their quality assurance complaint procedures or system. Unfortunately, at this point we do not know enough about their organization to make a valid judgment. Some employees have expressed doubts to us. To allay their skepticism and our own reservations, we would need to hear from the employees who have tested their allegation procedures.

In fact, we respectfully requested that Consumers Power Co. allow us to speak with those who have reported problems to them publically and openly through their system. If the only employees to use the procedure are ones who have done so anonymously, we would appreciate very much if Consumers Power Co. would somehow convey to them our desire to speak with them anonymously about the allegation procedures and their experiences with them. Meanwhile, we hope they will give us some information about the types of complaints that have come through their allegation channels and what the final disposition of the alleged problems have been.

Until our own questions can be answered to our satisfaction about Consumers Power Co.'s internal procedures, we will continue to deal directly with the Regional Office of the Nuclear Regulatory Commission out of Chicago.

We will also continue to stand by and aggressively pursue protection for those workers and former workers whose information we will present to the Nuclear Regulatory Commission for investigation.

Furthermore, we will monitor the NRC's investigation into these allegations. At Zimmer, the initial NRC investigation was exposed as a "cover up" leading to a \$200,000.00 fine for the utility. We will not tolerate that again at Midland -- time lost due to an incomplete or inadequate inspection is simply a luxury that Consumers Power Co. does not have and can't afford.

IV. RECOMMENDATIONS FOR ACTION

We are calling for the construction to be halted until the NRC can judge the full scope of the problems at Midland. We believe this will be the most time efficient way to get a complete hold on the situation.

If this is unfeasible, GAP respectfully requests that the Office of Investigations (OI) adopt Midland, at the recommendation of Mr. Keppler, as its first case. The OI has no vested interest in covering up Midland's problems and it is composed of highly respected NRC investigators. OI is to be the "SWAT TEAM" of the NRC that was set up by and reports to the Commission directly. We look forward to their involvement in major plant site investigations. Midland would be a good place to start.

Mr. Keppler has indicated his own reservations about Midland. He has announced a special five-person team to deal with Midland's problems. This Regional reorganization should compliment the OI investigation or some other

third party audit as called for by the United States Senate recently. This Senate Bill co-signed by Senator Levin, sets aside funding for a test of an independent audit and inspection on three selected plant sites. Because we believe so strongly in "someone else" looking at Midland's problems, we would like Senator Levin and other members of the Michigan delegation to consider their role in bringing this nuclear plant under control.

V. SPECIFIC ALLEGATIONS

In our investigation GAP has completed seven affidavits and verification studies. These affidavits have been sent to Mr. James Keppler, Director of Region III of the NRC.

Issues included in these affidavits are listed below:

- Welding standards below ASME specifications
- Improper socket weld engagement length
- Poorly trained quality control inspectors
- Countless welds improperly inspected for years by at least one inspector
- Undersized welds
- Improperly ground down welds
- Substandards welds
- Extensive corrosion inside the small bore piping
- Unqualified welders
- Reduced specifications for welding electrodes that led to corrosion
- Anchor bolts in the battery room not meeting the specifications
- Presence of debris in small bore piping

- Substituted cables leading to the control room
- Conduit supports that exceed weight specifications
- Lack of inspection for compliance with weight specifications on conduit supports
- Improper use of type 30 conduit supports
- Non-compliance to blueprints
- Diversion of equipment for personal use
- Lack of material traceability
- Questionable anchor bolts
- Undermined weld rod control in the past
- Alcohol and drug abuse problems among workers in safety related areas
- Theft of plant equipment
- Manufacture of belt buckles and barbecue skewers out of stainless steel and nickel
- Bechtel undermining the construction through a variety of work slow-down techniques

VI. GAP'S PLANS TO MONITOR NRC'S INVESTIGATION

For the past decade the NRC and Consumers Power Co. have repeatedly offered their reasonable assurances that QA/QC programs would improve. Yet, repeated failures in the design and construction of essential safety systems, as reflected in public documents, indicate the contrary.

QA and construction deficiencies continue, yet the NRC has been unwilling to enforce what could be very effective regulations to assure the safe construction of this nuclear plant. We will accept nothing but the "letter of the law" when public health and safety are concerned.

We are concerned to see a pattern of leniency that has compromised the regulatory concept. As we found at Zimmer, the NRC Region III staff gives the benefit of the doubt to the utility far too often. We believe the utility will look out for its own best interests. The NRC is paid by the taxpayers to look out for the public interest.

Some examples of this pattern of leniency include:

1. The NRC resolving "findings" only based on statements with vested interest.
2. The NRC acceptance of relaxed design and construction specifications and procedures.
3. Serious conflict of interest within investigations and inspections.
4. Continued acceptance of substandard material.
5. Few, if any, unannounced NRC inspections on site.
6. Excessive deferral to the financial hardships and time deadlines of the utility, weighed against public safety standards.

Even worse, the above structural flaws and patterns of non-compliance do not include the unacceptable potential for human error at Midland. We have yet to find a single employee witness who has denied our witnesses charges of widespread drunkenness on the job at the construction site. It is difficult enough for a sober worker to construct any nuclear power plant safely. We shudder at the consequences of drunken employees trying to cope with the handicaps at Midland.

Region III has begun to recognize the seriousness of the problems at Midland, as evidenced by Mr. Keppler's recent announcement of a special inspection team for Midland. Shoddy work has been piling up for almost a decade.

halting future violations is not good enough. Far too many witnesses have confirmed that this plant is a disaster waiting to happen. General Public Utility's \$4 billion lawsuit blaming Three Mile Island on the NRC for not regulating strictly enough illustrates the desperate consequences even for a "near-miss."

The public drew the line at Three Mile Island and Love Canal. Workers inside and citizens outside the Midland plant want to be heard. We represent their collective voices.



Billie Pirner Garde
Government Accountability Project

Midland Daily News

Charles A. Spence, Publisher

John A. Palen, Editor

Norman C. Rumble, Publisher Emeritus

NRC should focus on major concerns

Consumers Power Co. is still complaining about the latest negative SALP (Systematic Assessment of Licensee Performance) rating given by the U.S. Nuclear Regulatory Commission to the Midland nuclear plant.

The utility has a right to complain, of course. But shouldn't the manpower-short NRC be handling this matter more efficiently so it can devote more of its resources to settling some of the more serious questions about the plant?

While the Midland project is undergoing a barrage of criticism based on allegations made by former plant workers that questionable construction practices may effect the plant's safe operation, a gathering of NRC and utility officials was held in Midland Thursday to argue politely about SALP ratings the NRC has said it won't change.

Meanwhile, a promised NRC investigation into the workers' allegations still hasn't been started, nearly a month after the charges were made. The reason? The NRC says it doesn't have the manpower.

The NRC apparently can't spare the inspectors to check out the allegations, yet two inspectors were flown from Illinois to Midland for Thursday's more-or-less pointless session. Two other NRC officials flew here from Washington, D.C., and another pair arrived from

Our view

Illinois to attend.

For its part, Consumers sent representatives from Chicago and Jackson.

Who pays when federal officials fly around the country to attend a meeting that, by the NRC's own admission, could have been handled by a telephone conference call? The taxpayers.

Robert Warnick, acting director of the NRC's Office of Special Cases and one of those a Thursday's meeting, s Midland plant has received so much public criticism that the agency felt it would be better to conduct the SALP business in a public forum.

Yet none of the points argued over in Thursday's meeting really go near the heart of concerns about the nuclear plant. Operating in the open is absolutely essential — but even so, some judgment has to be exercised about what is important and what isn't.

We think the public would have been better served had the money and effort that went into this posturing been spent on checking into the allegations about the Midland plant.

Let's ground the unnecessary flights and get the investigation on the road.

AFFIDAVIT

My name is E. Earl Kent. I am making this statement of my own free will to Mr. David Crow, who has identified himself to me as an investigator for the Government Accountability Project. I am speaking without threat, *E.K.* or promise of material benefit. My reason for making this statement is to express my deep concern over the quality of construction ^{IN NUCLEAR WORK, ESPECIALLY *E.K.*} at the Midland nuclear plant, ^{IN MY OPINION, *E.K.*} where I was terminated in March of 1982 for persistently bringing defects in construction and specifications to the attention of my superiors *AND FELLOW EMPLOYEES: *E.K.**

I have worked for seventeen years in engineering, most recently at six nuclear plants. I ~~held~~ ^{HELD *E.K.*} the title of *E.K.* Senior Quality Control Engineer for nuclear welding. I have been a member of the American Society for Quality Control, and have published several books on welding and structural steels. Before coming to Bechtel, I worked as an engineer ^{AND SENIOR WELDING ENGINEER *E.K.*} for Litton Industries, as a field ^{*E.K.*} Welding ^{*E.K.*} Inspector for Boyle Engineering Corporation, and as a ^{*E.K.*} Welding ^{*E.K.*} Supervisor ^{AND WELDING ENGINEER *E.K.*} for Fluor Engineers. I have also worked as a ^{*E.K.*} Quality Assurance ^{*E.K.*} and ^{*E.K.*} Quality ^{*E.K.*} Control ^{*E.K.*} Engineer for Joy Manufacturing.

I have attended more than half a dozen professional education courses on engineering and quality control. Prior to moving to the Midland plant, I had worked for Bechtel at two of its other nuclear units, Palisades

E.K.

and San Onofre Plants One, ^{E.K.} ~~and~~ Two, ^{AND THREE, E.K.} In both of these earlier Bechtel positions, I served as Senior Quality Control Engineer. I received top recommendations from my supervisors at both these plants. There is a letter on file with Bechtel's ^{NORWALK E.K.} ~~central~~ office, from the Vice President of Bechtel's Los Angeles Power Division, for my work there.

Based on ^{E.K.} my years of ^{ENGINEERING AND E.K.} experience in nuclear plants, it is my professional opinion that the Midland plant is the worst nuclear facility I have ever seen. This affidavit will detail instances where Bechtel Corporation has systematically downgraded standards for safety-related equipment, to the point where I ^{E.K.} ~~do not~~ believe that much of the construction will not withstand the stresses it should be built to take. Bechtel has hired engineers and QC inspectors who are not adequately qualified or trained for the complicated work in a modern nuclear plant. I have seen Bechtel personnel, both QC inspectors and engineers with QC responsibilities, routinely accept substandard work.

I will also give examples of the unhealthy degree of reliance that certain NRC inspectors have placed in the Bechtel personnel whom they are supposed to monitor. NRC field inspectors showed a surprising willingness to let the Bechtel personnel do all the dirty work involved in supposedly independent investigations. Because NRC inspectors often didn't themselves try to take the

measurements, or climb into less accessible areas, the inspection reports that were supposed to represent a completely separate check on Bechtel performance often wound up basing their approval on Bechtel's evaluations of its own work.

My expertise is in welding, ^{ENGINEERING AND E.L.} inspection. When I first came to Midland, in December 1981, I reviewed Bechtel's specifications and procedures. I was astonished to see that in numerous places, Bechtel had established standards which fell below those of the ASME Code. The ASME Code reflects the best judgment of the national society of professionals in this area. It is the result of many years of ^{RESEARCH AND E.L.} testing. Despite this, Bechtel in some cases made the decision, based on their own ^{E.L.} engineers' ^{OPINIONS OR E.L.} short-term testing in San Francisco, to modify these standards.

If Bechtel had made these changes only to take account of particular needs at Midland, that would be one thing. But in the area of welding, where I was qualified to judge, the new specifications were inadequate to the needs of a nuclear facility. There is an inter-office memo, dated 24 April 1981, which I ~~have~~ ^{HAD E.L.} in my files. It is between the project QC head, E. Smith, and a main office materials and quality services official, D. Hackney. The subject is socket weld engagement length. Hackney states that as long as the pipe is not withdrawn from the fitting it will be approved. This means that a gap of nearly any length will be tolerated between the end of the pipe and the bottom of the socket. ^{E.L.} These gaps weaken the joint, and make it susceptible to ^{FAILURE, ESPECIALLY DURING E.L.} vibration. The ASME Code

has, for this reason, established a much more rigorous specification.

This is only one example of the systematic downgrading of welding standards I saw at Midland. The Hackney memo became one of many sheet-memos placed in the specifications book.

Equally as serious as the problem of downgraded specifications were the problems created by the incompetence and ignorance of QC. Even something basic like knowing how to use the fillet gauges correctly to measure the size of welds was beyond the ability of some of the Bechtel inspectors, *AND ENGINEERS.*

In early February, I was working with one of these *E.L.* Bechtel QC inspectors, John Kunki. John was about to approve a fillet weld when I saw that it had not been fully welded. Fillet welds have to be full across the blade, not just touching one edge of the blade. I drew John a diagram to show him this. When John looked at the diagram, he saw that I was right. But the welder refused to put any more weld on -- he said he'd been doing it that way for two years, and his boss had always approved it. We finally had to call his boss in, and explain it to him, before we *COULD* *E.K.* get the weld *to be* *E.L.* redone. Paul Schulz, another QC *ENGINEER* *E.K.* inspector, was also there to hear the explanation, and he admitted after I showed him the diagram that he'd been approving bad welds himself, *MISTAKENLY DOCUMENTING INADEQUATE FILLET WELDS AS BEING ADEQUATE.* *E.K.*

Undersized and improperly done welds were serious problems, but at least they didn't affect the integrity of the piping itself. High-pressure piping, which *SOMETIMES* *E.K.* contains up to 1500 pounds per square inch, is very vulnerable material. It *CAN* *E.K.* react like *E.K.*

a balloon to a pinprick. A weakness in any part of the piping is a danger to the entire length. Because of this, I was very concerned to discover that many welds in the piping had been improperly ground down, grinding down the pipe wall thickness along with it.

This was not only a violation in itself. It was part of a larger problem having to do with inspections of the parent metal for the piping systems. In small bore piping, the only way to ^{THOROUGHLY E.K.} inspect the inside of the piping for ^{ELEVATIONS IN THICKNESS, OR} corrosion, is to ^{E.K.} take what is called a thickness ^{OF E.K.} ~~and~~ materials (TM) ^{E.K.} reading. ^{SELDOM DONE ON ANY PIPE, IT IS E.K.} This is, a time-consuming process if done ^{COMPLETELY AND E.K.} correctly. To the best of my knowledge, the Bechtel QC inspectors rarely took the time necessary to do this type of verification. They usually relied on visual inspection only. Visual inspection can detect corrosion only on the outside of the piping, ^{E.K.} ^{USUALLY, E.K.}

When I performed a thorough inspection myself of the piping, using TM readings for the inside of the pipe wall, I discovered extensive corrosion. Although the QC reports appear to assure that the piping is of safety-grade quality, these reports fail to reflect the problems of the piping systems which I discovered. To allow severely corroded piping to be approved for safety-related systems is, in my opinion, inexcusable, and certainly very dangerous to the ^{E.K.} ^{E.K.} successful operation of ^{ANY} ^{E.K.} ~~the~~ plant.

Another piping problem with which I was personally familiar developed because Bechtel allowed ^{LOW-HYDROGEN E.K.} electrodes used in ^{NOT OVENS OR} welding to be taken out of their hermetically-sealed containers ^{E.K.}

^{UP TO E.K.} for eight hours before use. The American Welding Society (AWS) standard allows only four hours ^{MAXIMUM, E.K.} in the open air. When the electrodes are left out, the chemicals in their coating attract ambient humidity. When this moisture is absorbed, it will become steam under the heat applied during the welding process. Each speck of moisture will expand to ^{ABOUT E.K.} 750 times its initial volume, and results in substantial porosity, or simply empty space, within the completed weld. The weld will appear strong, but be weakened from within. The AWS standard is used for ordinary bridges and office buildings, but apparently Bechtel thought that twice as lenient a standard was appropriate for a nuclear plant.

X-ray inspections of welding, performed under these conditions, ^{E.K.} has revealed porosity. The welds have had to be ^{E.K.} ^{CUT} ~~cut~~ out and redone, not just once but many times, often within the same joint. This is one more example of Bechtel's not doing it right the first time. Every time they had to tear the welds out and do them again, it added to their costs and to their profits.

Bechtel has a cost-plus contract, and had routinely wasted large amounts of money because they have little incentive to do the work right the first time. Each time further expenditures are required to redo work, it adds to their fee. I have seen work ripped out because of shoddy installation, redone, and then ripped out and redone again because it still wasn't right. One QC engineer, who has been at Midland ~~since~~

^{E.K.} FOR MANY YEARS,
^{E.K.}

^{E.K.}

~~the beginning~~, ^{E.K.} told me that ^{IN HIS OPINION, E.K.} over 90 percent of the piping in the entire plant has had to be cut out and replaced at one point or other. In my mind, this raises serious questions of safety, but it also makes me wonder who is going to wind up paying the bill for Midland. Bechtel's indifference to quality will cost the ratepayers a bundle, if they are allowed to pass on their costs to the public.

The defects I have described are generic, ^{ESPECIALLY E.K.} to the Midland plant. They have happened because Bechtel has hired inexperienced ^{ENGINEERS, E.K.} welders and inspectors. There were few formal requirements to become a welder, or even an inspector. If this was supposed to be corrected through a thorough training program, it didn't happen. The training periods were only a couple of weeks, and based on my experience in working with the ^{ENGINEERS, E.K.} welders and the inspectors, I can state that they were not properly trained. When inspectors ^{AND ENGINEERS E.K.} don't know how to use a fillet gauge to measure welds, you know that the overall program standards cannot be very high, ^{E.K.} AND A COMPLETE INVESTIGATION IS WARRANTED.

NRC inspections often failed to correct problems. In the area of the inside wall corrosion in small-bore piping, ^{NRC E.K.} this was because the inspectors seemed too willing to trust the Bechtel inspectors when they made their tours. It was generally the ^{B. E.K.} Bechtel people who actually climbed around on the piping and called out their measurements, which the NRC inspectors would then write down. As a result, many of the inspection reports do not reflect anything more than Bechtel's own assertions.

Even when the NRC inspectors did show a willingness to carry out a real inspection, they would ^{OFTEN E.K.} be handicapped by their practice of not coming in unannounced. To the best of my knowledge, there were no NRC inspections that weren't preceded by ~~two or three days of~~ ^{E.K.} preparation directed by Bechtel, ^{E.K.} during which problems would be repaired and sometimes ^{MODIFIED} ~~concealed~~. As a result, the inspectors ^{SELDOM E.K.} ~~never~~ saw the plant as it really operated on an every-day basis.

My alarming experiences with the field welding and the ^{ENGINEERS AND E.K.} QC inspectors led me to speak to my boss, Mr. William Creel, numerous times in December and January. Bill generally had the same response: he said that all his men had passed the Bechtel tests and were fully qualified, and he was willing to take their word for it if they said construction was safe, ^{E.K.} ~~AND ADEQUATE~~.

My real problem began when I ^{E.K.} tried to talk to the head of Project QC, Mr. Eugene Smith. He told me what Bill Creel was saying, that everybody was qualified and so there couldn't be problems like the ones I was telling him existed.

On Friday, February 26, Eugene Smith called me into his office and told me I was to be terminated. Bill Creel was also there, and the two of them told me that I hadn't been able to adjust to the way things were done at Midland, and so they would have to let me go. They asked me if I had any written comments to make on the termination notice. I wrote down: "I do not agree with any of the above, and ask for a complete investigation of this and all other main problems, by the San Francisco home office, and especially Mr. S. Bechtel.

Never in my life have I ever seen so many critical welds accepted in nuclear work. ^{AND THEN FOUND THEM TO BE UNACCEPTABLE, E.K.} If this many errors are allowed to exist, the results could be catastrophic."

After I wrote this down, Mr. Smith must have called Ann Arbor Headquarters, because he told me to go see Mr. Don Daniels on Monday. Mr. Daniels met me at the Holiday Inn in Midland, and I tried to explain to him the problems I had seen in the field and with QC. I drew him the same diagrams I had drawn for John Kanski, about the welding standards. All he said to this was that all the ^{ENGINEERS, E.K.} welders and inspectors were qualified. The feeling I got was that even if I proved what I was saying, Daniels wouldn't do anything about it. He couldn't believe what I was telling him -- he ^{EVIDENTLY E.K.} believed in the papers that told him the Midland personnel were qualified.

Before Daniels finally told me that I would have to be fired, he made another phone call. I believe it was to Eugene Smith and Bill Creel. Creel was the one who most wanted me to go, ^{IN MY OPINION, E.K.}

I was also told that in addition to my bad adjustment to Midland, I was being terminated because I had failed to pass the Bechtel tests for Level I QC engineer. Now as I stated earlier, I have seventeen years of ^{ENGINEERING E.K.} experience in QC and welding. At other Bechtel installations, Palisades and San Onofre, I held both Level I and Level II certificates. ^{E.K.} Midland was not that different from these other Bechtel operations. I cannot believe that I hadn't passed the Level I test at Midland. I was never given a copy of the written part of

the test. I can only believe that I was fired for insisting that there were serious problems at Midland which my superiors refused to acknowledge, AND HENCE REFUSED TO REPAIR. E.K.

Because of the way I had been terminated by Bechtel, and because I felt that my observations had not received ~~any~~ ADEQUATE attention from the internal hierarchy, I decided that I should speak to the NRC. On March 2, 1982, I arranged for a telephone interview with Roger Warnick, William Paton and Don Danielson of NRC. In that interview I told them ^{GENERALLY} what I have detailed here in this affidavit. I told them I felt that Bechtel was not adequately investigating the serious problems I had tried to bring to their attention, and that I felt I had been fired for trying to do this. E.K.

After I spoke to the NRC, they sent out an inspector to look into my allegations. His report indicates that he spent three days on-site. I don't think that a full investigation could be conducted in such a short period of time, by only one inspector. However, I do feel that the report confirmed my charges, based on what happened when the inspector met with the top men from Consumers, Mr. Marguglio and Mr. Bird. The inspector found them to be extremely hostile to any suggestion that there were serious deficiencies with welding and with QC procedures and qualifications. The inspection report found that further investigation was warranted in this area. E.K.

Although the report noted the need for further oversight, it seemed to feel that voluntary monitoring of Bechtel by Consumers would clear up the problem. The problems are too

serious and widespread, to be left to be corrected by the people who created them. I believe that only an independent and comprehensive investigation, by the NRC ~~and~~ ^{AND E.K.} by outside experts, can provide the assurance that Midland ~~is~~ ^{WILL BE E.K.} properly built. _{E.K.}

I am sure that Consumers and Bechtel will respond to my charges the ~~same~~ ^{SAME E.K.} way they responded to the NRC inspection. They will ~~deny~~ ^{IN MY OPINION, E.K.} the problems and promise voluntary efforts to cure them. They will try to ruin my credibility, by saying that I was incompetent, that I couldn't pass the basic tests. Nevertheless, I stand by my statement. After nearly twenty years of work as an engineer, ^{AND WELDING AUTHORITY, E.K.} I know a deficient weld when I see one, and I know ~~many~~ ^{E.K.} of these welds and other problems went undetected (or ignored) ^{E.K.} by the men responsible for inspecting them. Bechtel has shown by its attitude that it cannot be trusted to perform work of the high quality necessary in a nuclear plant. I feel that a full investigation into its management and construction practices will show that much work will have to be redone before Midland can go into operation. The cost will be enormous, if it can be done at all. Despite the cost, I cannot stand by and watch the plant go on-line in its present state of safety. To do so would be to betray my responsibilities as a professional, as an engineer, and

Page Twelve .

as a citizen.

I have read the above twelve- (12) page affidavit. To the best of my knowledge, it is true, accurate and complete.

E. Earl Kent
E. EARL KENT

SUBSCRIBED AND SWORN TO before me
this 16 day of JULY, 1982.

Bonnie C. Kettler
Notary Public





AGREEMENT AND ACKNOWLEDGMENT OF OBLIGATION

Attachment 4

THIS AGREEMENT AND ACKNOWLEDGMENT OF OBLIGATION, is executed by the undersigned Employee and delivered to Bechtel on the date set forth below.

1. I hereby acknowledge that I understand and agree that the provisions hereof are part of my employment contract with Bechtel, and that my employment by Bechtel and the payment of the compensation I receive from Bechtel are induced by and in consideration of my agreement to such provisions, and my acknowledgment of my obligations hereunder.

2. As used herein, "Bechtel" shall mean Bechtel Group, Inc., or Bechtel Power Corporation and any affiliate or subsidiary of Bechtel Power Corporation, or Bechtel Petroleum, Inc. and any affiliate or subsidiary of Bechtel Petroleum, Inc., or Bechtel Civil & Minerals, Inc. and any affiliate or subsidiary of Bechtel Civil & Minerals, Inc. "Client" shall mean any person or entity for whom Bechtel performs services or from whom Bechtel or Employee obtains information; "information" shall mean any information, knowledge, or data relating to plans, specification, documents, inventions, methods, processes, products or operations of Bechtel or Clients; and "employment" shall include employment for hourly wages, for salary, or as a consultant.

3. I recognize that the business of Bechtel and the nature of my employment will permit me to have access to information of Bechtel and its Clients, that such information is the property of Bechtel and of its Clients, and that any unauthorized disclosure thereof may be highly prejudicial to their interests. I further recognize that I may during the term of my employment make inventions, discoveries or improvements.

4. I shall not disclose or use, directly or indirectly, at any time, any information as above defined, unless such disclosure or use is in the course of my employment by Bechtel or has been expressly authorized in writing by Bechtel. I shall not remove any writings containing information from the premises or possession of Bechtel or its Clients unless I have obtained express authorization in writing by Bechtel to do so.

5. Any and all ideas, inventions, discoveries and improvements which I conceive, discover, or make during the term of my employment, in any way relating to the business of Bechtel or arising out of or resulting from my employment, shall be the sole and exclusive property of Bechtel or its nominee. I shall promptly advise Bechtel of each such idea, invention, discovery and improvement and, whenever requested by Bechtel, I, my executors, administrators, legally appointed guardians, conservators or representatives shall without further compensation promptly execute any and all instruments which Bechtel may deem necessary to assign and convey to it, its successors or assigns, all the right, title and interest in and to each such idea, invention, discovery and improvement, and Letters Patent for the same, or such other interests therein as I may acquire, together with all instruments deemed necessary by Bechtel to apply for and obtain Letters Patent of the United States or foreign countries, it being understood and agreed that all expense incident to the securing of such applications and Letters Patent shall be borne by Bechtel, its successors or assigns. I understand and agree that such obligation to execute such instruments shall continue after termination of my employment by Bechtel with respect to each such idea, invention, discovery and improvement, which I conceived, discovered or made during the term of my employment, in any way relating to the business of Bechtel or arising out of or resulting from my employment.

6. This Agreement and Acknowledgment of Obligation shall be effective as of the date that I commenced or will commence my employment with Bechtel.

Dated: _____

Employee: _____

(Signature) _____

(Typed) _____

Attest: _____

(Signature) _____

(Typed) _____

This agreement does not apply to an invention for which no equipment, supplies, facility, or trade secret information of Bechtel is used and which is developed entirely on my own time, and (a) which does not relate (1) to the business of Bechtel or (2) to Bechtel's actual or demonstrably anticipated research or development, or (b) which does not result from any work performed by me for Bechtel.



On the occasion of the termination of your employment we should like to remind you of the nondisclosure and secrecy agreements which you have signed while in the employment of Bechtel Power Corporation and any affiliate or subsidiary of Bechtel Power Corporation and Bechtel Incorporated and any affiliate or subsidiary of Bechtel Incorporated.

You can obtain information concerning the contents of any such agreements to which you are a party by contacting either the undersigned or the Legal Department of Bechtel.

We bring to your attention the fact that the provisions of any secrecy agreements which you have signed while an employee of Bechtel remains in force until they expire by their terms and apply whether or not you are employed by Bechtel. Thus you are bound by such agreements after termination of your employment with Bechtel to the same extent as heretofore.

Your secrecy commitments form the basis for similar agreements which Bechtel has given to certain of its valued clients; hence your full cooperation in complying strictly with the terms of your commitments is of extreme importance and necessity and will be assumed and appreciated by Bechtel.

Yours very truly,

By _____

Title _____

(Signed) _____
Employee

(Typed) _____

TO ORDER THE GROUP INSURANCE
CONVERSION LETTER USE
FORM NO. 11624

ORIGINAL - Master Personnel File
YELLOW - Employee Copy

(If mailed, attach "Certificate of Mailing" here.)
SEE PERSONNEL PROCEDURES MANUAL
FOR INSTRUCTIONS.



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

R. Warnick
File

September 23, 1982

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

Dear Ms. Garde,

Enclosed please find the summary report of the telephone communications you and I had on September 17, 1982. While the report is not a word summary of our communications, I do feel that the salient issues are addressed.

Should you have any questions regarding this communication I will be happy to discuss them with you.

Sincerely,

W. D. Shafer
W. D. Shafer, Chief
Midland Section

Enclosure: As stated

cc w/o enclosure:
✓ R. F. Warnick
A. B. Davis
J. G. Keppler

8406090187



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

SEP 17 1982.

MEMORANDUM FOR: James G. Keppler, Regional Administrator
THRU: R. F. Warnick, Acting Director, Office of Special Cases
FROM: W. D. Shafer, Chief, Midland Section
SUBJECT: GAP COMMUNICATIONS (MS. BILLIE GARDE)

On September 17, 1982, I was requested to contact Ms. Billie Garde to answer some general questions about the Midland project. To the best of my recall, the following was discussed:

- (1) She asked about the status of the six GAP affidavits.

I explained that the OI investigation was progressing and that some of the people had been contacted. I stated that when the investigations were completed that OI would turn the information over to our staff for technical review and inspection.

- (2) She asked about the status of the Zack investigation.

I informed her that the investigation was progressing and that Midland had priority after LaSalle. I also told her that CPCo had a copy of the Zack affidavit. She said they did not get it from GAP.

She stated that she was very concerned that we have not pursued the issue as to whether CPCo should have reported the Zack problem under 10 CFR 50.55(e). I explained that this issue would be addressed in our investigation and inspection effort.

- (3) We discussed several current issues at the site as follows:

- (a) Investigations

1. I stated that the investigation into the March 10, 1982 meeting where Messrs. Cook and Landsman alleged they had been lied to was nearing completion and that a final report would be forthcoming.

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SEP 17 1982

2. I informed her that a request for an investigation into the potential violation of the board order had been forwarded to OI in HQ. I told her I did not know if an investigation had commenced.

(b) Discussed the development of the Work Authorization Procedure

I stated that RIII had determined that a formal communications mechanism was needed to ensure that all work authorizations would be in writing.

(c) Pipe Support and Restraint Problems

I discussed Isa Yin's inspection report and CPCo's subsequent inspection findings in this area. I stated that we have informed CPCo that we want a 100% reinspection of all supports and restraints installed prior to 1981.

(d) Misrouted Electrical Cables

I stated that we had informed CPCo that a reinspection of all SR cable was mandatory.

(e) Midland Section

I identified the Midland Section personnel and stated that the remedial soils work interface was the highest priority we had. I also stated that we were waiting for CPCo's commitments for improving their program and that you would not allow any major soils work to proceed until the Midland Section was satisfied that the program was acceptable.

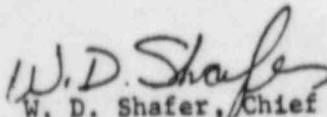
(4) After discussing item 3(e) above, Ms. Garde stated she was disappointed that GAP input was not solicited during the formation of the Midland Section. I stated that this was a management decision and could not comment further. However, I stated that she was welcome to contact me at anytime in order to ensure good communications. Ms. Garde stated she would like to meet with the Midland Section and would get back to me regarding when. I encouraged her to do so. She stated that open communications were very important in that when she made a press release she would be able to discuss what the NRC was doing.

SEP 17 1982

- (5) Ms. Garde discussed the SSER and wanted to know if R. Landsman's concern about the board violation would be addressed in it. I said I doubted if it would. The SSER document would extensively identify the design elements for the remedial soil underpinning activities. We expected the SSER to be issued on October 4, 1982.
- (6) Ms. Garde stated that she was preparing to meet with D. Saunders and was trying to obtain his affidavit. I wished her good luck and stated that we would be reviewing the relevant allegations we have obtained from Mr. Saunders.
- (7) I informed Ms. Garde that our section was developing a monthly status report which would indicate the status of RIII's effort at Midland. I told her the report would be docketed and if she wanted access to it she would have to request it through formal channels. She said she would do that.

I believe that this summary was the extent of our conversation. It was not necessarily in the order I have described above, but I do believe I have covered the most salient issues. I intend to send Ms. Garde a copy of this summary.

Should you have any questions regarding this communication, I will be happy to discuss them with you.


W. D. Shafer, Chief
Midland Section

cc: A. B. Davis



**Consumers
Power
Company**

James W Cook
Vice President - Projects, Engineering
and Construction

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-0453

April 22, 1983

Mr J G Keppler, Administrator, Region III
Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Handwritten notes and a table. The table has two columns and several rows. The first two rows have checkmarks in the first column. To the right of the table, there is a handwritten note: "na 2000, +3". Below the table, there is a signature that appears to be "JWC".

MIDLAND NUCLEAR COGENERATION PLANT -
MIDLAND DOCKET NO's 50-329, 50-330 -
CONSTRUCTION COMPLETION PROGRAM
FILE 0655, B1.1.7 SERIAL 22027

- REFERENCES
1. LETTER TO MR J W COOK DATED MARCH 28, 1983 FROM MR J G KEPPLER REGARDING CONSTRUCTION COMPLETION PROGRAM
 2. LETTER FROM MR J W COOK DATED APRIL 6, 1983 TO MR J G KEPPLER REGARDING CONSTRUCTION COMPLETION PROGRAM THIRD PARTY OVERVIEW

Your letter of March 28, 1983 regarding the Construction Completion Program (CCP) consisted of Parts A, B and C. My letter of April 6, 1983 to you replied to items A5, all of Part B, all of Part C and to Enclosure 1, the Protocol document for the Independent Design Verification. At the April 13, 1983 meeting in Bethesda on Independent Design Verification (IDV), we provided additional discussion and clarification of the communications between the parties during the IDV.

The enclosure to this letter provides responses to items A1, 2, 3, 4, 6, 7, 8 and 9 of your letter of March 28, 1983.

Based upon this letter and my April 6, 1983 letter, we believe that complete responses have now been provided to your March 28, 1983 letter.

James W. Cook

APR 25 1983

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Response To NRC Questions On
Construction Completion Program

QUESTION A1

"1. Because of problems identified by the NRC during the special inspection of the diesel generator building and because similar problems were found in other areas of the plant during subsequent inspections by CPCo, we believe that 100% reinspection of accessible safety related structures, systems and components is warranted. Should you intend doing less than 100% reinspection, please provide the details of your proposed program and the technical rationale for accepting a sampling approach."

RESPONSE

Consumers Power Company has developed two major programs already committed to in addition to the Quality Verification Plan (included in the CCP). These two programs include the following 100% verification efforts:

- A. Verification of approximately 13,500 closed Inspection Reports through reinspection of approximately 7,000 piping supports and restraints.
- B. Reinspection of accessible attributes of approximately 9,000 1-E cables installed to PQCI E-4.0 including cable routing and identification.

The Quality Verification Plan includes the following 100% reinspections:

- A. All closed Inspection Reports (IR) that contain In-Process Inspection Notices (IPINs). This involves approximately 4,300 IRs.
- B. All closed IRs that contain Deficiency Reports (DR). This includes approximately 4,500 IRs.
- C. All closed IRs associated with specific PQCI which have less than 100 IRs.

In addition, the Quality Verification Program also requires that 100% inspection of the remaining PQCIs will be initiated and continued until it has been demonstrated with 95% confidence that 95% of the inspectable elements meet quality requirements. Upon demonstration of the 95% quality level, Consumers Power Company will reconsider the basis on which to continue the verification effort for the remaining population of each PQCI. This may include the statistical sampling techniques as noted below.

Exceptions to the plan may be taken in those cases where other means of verifying quality have been demonstrated as described in the plan details below.

Quality Verification Program Description

Consumers Power Company has prepared a Quality Verification Program to confirm the quality status of safety-related equipment and construction activities completed and inspected by the Engineer/Quality Control personnel prior to December 2, 1982.

The program will cover all closed Inspection Records of inspections performed prior to December 2, 1982, except:

- A. Remedial Soils Work which has been under the direction of Consumers Power Company quality personnel since it began.
- B. HVAC work which has been under the direction of Consumers Power Company QA personnel since the major reorganization in June 1981.
- C. Verification of I-E cable routing and identification and verification of ASME hangers which are being performed under separate reinspection programs as noted previously.
- D. B&W Construction Company activities which have been performed under B&W Quality Assurance Programs.

The quality verification program will address safety related equipment, systems and structures in which the prior 100% inspections have been performed and completed under the direct supervision of the Engineer/Constructor. Such inspections were performed in accordance with approximately 100 Project Quality Control Instructions (PQCI) that specified the inspection requirements to be achieved by quality control personnel. The program will include PQCI for which no other verification activity has taken place or is scheduled to take place. There are closed IR for approximately 139,000 primary inspections. Closed IR are those where the Engineer/Constructor has completed a 100% inspection of installed hardware. Where a reinspection has occurred on a specific commodity, the latest IR will be addressed.

This program will assess the validity of prior inspections and provide assurance of the quality of completed work. To accomplish this, accessible attributes of items covered by completed IRs will be reinspected. For inaccessible attributes, the original inspection documents will be reviewed for evidence of acceptability and additional justification will be developed as required to support the validity of inspections associated with such PQCI. Each IR relates to a specific PQCI. PQCI are organized by discipline and further structured to activities within that discipline, eg, there are separate PQCI and corresponding IRs for preplacement, placement and post-placement inspections of concrete. Closed Inspection Records related to each PQCI provide a population of like activities.

To assess the validity of these past completed inspections, Consumers Power Company will reinspect on a 100% basis, the accessible attributes of all populations where the quantity of closed IRs is less than one hundred. In addition, where the population of closed IRs for a specific PQCI is more than 100, Consumers Power Company will reinspect on a one hundred percent basis a

sufficient number of items to establish a quality baseline and predict with 95% confidence that the quality level is in excess of 95% for the specific PQCI. Consumers Power Company will then make a determination as to whether further verification of specific PQCI populations can be conducted by a statistical sampling plan. This sampling approach, which is based on a nationally accepted standard and is consistent with past NRC recommendations related to reinspections of safety-related items, is fully described in the Quality Verification Program. The NRC Resident Inspection staff will be informed of such a determination before implementation of a sampling effort.

Any nonconforming condition observed during the implementation of this program other than those previously identified on nonconformance reports, will be identified by a nonconformance report and will be dispositioned in accordance with approved procedures.

Reinspections will be conducted in accordance with PQCI which have been reviewed-revised since implementation of the Construction Completion Program (CCP) and in accordance with current design drawings and specifications. An acceptable reinspection will validate the installed hardware and, for the purposes of the program will validate the prior IR. If an apparent deficiency exists between the as built condition of the item and the referenced design drawing or specification, a further check will be made to determine the design basis against which the original IR was completed. This check as well as the current stage of construction will allow a determination to be made as to whether a nonconformance of "as built vs design" exists.

Documentation of deficiencies will be noted on the newly initiated IR, entered on a nonconformance report and will be cross referenced to the original IR.

Program elements that differ from that described above will be treated as follows:

1. Exceptions to this program may be taken where objective evidence is available of a CPCo overinspection of the Engineer/Constructor's inspections and where such overinspection demonstrates effective quality control and provides the basis to verify acceptability of the items or attributes covered by past IRs and validate the original inspection with minimal or no further reinspection or review. Where such exceptions are proposed to be taken, a special report will be prepared by the MPQAD-QA Superintendent for review and approval of the Executive Manager-MPQAD. This report will contain full justification for the exception. The Executive Manager-MPQAD will inform the NRC Resident Inspection staff whenever he has made a decision to allow such a exception to the program prior to implementing the exception.
2. There are 55 PQCI which cover activities that are inaccessible for reinspection. These include rebar installation, placed concrete, containment building tendon reinspection, and PQCI relating to surveillance of subcontractor actions. Documentation relating to these PQCI will be reviewed as indicated in this program. These PQCI, either individually or by groups, will be reviewed and

justification will be developed by a document review to support the validity of completed inspections associated with these PQCI's. This justification or recommendation for additional verification activities, will be provided by the MPQAD-QA Superintendent to the Executive Manager-MPQAD for decision and approval.

3. The Executive Manager may group special populations of PQCI's or IRs that may be treated as a unique population provided all other elements of this program are applied to this unique population.

Reports And Documentation

Results of reinspections and document reviews will be recorded on IRs opened specifically for this purpose. Each such IR will cross-reference to the existing IR. A notation will be made on the new IR to identify whether the existing original inspection covered by the IR was validated, rejected or is indeterminate. The new IR will provide the basis to document the quality status of the items or attributes being reinspected.

A weekly written report will be made jointly by the MPQAD QC and QA Superintendents to the Executive Manager of MPQAD summarizing the results of the program. The Executive Manager will inform the CCo Site Manager, the Vice President, Projects Engineering and Construction and the Engineer/Constructor Project Manager of the status of the Quality Verification Program on a biweekly basis. The Executive Manager-MPQAD will provide a monthly report of Quality Verification Program results to the CCo Site Manager and Vice President, Projects Engineering and Construction and the Engineer/Constructor Project Manager. This report will be made available to the Construction Implementation Overviewer and the NRC.

The Executive Manager-MPQAD will have total overall responsibility and authority for the development and implementation of all quality related aspects of this verification program which will be solely under the direction of MPQAD.

QUESTION A2

"2. A description of the reinspection program for accessible systems and components important to safety."

RESPONSE

The Midland Nuclear Plant has been designed and constructed with a two level philosophy of quality classification. Those structures, systems or components which are safety related (such as those identified in Regulatory Guide 1.29, Section C.1, as modified by the Midland FSAR) are designated "Q". All other structures, systems, and components are designated "Non-Q".

Items that are considered important to safety, but that are not classified as "Q" are being addressed by a separate program. This program was developed to address the generic safety task A-17 "System Interaction," and was described in a letter, J W Cook to H R Denton dated January 28, 1983. This Systems Interaction Program will provide assurance that equipment important to safety, because of its potential interaction with safety related (Q) equipment, has been evaluated to ensure that such equipment will not compromise the capability of safety systems to perform their intended functions. The protection of the safety-related systems is part of the design process. In the installation of these systems coupled with the field routing of certain commodities, however, it is possible that new items become important to safety. To this end the Systems Interaction Program describes a comprehensive effort which includes an integrated series of walkdowns to identify potential interactions. The evaluation of these potential interactions will assure that equipment important to safety has been identified, and that its potential for degrading the performance of safety systems has been resolved.

The seismic II/I and proximity walkdown, which forms an important part of the Systems Interaction Program, is being conducted in part by the Engineer/Constructor and in part by the consultant who performed this work for other sites. This inspection is separate from the CCP, but it is being integrated into CCP activities for purposes of scheduling the availability of uncongested areas, areas that are sufficiently complete to warrant inspection and the use of inspection aids such as scaffolding.

Three additional walkdowns identified in the Systems Interaction Program are HELBA, missiles and flooding. These walkdowns serve to further increase our confidence that the primary walkdowns are effective with respect to identifying equipment important to safety. These walkdowns are performed by individuals with perspectives different from the proximity and Seismic II/I walkdown teams. All of these walkdowns are expected to occur in 1983 and early 1984.

The design engineering process, the construction process and the Systems Interaction Program form a multi-layered approach to assuring that systems important to safety will not inhibit safety systems from performing their intended function. Once the plant is complete and turned over to Nuclear Operations Department, equipment important to safety is addressed by Nuclear Operations Department Standards A21 and the QA Topical Report CPC-2A. This

list starts with the construction Q list then adds structures, systems components and chemicals considered important to safety via a detailed review of the equipment data base. Items placed on the operations Q list are then subject to applicable elements of the QA program from then on regardless whether they are safety-related or important to safety.

QUESTION A3

"3. A description of the measures you intend to institute to assure that QC reinspection will be sufficiently independent of team controls."

RESPONSE

The QC reinspection effort is independent of team controls although work schedules will be coordinated on a team level. This independence is maintained as follows:

Quality Verification Plan

This effort is solely under the responsibility of MPQAD to plan, implement and evaluate results. MPQAD personnel will coordinate with construction for services support. The Quality Verification Program will be implemented under MPQAD Procedures.

Team Activities-Status Assessment And Systems Completion

The Team Quality Representative and other MPQAD members assigned to the teams are independent of team control. The system team charter is defined in Field Engineering Procedure FPG 9.700, which indicates that the team quality representative will only receive schedule input from the team supervisor and that other technical and administrative direction will come from MPQAD management. MPQAD approves this procedure and MPQAD Procedure N-4 defines this interface.

All quality department personnel assigned to the team report to the Team Quality Representative who reports solely through the MPQAD management chain.

In addition, the Team Quality Representative is located, based on his permanent reporting assignment, within the MPQAD organization. He will, of course, be required to spend most of his time with the team on field assignments but nevertheless continues as a permanent member of MPQAD.

Organization charts show the reporting channels for the team quality members to emphasize the independence from team technical control.

Administrative controls for team quality members, such as time card approval, overtime approval, etc, are the responsibility of MPQAD supervision assigned to the team organization. A high level manager within MPQAD is specifically responsible for management and performance of the team quality personnel.

The actual inspections are conducted in accordance with PQCI's and IRs approved by MPQAD.

The above controls assure independence of the team quality representatives from the standpoint of location, organization, procedures.

QUESTION A4

"4. A description of the training that will be provided to all personnel including craftpersons. Concerning QC inspector recertification training, describe the actions you have recently taken to address the adequacy of the review of PQCI's prior to training being initiated on the PQCI's. In addition, describe the steps you have taken to ensure that all questions raised during PQCI training sessions will be resolved prior to certification to affected PQCI's."

RESPONSETraining Of Construction Personnel

The existing construction training procedure (FPG-2.000) is under revision to incorporate the training requirements of the CCP. The procedure sets down specific requirements for type of training and subject matter for each organization element.

The team training will include the major elements described below:

- A. General training will be provided in
 - 1. Quality requirements for nuclear work
 - 2. Requirements of the CCP
 - 3. Safety orientation
 - 4. Inspection and work procedures

Training in Items (1) through (3) and selected parts of (4) will be conducted in a formal setting and will be given to all personnel including the craftpersons.

In addition, a "tool box" training session will be conducted periodically for the craftpersons by the foreman. The subject matter will be developed by the training coordinator, and will include information regarding quality issues across the job.

- B. Training in the procedures used to govern the performance of work will be conducted for designated field engineering and support personnel as appropriate. In some cases the training will include the craft foreman.

Formal training will be conducted for identified procedures that define the control of the designated work process, procedures for control of special processes and requirements for inspection and acceptance of completed work.

- C. Training in procedures for selected processes will be conducted for the craftpersons. This will consist of discussion and/or field

demonstrations for the selected process. A list of the selected processes will be maintained by the Training Coordinator.

Training Of MPQAD Personnel

MPQAD initiated a program in late 1982 to retrain and recertify all Engineer/Constructor QCE's (Inspectors) to existing PQCI's. A significant number of QCE's have been recertified under this process. Early in 1983, MPQAD decided to terminate recertification of old PQCI's, except in selected cases; focus efforts on completing the review and revision of PQCI's; and then train and recertify to the new PQCI.

MPQAD current plans are to re-train and re-certify all inspectors to the revised PQCI's. As a part of this activity, the Project Quality Control Instructions (PQCI) are undergoing a complete review to assure:

Attributes required for the safety and reliability of specific components, systems and structures are identified for verification.

Accept/reject criteria are clearly identified.

Appropriate controls, methods, inspection and/or testing equipment are specified.

Requisite skill levels are required per ANSI N45.2.6 or SNT-TC-1A.

After the PQCI's are revised as necessary, Quality Control Engineers (Inspectors) are being trained and must pass a closed-book examination and a demonstration test to assure their proficiency in utilizing the new instruction. Upon successful completion, each inspector is being certified to perform inspections to those PQCI's in which he was trained.

The following actions are ongoing to maximize the effectiveness of recertification training:

Review PQCI Prior To Initiation Of Training

The adequacy of PQCI's prior to training is assured by the following programmatic requirements:

- A. The PQCI evaluation effort is being conducted under the direction of MPQAD QA personnel. MPQAD Procedure E-3M was issued April 11, 1983 and establishes the responsibilities and requirements for the preparation, revision, and control of PQCI's by QA personnel.

As part of the PQCI revision process, Project Engineering does a review of the PQCI to insure that attributes are identified for inspection according to specification requirements and that clarifications are made to specifications wherever necessary.

- B. Whenever a PQCI is revised, the revision is evaluated to determine if a pilot run for testing the implementing capability of the PQCI is

required. If a pilot run is required, the PQCI is tested by a team from QA, QC and Training. Based on this pilot run, the PQCI may be further revised.

- C. Once the PQCI is ready for issue, an effectivity date is established in conjunction with the Training Department.
 - 1. For PQCIs on which training was not previously conducted, the training and certification process is then started.
 - 2. For PQCIs on which training and/or certification was previously conducted, a determination is made as to the need for retraining or recertification. When a revised PQCI is issued, it is evaluated in accordance with established procedures to determine if retraining and recertification is required. Based on this evaluation, appropriate action is taken.
- D. During the training process, student questions (see below) are monitored. Based on this, further revision to a PQCI may be initiated.

Resolution Of Questions Raised During PQCI Training Sessions

Steps taken to ensure all questions raised during PQCI training sessions are resolved prior to certification include:

- A. The development of an MPQA Department "Statement of Training Policy." A copy of this Policy is attached.
- B. The Policy Statement is handed out at the start of each class and reviewed with the trainees.
- C. Statement 2 of the Policy deals with student questions. Instructors handle many questions as a routine part of a class. However, when an instructor is faced with questions he cannot answer, he makes note of them for subsequent resolution with the students.
- D. When required, a QA Engineer, Project/Resident Engineer or other resource person is scheduled to participate as part of the class and answer questions raised by the students.
- E. If there are unanswered questions at the end of the scheduled class time, an evaluation is made by the instructor as to whether training can nevertheless be considered complete and the examination given without jeopardizing the students opportunity to satisfactorily write the exam.
- F. Even if the examination can be given, prior to answering questions, the questions are still tracked and answered prior to certification.

- G. Trainees are encouraged to defer taking examinations or performance demonstrations if they feel they have received inadequate instruction.

MPQA DEPARTMENT STATEMENT OF TRAINING POLICY

It is the objective of the MPQAD Training Department to provide training that meets the needs of the trainees. To help meet these needs the following policies apply:

1. Personnel who are required to attend classroom training shall not be administered an examination without 100% classroom attendance. 100% attendance is defined as total classroom time less instructor excused absences for brief periods of time. A lesser percentage may be requested in writing by the trainees supervisor and approved by the appropriate Training Supervisor.
2. When trainees have pertinent questions that relate to the training subject matter the instructor shall take action to answer the questions or obtain the answers and provide them to the students prior to final examination or certification as appropriate.
3. The time required for self-study prior to examination shall be determined and scheduled by the appropriate Training Coordinator, based on the duration of the lesson and complexity of the subject.
4. The instructor will review the class evaluation sheets or a composite to determine the acceptability of the training prior to administering the exam to the class. If judged unacceptable, the exam will not be administered until appropriate action has been taken.
5. When a trainee indicates that he is not prepared to take an examination or a performance demonstration he shall not be administered the examination or performance demonstration until his specific concerns are resolved.

STUDENT HANDOUT

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QUESTIONS A6, A7, AND A8

- "6. A description of the controls you will use to ensure all problems have been identified during reinspection of a system or area prior to start of repair work or new work on that system or in that area."
- "7. A description of the controls you will use to ensure that no new work will be performed that would cause a known nonconformance to be inaccessible."
- "8. A description of your proposed program for in-process QC surveillance (inspection) of rework and new work."

RESPONSE

The process for release of work will be controlled by procedures that ensure that the requirements of the CCP are met prior to initiation of new work. The requirements for release of work include; checking, review and approval to ensure that verification and status assessment activities are completed and that the new work activity will not cover up (make inaccessible) items that have existing nonconformances. These procedures are identified in Figure 1. They define the overall process for identification and approval prior to release of work. These procedures require an identification of equipment or items that may be affected by the new work package and a check to see that there are no existing nonconformances or incomplete inspections on these items.

The interactions between project management, the installation team and the QA/QC organization are as follows. Initially, a list of Q items by area will be prepared by the installation team. The complete and inspected items will be provided to the QA/QC organization for the verification of completed work. The remaining items will be placed in an incomplete category and will be the basis for the status assessment by the completion team. The list will be updated as the verification and status assessment activities are carried out and will result in a complete list for each system/area.

The lists from all systems in an area will be combined and will form the basis for management review prior to release of the area for new work. The combined list will be used in the preparation of construction work packages (CWPs) for new work.

There are several major steps in the preparation and approval of the CWP. Each CWP will have a comparable Quality Work Plan (QWP) that defines the quality activities. Inspection hold points will be identified and included in the CWP. Following initial preparation of the CWP, the package is taken by the team quality representative. The inspection hold points are reviewed and approved by the MPQAD organization and a QWP is initiated for this work activity. The QWP contains the inspection records that will be required for that work activity. A review will be performed to ensure existing nonconformances are not covered up. The review will be based on the steps in the three procedures listed in Figure 1. After the CWP is returned to construction, and the QWP is prepared, work can proceed.

FIGURE 1

Procedures For Controlling Release Of New Work

<u>Procedure</u>	<u>Organization</u>	<u>Purpose</u>
Area Release for Construction (FIG 7.500)	Construction	These three procedures together ensure proper completion of verification and status assessment activities prior to initiation of new work and ensure no cover-up of existing noncon- formances
Construction Work Plans (FPG 7.300)	Construction	
Control, Release and Handling of Construction Work Plans and Quality Work Packages (N-17)	MPQAD	

QUESTION A9

"9. A description of the CPCo Management Review process for changes to CCP and how CPCo intends to keep the NRC informed of such changes."

RESPONSE

A procedure (MPPM-19) is being issued to control changes to the CCP. The procedure will provide that Q work activity will meet the requirements of the CCP or will receive management review and approval for any deviation from these requirements. The requirements that must be maintained for work activities under the CCP are:

- A. Management reviews are scheduled and held of (1) activity planning for verification and status assessment and (2) results of status assessment and planning for new work activity.
- B. A process is in place to ensure that no existing nonconformances will be covered up by new work activities.
- C. Procedures to control work definition and release including definition of inspection requirements and hold points are in place.
- D. Inspection and construction personnel involved must have received all required training.

Any work activity that does not meet these conditions will be considered a change. A change will be reviewed by the Construction Implementation Overseer. The NRC Region III management will be informed prior to implementation.



**Consumers
Power
Company**

James W Cook
Vice President - Projects, Engineering
and Construction

General Offices: 1945 West Parnell Road, Jackson, MI 49201 • (517) 788-0453

April 6, 1983

letter only.

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Mr J G Keppler, Administrator, Region III
Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

MIDLAND NUCLEAR COGENERATION PLANT -
MIDLAND DOCKET NO's 50-329, 50-330 -
CONSTRUCTION COMPLETION PROGRAM THIRD PARTY OVERVIEW -
FILE 0655, B1.1.7 SERIAL 22268

- REFERENCES
1. LETTER TO J W COOK DATED MARCH 28, 1983 FROM NRC REGION III REGARDING CONSTRUCTION COMPLETION PROGRAM
 2. LETTER FROM J W COOK DATED MARCH 10, 1983 TO MR R C DEYOUNG REGARDING MIDLAND PROJECT RESPONSE TO NRC NOTICE OF VIOLATION EA83-3 DATED FEBRUARY 8, 1983

Your letter of March 28, 1983 regarding the Construction Completion Program (CCP) consisted of Parts A, B and C. The following is in partial reply to the referenced letter:

- A. Items A1. through A9. will be addressed in a subsequent letter to you except for Item A5. for which our response is as follows:

Mr Keppler has asked that we develop measures that will ensure that our key hold points are honored and that critical parameters of our program are in place before proceeding to the next step. In order to ensure the Project's readiness to undertake the various steps in the CCP, the CCP includes provisions for management review at key points in the process. The review will examine plans for future implementation and ensure that programs and processes are thorough, complete, and correct. To provide the NRC with additional assurance that the CCP processes have, in fact, been and will be implemented as described in my January 10, 1983 letter, this letter, and the forthcoming response to Questions A1-A9 of Mr Keppler's March 28 letter, we will include in the duties of the third party construction overviewer responsibility for audits of our performance of these management reviews of the CCP process. We will not proceed with the CCP implementation beyond these points until the third party overviewer has documented their satisfaction with our readiness to proceed, including satisfaction with our initial response to any audit

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findings, in their weekly reports. This commitment will also assure that the CIO is in place in time to audit the management review of Phase I planning, and hence before any physical verification under Phase I takes place. (Note: The title of this particular third party overview is now being entitled Construction Implementation Overview, CIO).

The Company has or will provide information regarding all items which the NRC wished to review through the normal exchange of information with the NRC Staff. This information was provided through the response to the Notice of Violation regarding DGB inspection, through the forthcoming response to Questions A1-A9 of Mr Keppler's March 28 letter, and through daily interaction with the NRC Resident Inspector (the adoption of the QC organization within MPQAD and the resolution of the CP Co stop work order on Zack welding).

- B. A more detailed description of the third party installation implementation overview (now titled CIO) is provided in the enclosed proposal (3 copies attached) from Stone and Webster (S&W).
1. The CIO will encompass all aspects of the CCP from the point that the CIO is mobilized onsite (including the process aspects discussed in A above and the reinspection work). The exception is that the CIO will not include an overview of the other third party evaluations being conducted as described in my letter to Region III dated January 10, 1983.
 2. As defined on Page 2 of Section 2 of the S&W proposal, there will be weekly meetings with S&W, Consumers Power and the NRC and weekly minutes (reports) of these meetings will be issued. The protocol for communications between the parties will be the same as used by S&W on the soils remedial activities.
 3. The CIO will continue until Consumers Power and the NRC have confidence in the adequacy of the Consumers Quality Assurance Program for the Midland Project.
- C. Consumers Power Company proposes that Stone and Webster be the organization to perform the CIO. This is based on the fact that we consider S&W technically capable to perform the activities both in terms of the individual team proposed and in the corporate depth to support this effort. They are presently conducting what we believe is a highly professional overview of the soils remedial activities and have been found acceptable by the NRC for corporate independence. In addition, your letter indicated that it would not be acceptable for the CIO organization to also be involved with the IDV, thereby disqualifying the other evaluated bidder, Tera Corporation.

The proposal submitted by S&W addresses Items C1, 2 and 3 of your letter except that the statements provided in the attachment concerning corporate and personnel independence were inadvertently not notarized. This situation will be immediately corrected and the sworn statements of independence will be sent to you directly by S&W by approximately April 8, 1983.

Enclosure 1 to your letter of March 28, 1983 discussed protocol for IDV on the Aux Feedwater System, Electric Power System (diesel generator), and the HVAC system assuring control room habitability. This protocol will be adopted by asking Tera Corporation to prepare a detailed procedure implementing this protocol.

Based on the need to have the S&W team audit our pending initial management reviews, we have requested S&W to be able to mobilize their team as soon as possible. This is currently scheduled to occur the week of April 18, 1983. We plan to proceed at our risk unless instructed otherwise by your office. However, we would very much appreciate your expeditious review of S&W as a satisfactory contractor for the third party overview of the CCP.

James W. Cook

JWC/GSK/lc

CC Atomic Safety and Licensing Appeal Board (w/o att)
CBechhoefer (w/o att)
FPCowan, ASLB (w/o att)
JHarbour, ASLB (w/o att)
MMCherry (w/o att)
FSKelley (w/o att)
HRDenton, NRC (w/att)
WEMarshall (w/o att)
WDPaton, NRC (w/o att)
BStamiris (w/o att)
MSinclair (w/o att)
LLBishop (w/o att)



Consumers
Power
Company

James W Cook
Vice President - Projects, Engineering
and Construction

Regional Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-0453

January 10, 1983

Mr J G Keppler, Administrator, Region III
Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

MIDLAND NUCLEAR COGENERATION PLANT
MIDLAND DOCKET NOS 50-329, 50-330
CONSTRUCTION COMPLETION PROGRAM
FILE 0655 SERIAL 20428

REFERENCE LETTER TO J W COOK, DATED DECEMBER 30, 1982, FROM NRC REGION III
REGARDING CONSTRUCTION COMPLETION PROGRAM

On December 2, 1982, Consumers Power Company met with Mr Warnick and other members of your staff to discuss the general concept of our proposed Construction Completion Program. The enclosure to this letter documents in detail the Construction Completion Program, as requested at the meeting and in your follow up letter (Reference).

Since our meeting, the program has undergone considerable development and evolution. Details have been supplied and more specific objectives and implementing methods have been established. Further details are still being developed. While the Company expects the Program, as presently constituted, to be a workable and sufficient framework for future action, revisions may be necessary as future needs and experience dictate.

The Construction Completion Program is a positive step in the overall advancement of Project goals. It represents the best efforts of Project management, support and quality assurance personnel. We believe it will produce an improvement in Project installation and inspection status, systems construction and QA implementation. The quality verification effort should provide increased confidence of the NRC that the plant has been properly built. Other aspects of the Program, including the measure to improve ongoing inspections and scheduling interfaces, should contribute to that result. This Program, together with recent Consumers Power Company commitments regarding quality assurance and remedial soils work, can establish a basis for improved relations between the Company and the NRC Region group assigned to inspect Midland. The Construction Completion Program demonstrates the Company's responsiveness to both NRC concerns and the particular needs of this Project. It is our expectation that the Program, created out of a desire to enhance the

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orderliness and quality of construction, will achieve its intended purpose and lead to the successful "completion of construction" of the Midland Plant in accordance with regulatory requirements.

We hope that this submittal fulfills your request for written information regarding the Construction Completion Program. Consumers Power Company is prepared to support the public meeting proposed for January 26, 1983 in Midland, Michigan.

James W. Cook

JWC/DMB/cl

CC Atomic Safety and Licensing Appeal Board
CBechhoefer
FPCowan, ASLB
JHarbour, ASLB
DSHood, NRC
MMCherry
RWHernan, NRC
RJCook, Midland Resident Inspector
FSKelley
HRDenton, NRC
WHMarshall
WDPaton, NRC
WDShafer, NRC
RFWarnick, NRC
BStamiris
MSinclair
LLBishop

CONSUMERS POWER COMPANY
Midland Units 1 and 2
Docket No 50-329, 50-330

Letter Serial 20428 Dated January 10, 1983

At the request of the Commission and pursuant to the Atomic Energy Act of 1954, and the Energy Reorganization Act of 1974, as amended and the Commission's Rules and Regulations thereunder, Consumers Power Company submits its Construction Completion Program.

CONSUMERS POWER COMPANY

By JW Cook
J W Cook, Vice President
Projects, Engineering and Construction

Sworn and subscribed before me this 10th day of January, 1983

Patricia A. Luffey
Notary Public
Bay County, Michigan

My Commission Expires 3-4-86

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Construction Completion Program
Executive Summary

The Construction Completion Program has been formulated to provide guidance in the planning and management of the design and quality activities necessary for completion of the construction of the Midland Nuclear Cogeneration Plant. Construction completion is defined in this Plan as carrying all systems to the point they are turned over to Consumers Power Company for component checkout and preoperational testing. The Construction Completion Program does not include the Remedial Soils Program which is treated in separate interactions between Consumers Power Company and the Nuclear Regulatory Commission.

Background

The Construction Completion Program was developed in response to a number of management concerns that have been identified during the period preceding the initiation of the Program. The Midland Project had been proceeding at a high level of activity as it approached completion. The final transition from area construction to system completion, using punch lists, has been difficult for most nuclear projects. The Midland Project has not escaped these difficulties which have been compounded due to the congested space and the continuing numerous design changes, both generally attributable to the age of the Project. These factors lead to the need for improved definition of work status, increased emphasis on overall Project objectives as well as continued focus of construction and inspection resources on completion of systems for short-term milestones and increased effort to complete engineering ahead of field installation.

The Midland Project has been criticized by the NRC regional office as not having met their expectations for implementation of the Project's Quality Assurance Program. The result has been that the Project management has too often, during the past few months, been in a reactive rather than proactive posture with regard to quality assurance matters.

In recognition of these conditions, management has concluded that a change in approach was needed to effectively complete the Project while maintaining high quality standards.

Objectives

The development of the Program has considered the Project's current status and recent history and attempts to address the underlying or root causes of the problems currently being experienced. In order to develop the Program the following overall objectives were established under three general headings. The Program must:

Improve Project Information Status By:

- Preparing an accurate list of to-go work against a defined baseline.

- Bringing inspections up-to-date and verifying that past quality issues have been or are being brought to resolution.
- Maintaining a current status of work and quality inspections as the Project proceeds.

Improve Implementation of the QA Program By:

- Expanding and consolidating Consumers Power Company control of the quality function.
- Improving the primary inspection process.
- Providing a uniform understanding of the quality requirements among all parties.

Assure Efficient and Orderly Conduct of the Project By:

- Establishing an organizational structure consistent with the remaining work.
- Providing sufficient numbers of qualified personnel to carry out the program.
- Maintaining flexibility to modify the Plan as experience dictates.

Description

The Construction Completion Program entails a number of major changes in the conduct of the final stages of the construction process and can be described in summary as a two-phase process.

First, after certain necessary preparations, the safety-related systems and areas of the plant will be systematically reviewed. This first phase will be carried out on an area-by-area basis, but will be accomplished mainly by teams organized with systems responsibility and a separate effort to verify the completed work. The product from this phase of the program will be a clear status of remaining installation work and a current inspection status which provides quality verification of the existing work. The teams organized to carry out this first phase will continue to function in the second phase as the responsible organizational units to complete the work.

In order to achieve its complete set of objectives, the Program contains a number of activities and elements that support and are linked to the two major phases described above. The major components of the Plan, which are discussed in more detail in the balance of this report, can be described as follows:

- . A significant reduction in the construction activity in the safety-related portion of the plant, material removal and a general cleanup will be carried out in preparation for installation and inspection status assessment and quality verification activities.

- . A review will be made of equipment status to assure that the proper lay-up precautions have been implemented to protect the equipment until the installation work is completed.
- . The integration of the Bechtel QC function into the Midland Project Quality Assurance Department (MPQAD) under Consumers Power Company management will be completed.
- . The Consumers Power Company is carrying out recertification program of Bechtel QC inspectors, and a review of the inspection procedures to be utilized.
- . The system completion teams will be organized, staffed and trained according to procedures developed to define the team's work process.
- . The systems completion teams will 1) accomplish installation and inspection status assessment, 2) perform systems construction completion and construction quality performance and 3) determine that all requirements have been met prior to functional turnover for test and operation.
- . Quality verification of completed work will be carried out in parallel with installation and inspection status activities of the system completion teams.
- . A series of management reviews will be carried out to carefully monitor the conduct of the Program and to revise the plan as appropriate.
- . Review and resolution will proceed on outstanding issues related either to QA program or QA program implementation as raised by the NRC or third party overviews of the Project.
- . Third party reviews will be undertaken to monitor Project performance and to carry out the NRC's requirements for independent design verification.

Schedule Status

The Program was initiated on December 2, 1982 by limiting certain ongoing safety-related work and starting preparations for the phase-one work of status assessment and quality verification activities. Since the Program also has incorporated a number of commitments made to the NRC during the past few months, activities in support of these commitments such as QC integration into MPQAD and the recertification of QC inspectors, had been initiated prior to December.

Status and schedules for each element of the Plan are enumerated in the text. In general, preparation for the Phase 1 activities are underway and will continue through January. A pilot team to develop the procedures and training requirements will be initiated during January. It is expected that the first

areas to undergo Phase 1 status assessment will be defined and teams mobilized during March.

Quality verification of completed work will start in late January or early February.

The Program provides for the Phase 1 results on a system or partial system to be reviewed and evaluated prior to initiating Phase 2 system completion work on that system or partial system. Management will monitor both process readiness and Phase 1 evaluation results.

The major areas of continuing safety-related work are NSSS construction as performed by B&W Construction Co, HVAC work under the Zack subcontract, the Remedial Soils Program and post-turnover punch list work released to Bechtel construction by Consumers Power Company. The Zack work is currently limited until a recently identified question on welder certification is resolved.

During the implementation of the Program in 1983, the NRC Resident Inspectors can use the Plan to monitor safety-related construction activities at the site. Since a substantial portion of the Plan directly relates to commitments made to NRC management, Consumers Power Company intends to schedule periodic reviews of Program status and progress with the NRC.

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1.0 INTRODUCTION

The Construction Completion Program has been formulated to provide guidance in the planning and quality activities necessary for completion of the construction of the Midland Nuclear Cogeneration Plant. Construction completion is defined in this Plan as carrying all systems to the point they are turned over to Consumers Power Company for component checkout and preoperational testing. The Construction Completion Program does not include the Remedial Soils Program which is treated in separate interactions between Consumers Power Company and the Nuclear Regulatory Commission. The Construction Completion Program will be referred to as the Program in this document which contains the Plan for Program development and implementation.

Background

The Construction Completion Program is being developed in response to a number of management concerns that have been identified during the period preceding the initiation of the Program. The Midland Project had been proceeding at a high level of activity as it approached completion. The final transition from area construction to system completion, using punch lists, has been difficult for most nuclear projects. The Midland Project has not escaped these difficulties which have been compounded due to the congested space and the continuing numerous design changes, both generally attributable to the age of the Project. These factors lead to the need for improved definition of work status, increased emphasis on overall Project objectives as well as continued focus of construction and inspection resources on completion of systems for short-term milestones and increased effort to complete engineering ahead of field installation.

The Midland Project has been criticized by the Nuclear Regulatory Commission regional office as not having met their expectations for implementation of the Project's Quality Assurance Program. The result has been that the Project management has too often, during the past few months, been in a reactive rather than proactive posture with regard to quality assurance matters.

In recognition of these conditions, Consumers Power Company has concluded that a change in approach is needed to effectively complete the Project while maintaining high quality standards.

Objectives

The development of the Program has considered the Project's current status and recent history and attempts to address the underlying or root causes of the problems currently being experienced. In order to develop the Program, the following overall objectives were established under three general headings. The Program must:

Improve Project Information Status By:

- Preparing an accurate list of to-go work against a defined baseline.

- Bringing inspections up-to-date and verifying that past quality issues have been or are being brought to resolution.
- Maintaining a current status of work and quality inspections as the Project proceeds.

Improve Implementation of the QA Program By:

- Expanding and consolidating Consumers Power Company control of the quality function.
- Improving the primary inspection process.
- Providing a uniform understanding of the quality requirements among all parties.

Assure Efficient and Orderly Conduct of the Project By:

- Establishing an organizational structure consistent with the remaining work.
- Providing sufficient numbers of qualified personnel to carry out the Program.
- Maintaining flexibility to modify the Plan as experience dictates.

PLAN CONTENTS

The Program was initiated on December 2, 1982 by limiting on-going work on Q-systems to pre-defined tasks and preparing the major structures housing Q-systems for an installation and inspection status assessment and verification of completed work. The relationship of the major elements of the Plan is shown in Figure 1-1. The sections of the Plan address the following major activity areas:

PREPARATION OF THE PLANT (Section 2.0)

The buildings are being prepared for a status assessment and verification of completed work.

QA/QC ORGANIZATION CHANGES (Section 3.0)

A new QA organization that integrates the QA and QC functions under a Consumers Power Company direct reporting relationship is being established. As a part of this transition, the Bechtel QC inspectors are being recertified to increase confidence in the quality inspection performance.

PROGRAM PLANNING (Section 4.0)

The overall Plan for the Program is being developed in two major phases.

The first phase includes:

- A team organization assigned on the basis of systems is being developed to determine present installation and inspection status. The inspection status assessment includes performing inspections on completed work to bring them up to date. A closely coordinated effort involving the construction contractor and Consumers Power Company (QA/QC, testing and construction) will improve quality performance.
- The quality verification of completed work will be based, in part, on a sampling technique using re-certified inspectors as described in Section 3.0.

The second phase includes:

- Following installation and inspection status assessment the team organization will retain responsibility for systems completion work.
- The QC inspection process of new work will be integrated with the systems completion work to ensure adequate quality performance.

PROGRAM IMPLEMENTATION (Section 5.0)

The first phase implementation of the Program will be initiated with a review of the process, procedures and team assignments that will be used. The plan for verification of completed work will be reviewed separately. The teams will conduct the installation and inspection status assessment; verification of completed and inspected work will proceed, as planned, in coordination with the team effort. Following phase 1 completion of the first work segment, a management review of the plan effectiveness will be made.

In second phase Program implementation, the assigned team will plan and schedule the remaining work needed for completion including QC inspections.

QUALITY PROGRAM REVIEW (Section 6.0)

The adequacy and completeness of the quality program will be reviewed on an ongoing basis, taking into consideration questions raised by NRC inspections and findings by third party reviewers. The results of these reviews will be considered as part of the management review that are a part of the Program implementation (Section 5).

THIRD PARTY REVIEWS (Section 7.0)

Independent assessments of the Midland Project will provide management and NRC with evaluations of Project performance.

SYSTEM LAY-UP (Section 8.0)

The on-going work to protect plant equipment and systems will be augmented as necessary to provide adequate protection during implementation of this Plan.

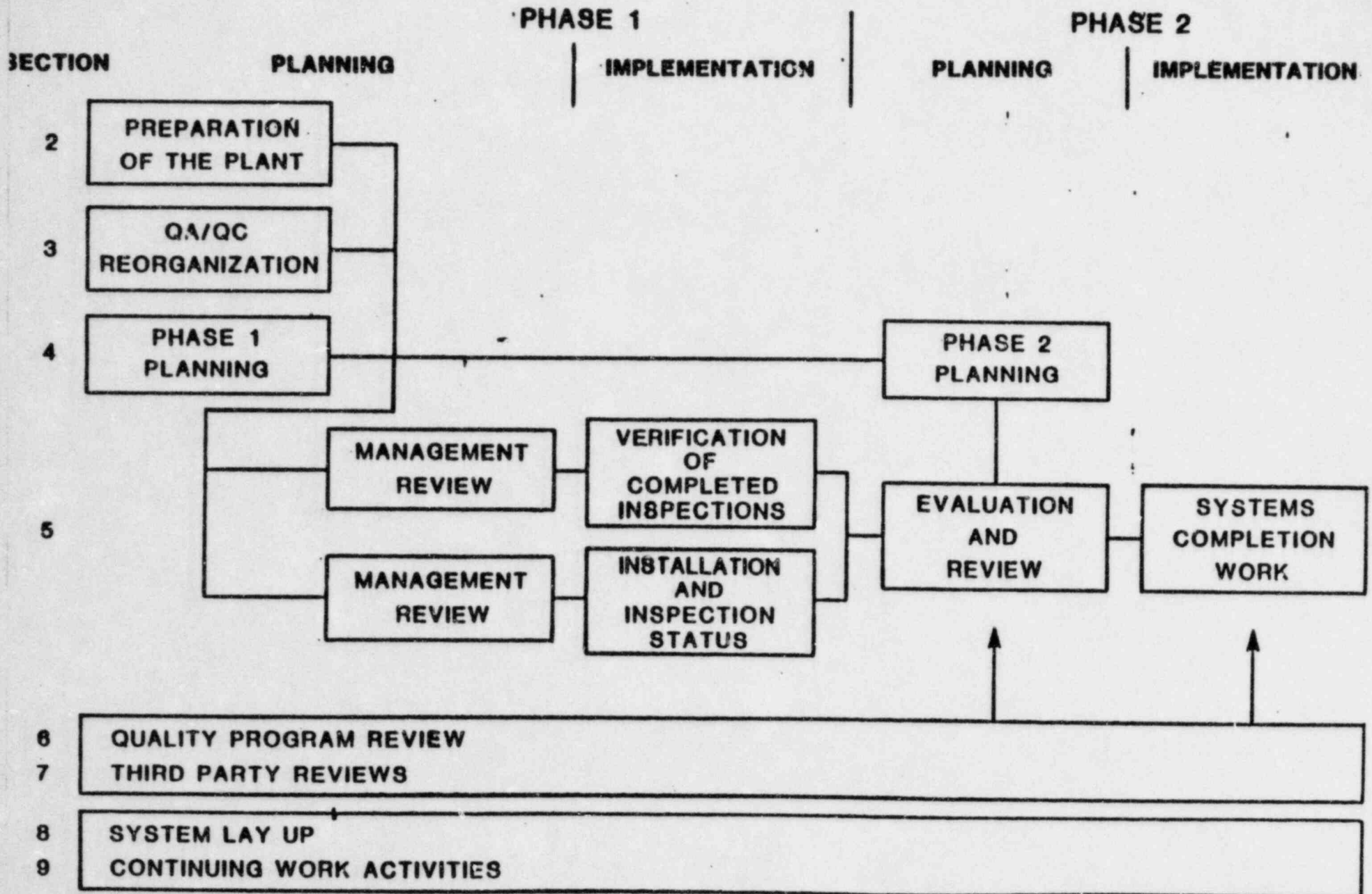
CONTINUING WORK ACTIVITIES (Section 9.0)

Work on Q-Systems has been limited to specific activities. This limitation permits important work to proceed while allowing building preparation for status assessment and verification activities.

SUMMARY

Each section of this Plan presents detailed objectives, a description of the activity involved, and a schedule for achieving major milestones. The Program, however, is still in an evolutionary state and revisions to the Plan may be necessary as Consumers Power Company gains experience in the implementation of Program elements.

FIGURE 1-1
CONSTRUCTION COMPLETION PROGRAM SCHEMATIC



2.0 PREPARATION OF THE PLANT

2.1 Introduction

The preparation of the Plant will clear the auxiliary, diesel generator and containment buildings and the service water pump structure of materials, construction tools and equipment and temporary construction facilities.

2.2 Objective

To allow improved access to systems and areas for the Program activities.

2.3 Description

The preparation activities minimize obstacles and interferences for the Program activities. This is being accomplished through the following steps.

1. Limitation of Q-work to activities and areas defined in Section 9 resulting in substantial work force reduction.
2. Removal and storage of construction tools and equipment, and temporary construction facilities (scaffolding, etc) from the buildings identified in Section 2.1.
3. Removal, control and storage of uninstalled materials from the buildings identified in Section 2.1.
4. Appropriate housekeeping of all areas following material and equipment removal.

The preparation for each area will be complete before initiating further Program activity. The on-going work described in Section 9 will continue as scheduled during the preparation.

2.4 Schedule Status

The preparation of the Plant began on December 2, 1982. It will be complete by January 31, 1983.

3.0 QA/QC ORGANIZATION CHANGES

3.1 Introduction

The Consumer Power Company's Midland Project Quality Assurance Department (MPQAD) is being expanded to assume direct control of Bechtel QC activities. The new organization and the plan for the transition are described below. The transferred QC Inspectors will be recertified as part of this transition.

3.2 Objectives

Establish New QA/QC Organization

Establish an integrated organization which includes the transition of Bechtel QC to MPQAD while accomplishing the following objectives:

1. Establish direct Consumers Power Company control over the QC inspection process.
2. Establish the responsibilities and roles of the QA and QC Departments in the integrated organization.
3. Use qualified personnel from existing QA and QC departments and contractors to staff key positions throughout the integrated organization.

Recertify QC Inspectors

Ensure that those Quality Control inspection personnel transferring to MPQAD from Bechtel will be trained and recertified in accordance with MPQAD Procedure B-3M-1.

3.3 Description

Establish New QA/QC Organization

A new organization will be implemented under Consumers Power Company and will be described in appropriate Topical Reports (CPC-1A and BQ-TOP-1) and quality program manuals (Volume II, BQAM and NQAM). Changes to these documents will be submitted to NRC.

Features of the new organization include:

1. Lead QC Supervisors report directly to a QC Superintendent who reports to the MPQAD Executive Manager. Any required support from Bechtel Corporate QC and QA functions (except ASME N-Stamp activities) is provided at the level of the MPQAD Executive Manager.
2. The MPQAD Executive Manager will review the performance of lead personnel in his department.

3. QA will develop and issue Quality Control inspection plans and be responsible for the technical content and requirements of such plans. QC will be responsible to implement these plans.
4. QA will continue to monitor the Quality Control inspection process to insure that program requirements are satisfactorily implemented.
5. MPQAD will continue to use Bechtel's Quality Control Notices Manual (QCNM) and Quality Assurance Manual (BQAM) as approved for use on the Midland Project.
6. ASME requirements imposed upon a contractor as N-Stamp holder will remain with that contractor. MPQAD QA will monitor the implementation of ASME requirements.

An organization chart (Fig 3-1) showing reporting relationships in the new organization is attached.

Recertify QC Inspectors

The training and recertification process for QC inspectors has been revised to include commitments made during the September 29, 1982 public meeting with the NRC. Those inspectors transferred from Bechtel to MPQAD will be trained and examined in accordance with MPQAD Procedure B-3M-1. Upon satisfactory completion of the training and examination requirements, inspection personnel will be certified for the Project Quality Control Instruction(s) (PQCI(s)) they are to implement. Inspection personnel will be certified on a schedule which supports ongoing work and system completion team activities.

3.4 Schedule Status

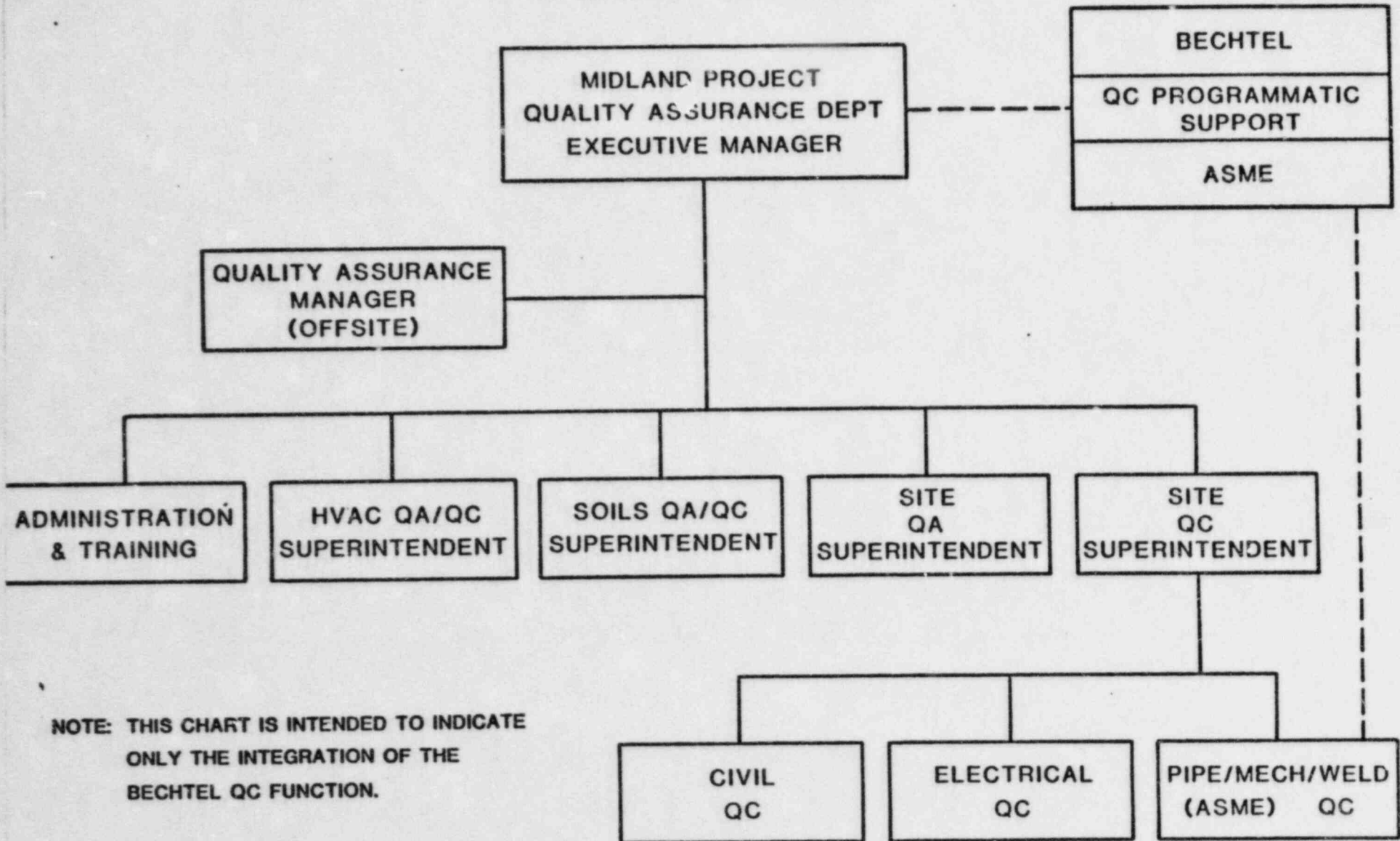
Establish New Organization

Advise NRC of the structure of the integrated organization.	12/15/82
Transfer the Bechtel QC Organization to MPQAD.	1/17/83
Submit changes to Topical Reports and quality program manuals to NRC.	2/17/83

Recertify QC Inspectors

Specify the revised training and examination requirements for certification (B-3M-1).	10/25/82
Complete recertification	4/01/83

**FIGURE 3-1
MPQAD ORGANIZATION**



NOTE: THIS CHART IS INTENDED TO INDICATE ONLY THE INTEGRATION OF THE BECHTEL QC FUNCTION.

4.0 PROGRAM PLANNING

4.1 Introduction

The detailed planning for the major portion of the Construction Completion Program is described in this section.

Planning in support of Phase 1 consists of the activities to set up a team organization to assess the installation and inspection status of Q-systems within major structures (Section 4.2) and to verify the adequacy of completed inspection effort (Section 4.3).

The Phase 2 planning effort covers the process and procedures that will be used by the team organization for systems completion work (Section 4.4). The procedures to integrate the quality program requirements with continuing systems completion work will be developed (Section 4.5).

4.2 Team Organization (Phase 1)

4.2.1 Introduction

Organize and train teams and prepare procedures for an installation and inspection status assessment.

4.2.2 Objective

1. Establish and implement a team organization ready to inspect and assess systems for installation and inspection status.
2. Develop the organizational processes and procedures necessary to implement the team approach for status assessment.
3. Provide training to ensure required inspection and installation status assessment activities are satisfactorily performed.

4.2.3 Description

1. The team organization structure will vary depending upon the assigned scope of work. The organization will consist of a team supervisor and personnel as appropriate from field engineering, planning, craft supervision, project engineering, MPQAD and Consumers Power Company Site Management Office. The team may be augmented by procurement personnel, subcontract coordinators and turnover coordinators.

Teams will be assigned a specific scope of work and held accountable for status assessment and overall completion within this scope. The scope includes the requirements

to develop a viable working schedule and insure early identification and resolution of problem areas. Project processes and procedures will be reviewed and modified to incorporate the team organization. The team MPQAD representative is responsible for providing the QA/QC support for the team. He receives scheduling direction from the Team Supervisor and technical direction from MPQAD. For his team's work, he analyzes the quality requirements and plans the QC activities to integrate them with the team effort. He assures the necessary PQCI's and certified inspection personnel are available for performing the inspections. He maintains cognizance of the quality status of the verification activities.

The Washington Nuclear Plant #2 (WNP-2) team organization will be used as a starting point for a Midland specific approach.

A pilot team or teams will be utilized to develop and test processes and procedures during the development stage to assure that Program objectives can be met. This will also provide practical field input to assure that efficient and workable methods are used.

Team members will be physically located together to the extent practicable to improve communication, status assessment, problem identification and problem resolution.

2. Training for inspection and installation status assessment will be provided to team members. It will include responsibilities, reporting functions, indoctrination of project processes and procedures and familiarization with the project quality program to ensure effective implementation.
3. A separate organization of design engineers (presently existing) will coordinate spatial interaction, review and examination with the activities of these teams.

4.2.4 Schedule Status

- | | |
|--|---------|
| . Designate pilot team. | 1/21/83 |
| . Complete grouping of systems for assignment to teams. | 2/28/83 |
| . Complete assignment of team supervisors and members to designated systems. | 3/31/83 |

4.3 Quality Verification (Phase 1)

4.3.1 Introduction

The verification program is the activity undertaken to determine, using a variety of methods, that the inspections performed on completed work were done correctly.

4.3.2 Objectives

The objectives of the verification program are to:

- . Review existing PQCI's and revise as necessary to assure that:
 - a. Attributes important to the safety and reliability of specific components, systems, and structures are identified for verification.
 - b. Accept/reject criteria are clearly identified.
 - c. Appropriate controls, methods, inspection and/or testing equipment are specified.
 - d. Requisite skill levels are required per ANSI N45.2.6 or SNT-TC-1A.
- . Develop and implement verification inspection plan for completed work which considers:
 - a. Re-inspection of accessible items.
 - b. Review of documentation for attributes determined to be inaccessible for re-inspection.
 - c. Sampling techniques using national standards.

4.3.3 Description

PQCI's will be revised as necessary to meet the objectives in Section 4.3.2. Verification of the quality of accessible completed construction, which has been previously inspected will be performed by use of sampling plans based on MIL-S-105D (1963) or other acceptable methods. Attributes determined to be inaccessible for direct re-inspection due to embedment or the status of completed construction or installation (eg, weld preparation of completed welds, reinforcement in placed concrete, installed anchor bolts, etc) will be verified as appropriate, by examination of records.

4.3.4 Schedule Status

- . Complete review and revision of PQCI's. (Date to be determined.)
- . Establish verification inspection plan for completed work. (Date to be determined.)

4.4 System Completion Planning (Phase 2)

4.4.1 Introduction

Establish the processes for system completion, prepare procedures and expand training to cover systems completion work.

4.4.2 Objective

The objectives of the systems completion planning are as follows:

- . Establish processes and interfaces for system completion.
- . Prepare procedures defining tasks of each system completion team.
- . Train team members by expanding upon training received previously for inspection and status assessment.
- . Establish scheduling methods to be used during system completion activities.

4.4.3 Description

The team organization (developed in Section 4.2) and the processes and procedures will be extended to accomplish the systems completion work.

- . Training will be conducted to assure that supervisors understand the team objectives and their role. Emphasis will be placed on completion of all work in accordance with the design requirements, the change control process used when the design must be modified, and changes to the established team processes and procedures.

4.4.4 Schedule Status

- . Complete team preparation for systems completion work. (Date to be determined.)

4.5 QA/QC Systems Completion Planning (Phase 2)

4.5.1 Introduction

The QA/QC systems completion activity covers the planning to support of system completion work.

4.5.2 Objectives

Establish in-process inspection program and complete review and modification of PQCI's.

4.5.3 Description

The QC in-process inspection program will be directly coordinated with future installation schedules to insure that inspection points, identified by MPQAD QA in the PQCI's, are integrated with the installation schedule. The identification of applicable PQCI's and required inspection points will be used by system completion teams to insure that QC inspections are adequately scheduled into the process. The system completion team quality representative will be responsible for providing the link between the system completion team and MPQAD to insure that quality requirements are satisfied.

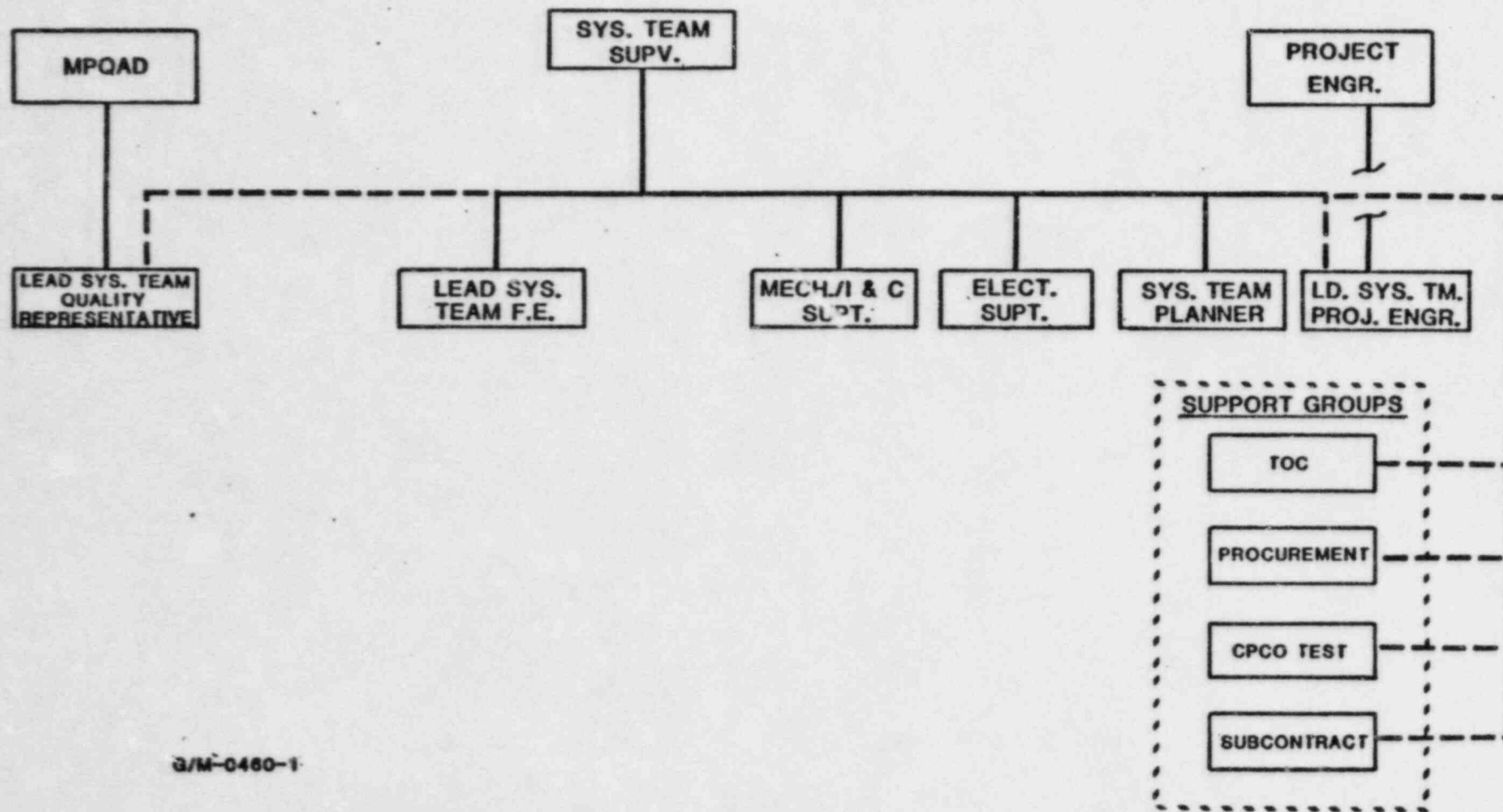
PQCI's will be reviewed, and modified as necessary, to insure that proper attributes are being inspected, that inspection plans are clear and concise, that inspection points are specifically scheduled with installation activities and that inspection results are properly documented. MPQAD QA will be responsible for the PQCI review activity and will obtain assistance, as required, from other project functions, such as Project Engineering and Quality Control. Revised PQCI's will be used to conduct inspection of future installation activities.

4.5.4 Schedule Status

Issue procedure for integrating inspection points into the construction schedule.

2/22/83

FIGURE 4-1
CONCEPTUAL TEAM ORGANIZATION



5.0 PROGRAM IMPLEMENTATION

5.1 Introduction

The implementation of the Phase 1 Construction Completion Program activities will be initiated after a management review of the overall process insures that Project performance and quality objectives have been addressed. The Phase 1 work will then be carried out by the various teams in accordance with the procedures described in the preceding sections. The installation and inspection status assessment of a system or partial system will be followed by a review of results by MPQAD and a second management review before initiating the Phase 2 systems completion work. The Phase 2 work will then be initiated on that system or partial system.

5.2 Objectives

The objectives to be met are:

- . Establish the present installation completion and quality status.
- . Integrate the construction and quality activities for all remaining work.
- . Improve performance in demonstrated conformance to quality goals in all system completion work.

5.3 Description

Management Reviews

Project management will conduct formal review of the plans for implementation activities prior to initiation of team activities for the Phase 1 work. These reviews will ensure that identified project management and quality issues have been adequately addressed by specific actions and that Program objectives are met. The reviews will cover the process for both 1) the verification of completed inspection activity and 2) the installation and inspection status activity.

The installation and inspection status assessment will be performed on a system and/or area basis. Phase 2 is initiated after a formal Project management review of the first status assessment results to evaluate implementation effectiveness. After completion of this review, a work segment will be released for systems completion. Subsequent status assessment results will be reviewed by site management prior to initiation of additional systems completion segments. Reports will be made to Project management at regularly scheduled meetings.

Phase 1 Implementation

The existing installation and inspection status will be established in accordance with the plan presented in Section 4.

Evaluate Phase 1 Results

MPQAD will review the status assessment results to determine if any programmatic or implementation changes must be made. Verification scope will be adjusted, as necessary, based on evaluation results. Also, the evaluation will check for reportability to the NRC (as required by 10 CFR 50.55(e)) and Part 21.

Phase 2 Implementation

This activity starts systems completion for turnover. Work will be scheduled as installation and inspection status assessments are completed and reviewed. Correction of identified problems will be given priority over initiation of new work, as appropriate, and the system completion teams will schedule their work based on these priorities.

5.4 Schedule Status

- . Complete Management review and initiate implementation of plan for verification of completed inspections. (Date to be determined.)
- . Complete Management review and initiate implementation of plan for status assessment. (Date to be determined.)
- . Complete Management review of initial installation and inspection status results and initiate systems completion work. (Date to be determined.)

6.0 QUALITY PROGRAM REVIEW

6.1 Introduction

The adequacy and completeness of the quality program is reviewed as part of the ongoing Project management attention to quality. These reviews consider any questions raised by NRC inspections or findings raised by third party evaluations.

6.2 Objective

Address issues raised by internal audits, NRC inspections and third party assessments. Program changes, if needed, will be evaluated and, as findings are processed, will be factored into the Project work.

6.3 Description

Consumers Power Company believes Midland QA program is sound. From time to time, questions arise on detailed aspects of the program or program implementation. The normal process of addressing these issues ensures that all necessary information is provided to NRC and that internal confidence in the program is maintained.

The recent inspection of the diesel generator building has raised several issues of programmatic concern. These are in the areas of material traceability, design control process, Q-system related requirements, document control and receipt inspection. Project management has directed that MPQAD provide an expeditious evaluation of these issues to be considered as part of the management review prior to initiation of Phase 2. Once the NRC inspection report is received and specified items are identified, these items will be addressed and resolved through the normal process of closing the inspection findings. Any corrective action or program changes will be implemented as appropriate in Project work on a schedule provided in the inspection report response.

The Project will also receive, from time to time, findings from third party assessments (Section 7). These findings or recommendations may also result in program modification or adjustments. Corrective action taken by the Project will be implemented on a schedule stated in the response to these findings.

7.0 THIRD PARTY REVIEWS

7.1 Introduction

This section describes third party evaluations and reviews that have been performed and are planned to assess the effectiveness of design and construction activity implementation. Third party reviews being conducted as part of the Remedial Soils Program are not included in this activity.

7.2 Objectives

To assist in improving Project implementation and assessment of Midland design and construction adequacy, consultants will be utilized in order to:

- Achieve a broad snapshot of current Project practices and performance in relation to a national program.
- Provide continuous monitoring and feedback to Management of Project performance.
- Identify any activities or organizational elements needing improvement.
- Improve confidence (including the NRC's and the public's) in overall Project adequacy.

7.3 Description

The use of consultants to overview Project design and construction activities with particular emphasis on construction is part of the effort to improve the Project's implementation of the quality program. Specifically, the plan overview employs the use of consultants for three separate functions: (1) To carry out a self-initiated evaluation (SIE) of the entire Project under the INPO Phase I program, (2) to utilize a third party overview of ongoing site construction activities to provide monitoring of the degree of implementation success achieved under the new program and (3) to conduct a third party Independent Design Verification (IDV) Program.

1. The INPO self-initiated evaluation was planned as part of an industry commitment to the NRC in response to concerns over nuclear plant construction quality assurance. For the Midland SIE, the evaluation was contracted to be carried out entirely by third party, experienced personnel from the Management Analysis Company.

The evaluation was performed by a team of 17 consultants familiar with the INPO criteria and evaluation methodology. Over a period of a month they interviewed Project personnel at various locations and observed work in progress. The initial results of their evaluation have been presented to the Company

and a Project response to each finding will be prepared and included as part of the evaluation report to be submitted first to INPO and then to the NRC Region III Administrator, together with the INPO overview.

2. A third-party installation implementation overview is being undertaken using, as a model, the program developed specifically for the underpinning portion of the soils remedial work. The overview will be initiated by retaining an independent firm, having considerable experience and depth of personnel in the nuclear construction field. The consultant's overview team will be located at the Midland Plant site and will observe the work activities being conducted in accordance with this Plan on safety-related systems. The overview will continue for a period of six months, after which the Project's cumulative performance will be evaluated. Based on the overview team's findings, a determination will be made by the Company's top management on what modification, if any, should be made to the consultant's scope of work. Findings identified by the installation overview team will be made available to the NRC in accordance with the procedures established for the conduct of independent verification programs.
3. An Independent Design Verification (IDV) is being conducted by Tera Corporation.

The IDV is directed at verifying the quality of design and construction for the Midland Plant. The approach selected is a review and evaluation of a detailed "vertical slice" of the Project design and construction. The design and as-built configuration of two selected safety systems will be reviewed to assure their adequacy to function in accordance with their safety design bases and to assure applicable licensing commitments have been properly implemented. The field work done in support of this activity will not take place until after Phase I implementation (Section 5) has been completed on the systems being reviewed.

The Unit 2 Auxiliary Feedwater System (AFW) plus another system to be selected with NRC concurrence, will be reviewed to fulfill the requirements of the IDV.

7.4 Status/Schedule

1. INPO Construction Project Evaluation

Select consultant and conduct evaluation	Complete
Submit report to INPO	Jan 20, 1983

2. Independent Construction Overview

Define scope	Dec 30, 1982
Select consultant	Jan 31, 1983
Mobilize assessment team	(Date to be determined)
Receive assessment team report	(Date to be determined)

3. IDV

Select 2 Systems	
.AFW System	Complete
.Obtain NRC concurrence for second system.	(Date to de determined)
Complete Evaluation	(Date to be determined)

8.0 SYSTEM LAYUP

8.1 Introduction

Perform system lay-up activities to protect plant equipment.

8.2 Objectives

Expand the protection of completed and partially completed plant systems and components until plant start-up, to take into account any special considerations during the status assessment.

8.3 Description

Procedures and instructions are provided in the Testing Program Manual to protect equipment during the on-going installation and test work. These will be extended to cover special considerations associated with the Program implementation. Both the pre- and post-turnover periods are covered. System and component integrity is ensured through existing programs and implementation of control and verification procedures.

In summary, these procedures and instructions require: Test Engineers to complete walkdowns of Q-Systems (in the auxiliary, diesel generator and containment buildings and the service water pump structure), paying particular attention to systems/components that are open to the atmosphere (eg open ended pipes, open tanks, missing spools, disconnected instrument lines, etc). Systems that have been hydrottested but are not currently in controlled layup require action to place the system in layup. Layup will vary from system to system but in general will consist of air blowing to remove moisture and closing the system from the atmosphere.

8.4 Schedule/Status

. Start extended layup activities	1/15/83
. Issue walk down schedules	1/15/83
. Complete the layup preparation walkdown	2/28/83

9.0 CONTINUING WORK ACTIVITIES

9.1 Introduction

This section describes the activities that are proceeding in accordance with previously established commitments during the implementation of the Program.

9.2 Objectives

- . Maintain installation and support effort on work that will alleviate work interference in congested portions of the plant and facilitate completion and protection of equipment on systems turned over to Consumers Power Company.
- . Meet previous NRC commitments on activities which do not impede the execution of the Program.
- . Provide design support for orderly system completion work and resolution of identified issues
- . Establish a management control to initiate additional specified work that can proceed outside of the systems completion activities

9.3 Description

Those activities that have demonstrated effectiveness in the Quality Program implementation will continue during implementation of the Construction Program.

These are:

1. NSSS Installation of systems and components being carried out by B&W Construction Company.
2. HVAC Installation work being performed by Zack Company. Welding activities currently on hold will be resumed as the identified problems are resolved.
3. Post system turnover work, which is under the direct control of Consumers Power Company, will be released as appropriate using established work authorization procedures.
4. Hanger and cable re-inspections which will proceed according to separately established commitments to NRC.
5. Remedial Soils work which is proceeding as authorized by NRC.

6. Design engineering which will continue for the Midland Plant as well as engineering support of other project activities.

Additional activities related to the systems completion effort, may be initiated, as appropriate, to support orderly completion of the overall Project. Any activities in this category that are initiated prior to release of an area for systems completion work will be reviewed with the NRC Resident Inspector before initiation.

9.4 Status Schedule

These activities are proceeding with schedules that are independent of this Plan.