U. S. NUCLEAR REGULATORY COMMISSION
REGION II

SUBJECT:

DATE:

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Meeting Between NRC and Intervenors Regarding Midland

(8/11/83)
Opening Remarks

Good afternoon. We are meeting here today with representatives of the intervenor groups to discuss the Construction Completion Program for the Midland Nuclear Facility. This evening there will be a public meeting at the Valley Inn to obtain comments from other members of the public on the Construction Completion Program and if time permits we will try to respond to questions on any other matters relative to Midland.

By way of background, Consumers Power Company developed a formalized Construction Completion Program and submitted that program for NRC review on January 10, 1983. This program was an outgrowth of concerns expressed by NRC last fall to Consumers Power Management over continuing quality related problems at Midland, the findings of the NRC's inspection of the diesel generator building which disclosed numerous QA deficiencies, and additional inspections performed by CPCO which disclosed similar problems. A meeting was held with Consumers Power Company here in Midland on February 8 to review Consumer's proposed CCP program and that was followed by a meeting with the public in the evening to allow opportunity for public comment on that program. Since that time much effort has been underway to get a program that the NRC believes it can approve. Consumers submitted upgraded versions of the CCP on June 3 and again on June 10 and we are now close to the point that we feel we can approve the CCP. In trying to arrive at our position we have had numerous working level meetings with the utility and its contractors, we've met on two occasions with Ms. Garde of the GAP organization and we've carefully considered the public comments we've received concerning the CCP. We're here today to discuss with the intervenors to review the proposed CCP as it stands today, to make sure we appreciate fully any remaining concerns for public comment in view of the many changes that have taken place since the February 8 meeting. All comments received today will be carefully considered before approval of the CCP is given.

Keppler

PUBLIC MEETING
8/11/83 7:00PM
Valley Plaza - Great Hall

NRC ATTENDEES:

Darl Hood
Jim Partlow
Jim Stone
Ron Cook
Tom Novak
Jim Lieberman
Darrell Eisenhut
Jim Keppler
Bob Warnick
Elinor Adensam
Jay Harrison
Ron Gardner
Russ Marabito

Keppler - Opening statement - Thirty people signed up to make statements. Please limit yourself to three minutes and try to speak only on the CCP.

Jay - History and description of CCP and S&W qualifications and duties, TERA qualifications and duties. Points raised by GAP and NRC response.

Keppler - Reverification program requirement by CPCo, third party overview, and overview by NRC versus third party reverification and NRC overview. Point of controversy. Comments would be appreciated.

R. Tomachek - Prepared statement - Industry needs the plant. If license denied, Michigan industry would be at a severe disadvantage. Industries would not build in an area where energy was not available.

F. Bramman - Exec. Dir. Bay Area Ch. Comm. 300,000 people will benefit from completion of plant. Bay Area Chamber of Commerce endorses plant. Position has not changed. Progress is never easy.

G. Foster - Pres., Sag. Labor Council AFL/CIO No distrust in community. Saginaw and Bay County Labor Councils endorse nuclear plant. Only Lone Tree Council wishes to discredit plant. Pamphlets are misleading. Only individual members of groups are against plant - not any unions that he knows of.

S. Long - Business person - Member of Midland Chamber of Commerce. Midland plant needed.

S. Young - V.P. Sag Co. Ch. of Comm. Supports completion of the plant. Putting together tri-county program to support completion of plant. Necessary to future growth of tri-county area. Trust NRC to ensure safe construction of plant.

L. Romo - All need jobs and energy. Based on construction record of CPCo, plant cannot be built safely. Rates will go up at least 30-35%. Businesses will not be attracted to area and homeowners cannot afford it. CCP leaves identification of problems to CPCo. Third party should be identifying problems.

J. Dumlar - Supportive of forum - Serious doubts about viability of plant in community and state. Can justify licensing of plant for presumed benefit of public. Site too close to dense population and is therefore not safe. Evacuation - Construction problems - Silence from licensing board. Divisive atmosphere in community. Adequate health and safety of public must be assured. Plant cost - Plant safety - Citizens confidence.

Darl Hood - Evacuation (Emergency Planning) calls for a drill of evacuation plan for area. Drills are at least one year away. Those factors are taken into consideration. Siting was considered during construction permit stage. Plant was justified for this site and plant was approved.

Eisenhut - Citizen confidence - Reason for meetings - why we're here. Confidence serious question for us, too.

G. Yobst - Pipefitter Midland Resident 4 1/2 years. Read letter from another pipefitter. First-class workmanship. Need plant.

T. Miller - Integrity impugned by previous speaker. Don't have total community support, but our support is not marginal. Do not consider ourselves splinter group. We are an outreach group. What is behind all the problems?

Keppler - Seems to be implementation of the programs. Third party overview will remain until we have confidence in CPCo. Management is ultimately responsible.

Wm. Welch - Exec. V.P. Midland Ch of Comm No single issue more important to our community than the completion and licensing of the plant. Not experts on nuclear safety, but trust NRC to see that plant is built safely. Seems to be a great deal of quibbling between NRC and CPCo of non-substantive issues. Impose reasonable standards on CPCo, but get it done. We all contributed to the cost by allowing the process to drag out for so long. Issues are talked about in irrational terms. Trust NRC to expedite completion of the plant.

A. LaBrose - insulator Quality - can't insulate until all welds are checked. Have been checked, re-checked and re-checked.

G. Wilson - Sag Auto worker Plant wasn't needed. Will be too costly to afford. Plant badly built. Plant should be closed down. If it has to be built, build it safely.

M. Corbett - Last man lied. Men know what they're doing. Men take pride in their job and try to do their best.

L. Hallberg -Jobs are important in area right now. Jobs have been lost because of impact of plant on Dow. NRC pointing finger at CPCo management. CPCo has not earned the confidence of the people. If CCP fails, CPCo can just come up with a new plant.

Keppler - Our view is not whether it should or should not operate, but that it operate safely. Two years ago, I was extremely down on CPCo operating plants, particularly Palisades. They've turned that around. We're hoping they do the same at Midland.

B. Wilson - Don't represent anyone. Member of Lone Tree Council Have heard attacks here on people like Terry Miller. I think their concerns are genuine and they have no ax to grind. Am concerned over cost of nuclear plant. Safety will lose out against almighty buck.

Eisenhut - Program will not be rammed through because of financial considerations. Has been going on for many months much to dismay of CPCo.

R. McCauley -People who are eventually going to live in community are best qualified to inspect the plant.
plant worker

R. Young - Quality of workmanship couldn't be better. Why depend on other countries for fuel. Why not depend on ourselves.
Electrician

E. Ivey - Has interest in economic welfare of this community. Would be economic disaster for community if plant is not licensed.

B. Garde - Soil settlement, cadweld problems not Terry Miller's fault or anyone elses. CCP is plan that a lot bf people have put effort into.
GAP

Ms. Rosingard - CCP - Bear in mind that a system of checks and balances does not work very well when it is within one entity. Decision for third party overview a good decision, but may be too late.

G. Carson - Commend NRC for effort to ensure safety of plant. Need the power. No acid rain from nuclear plant. Clean energy is needed for this area. No reason to expect why we cannot in time learn to use this energy.
Midland Molecular Institute

D. Ellis Need to attract new business to Michigan. Completion of plant is needed for development of Michigan economy. Some of cost increases are due to hearings such as this. GAP is supported by IPS which is an organization of very far left. GAP may have a hidden agenda.
U of M Flint Camp. Econ Prof

Sister Platte- Assured us that there would be independent audit - open process.
Sag City Coun- Read now that after CPCo sights the problems, then there would be
cil a solution to them. Pressure on us is enormous because there are not enough women. Have to be committed to the little people of the community in order to restore credibility. Must assure us that the waste can be disposed of safely.

Keppler - Allegations have been, are being, or will be investigated by the NRC. We believe that the CCP should be a viable program.

Platte - Think you need a more independent process for CCP.

S. Black - Comm. for Jobs & Energy — Need necessary energy for welfare of Michigan. To put Michigan To put Michigan citizens back on the job.

D. Erskine - farmer — We need the safe nuclear power plant in Midland.

J. Tanner - Lone Tree Council — Will employ those people until plant is completed. Atty General says there will be a 65% increase in rates. How will this affect jobs? Decrease after plant is built. Aug. 2 Wall Street Journal says "Nuclear power is twice as expensive as coal-fired plants and can't be operated efficiently". Will have 54% more energy than needed when plant is completed.

Eisenhut - Avg. plant has 50% efficiency rate?

Tanner - Yes - stated in article.

Eisenhut - 54% too much energy? What were you referring to?

Tanner - Mr. Miller says 83% is plant operates.

Eisenhut - Must have enough to cover peak load, so if average is considered, of course, it would be in excess.

Siebert - plant worker - Can hear warning system very well in house with windows closed. Live seven miles from plant.

Cameron - Born and raised in Midland. Want plant completed, built and operated safely.

M. Kearn - Pres., Freeland Area Ch of Comm. — Plant has been constructed under a microscope. Have confidence in safety of plant. Asset to business growth. Get on with the task.

(No name) Hemlock — Plant built by organized labor. No one would be fired for complaining about shoddy work.

V. Castellano - Ingersoll Township goes on record as being against the Midland plant until all safety issues are resolved. Mismanagement. Since Dow has terminated contract, they will continue with their H plume (thermal discharge). We will now have two thermal plumes in the Tittabawassee River. Higher toxicity on aquatic life.

Keppler - Not prepared to respond to this. We will get back to you later.

J. McFarland-Plant worker - Don't worry about cost. I work under tightest rules I've ever worked under. Watched too close to get away with anything. I believe it's safe.

J. Secord - Am relieved to hear a more balanced viewpoint than in the past. There will always be someone who is unhappy. Can't wait to please everyone.

P. Sole - pregnant CPCo worker - Regarding Sister Ardith Platte's comments regarding pregnant women being worried about plant. I'm not worried. I work with these people and know they're qualified. We need this plant.

Eisenhut - Two sides to every argument. Appreciate sincere comments made. Some things are beyond NRC control. A lot of questions inferring that CPCo management is the problem. Would like to ask Jim Cook to comment.

J. Cook - Difficult to give single response. Been a very changing business. Much more sophisticated. Impressed with resiliency of the people who are there. Proud of training center we have built. Same kind of dedicated people on construction site as there are in operations dept.

Keppler - Have been receiving CCP since beginning of the year and have resolved a lot of problems. Would like to hear your articulation of what you believe the problems are at Midland.

J. Cook - Have not met our own expectations. The plant/hardware is as stout as anyone around, but not everyone can know all the ramification of workmanship not exactly matching drawings. Think that is our main problem now. Other problems over the years have been fully addressed and solved as they occurred.

Eisenhut - Regarding comment about people feeling pressure of losing their jobs. Do you feel you have a system in place where the worker can feel comfortable coming forth to management without any reprisals?

J. Cook - I believe we do. Don Miller and his staff have an excellent relationship with the crafts people. Also have a formal system for investigating concerns. Also would like to offer my own telephone number to anyone who feels they are not getting a positive response. Will set up a system and post it around the site.

Keppler - Thank you for coming tonight. Planning to hold working level meetings in the area monthly.

PUBLIC MEETING
8/11/83 2:00 PM
Quality Inn Conf. Room

NRC ATTENDEES:

Darl Hood
Jim Partlow
Jim Stone
Ron Cook
Tom Novak
Jim Lieberman
Darrell Eisenhut
Jim Keppler
Bob Warnick
Elinor Adensam
Jay Harrison
Ron Gardner
Russ Marabito

INTERVENOR ATTENDEES:

B. Stamiris
Lucy Hallberge
Leo Romo
B. Garde
Terry Miller
Kathy -----
Joel Tanner

Keppler - Opening statement - Close to approving CCP. All comments today will be considered.

Jay - Slide presentation

Stamiris - Where are you in CCP approval?

B. Garde - Will want more details on first phase

Keppler - In Mgmt & Review Phase now?

Jay - Yes.

Eisenhut - Schematic laid out by CPCo and added to by NRC?

Jay - Yes.

Eisenhut - These are things to be done to make the CCP acceptable.

Jay - Have proposals which have not yet been made to CPCo and CPCo will have a chance to rebut.

B. Garde - Want time for written comments.

Keppler - If CPCo adopts suggestions, NRC will approve unless substantive comments.

Jay - NRC hold points required:
Training/recertification of QC inspectors
Prior to initiation of Phase I
Prior to initiation of Phase II

Hold points will be in place until were satisfied.

B. Garde - What are you going to look at? Pipe hangers?

Jay - Already started pipe hangers. Will be looking at --- hangers as well.

B. Garde - Hanger reinspection for example - More scrutiny on first than on later?

Jay - Not going to tell them what we're going to do.

B. Garde - How is public going to know your inspection is adequate? If you only spot check?

Jay - Don't know how much will be inspected. Won't know until we reach a confortable point.

B. Garde - Management review or paperwork review?

Jay - Did management review last week. Everything o.k. Found problems with procedures.

Keppler - Will go into this with enough depth to have confidence in CPCo. Hold monthly meetings to give public confidence and be able to assess how things are going.

B. Garde - Perfectly reasonable. Don't like announced inspections, but that's assuming S&W is looking closely at CPCo.

Jay - When we're satisfied - we'll lift the hold points and CPCo will be able to continue. Do not want to have to approve every step such as we are doing in soils.

B. Garde - That's what I would like.

B. Garde - Describe second hold point.

Jay - After completion of all these activities will start on Phase 2.

B. Garde - Saying NRC will take team in on each system?

Jay - No - not 100% inspection. Just want to know system is working. To do what you want would require one on one. Random checks. When confident - will lift hold point and go into normal inspection mode.

Keppler - Will check heavily at first and then back off. Placing a lot of emphasis on third party and very thorough review before lifting hold points.

B. Garde - You trust CPCo. We don't. Don't feel Jay's explanation is adequate.

Keppler - What do you want?

B. Garde - Explained in 6/13 letter. Want to wait until Jay is done.

Keppler - Don't want to argue. Want to hear your views. Maybe comments by S&W.

S. Baranow - We believe it is an adequate program.

B. Garde - Rev. 1?

S. Baranow - Yes. Management Review meetings and training is our involvement now.

S. Baranow - Intend 100% evaluation of inspection training. Adequate so far.

---- How many on staff?

S. Baranow - Nine.

B. Stamiris -Same nine people who are reviewing soils?

S. Baranow - No.

Eisenhut - What will S&W's role be to verify that CPCo has done adequate job?

S. Baranow - Have developed check lists which will be used in each room to physically verify that CPCo did an adequate job.

Eisenhut - What kind of inspections. Give me a flavor.

S. Baranow - Developed addressing all the important points of PQCI.

Eisenhut - Make determination that CPCo has done an adequate job?

S. Baranow - Yes.

L. Hallberg- Will have more than nine? How many.

S. Baranow - As many as necessary. If fifty are needed, will get fifty.

Jay - Next step will be to bring staff up to fifteen.

Baer - No restrictions on budget or personnel.

B. Stamiris - What assurance that HVAC as-built is adequate?

Jay - NRC and TERA and S&W are looking at them.

Keppler - Concerns about Zack date back in time. Assigned group to look at Zack from OSC. Onsite inspection going on right now. Interviews with people who have concerns.

B. Stamiris -Why did it not stop. Why exempted?

Keppler - We found CPCo was controlling it. No basis to stop work on it.

Warnick - Good reports from inspectors. No history of problems.

Keppler - If we need to include it in CCP, we will.

Jay - R. Cook very satisfied with welding procedure.

B. Garde - How much has been ripped out since 1979/80?

R. Cook - Work looked at by CPCo. Guess would be 1/3 torn out and a lot reworked since the 1980 period. CPCo doing QA/QC. Didn't work when Zack did their own. CPCo doing 100% inspection.

B. Garde - How much has had to be redone. Will that be in Zack report?

Warnick - Yes

B. Garde - Going to put procedures checklist in PDR?

Jay - Yes.

Leo Romo - What will be verified under Phase I?

Jay - Reinspection of work already inspected.

L. Romo - S&W?

B. Garde - Does S&W methodology describe how much will look at?

Baer - Not 100% - Random sampling.

B. Garde - Does detail how much to look at?

Baer - No.

---- S&W putting it's reputation on the line.

B. Garde - Think S&W reputation already tarnished by work done at other sites. Will trust because work is adequate not because of reputation.

Eisenhut - If sample not good enough - will increase sample. Difficult to instill confidence once lost.

B. Garde - Pleased with TERA's methodology. Have confidence in Jay and the team. I trust them. Public has lost confidence and wants to know what's out there. Working out problems on methodology will prevent having these meetings.

Eisenhut - Will be heavy amount of overview but process will not work perfectly from the beginning.

Kathy - We are confident in NRC, Midland. When will there be more?

Keppler - Seven more people for Midland and Zimmer working out of Illinois. Maybe one more resident at Midland.

Kathy - Time frame?

Keppler - No.

B. Garde - Battered out over about 6 months the TERA program.

Jay - Seven months on CCP already.

B. Garde - Only three pages on S&W to look at.

Jay - Will give sample procedures for you to look at with S&W approval.

Jay - Correction - Something less than 100% of Zack reinspection by NRC. GAP 2.206 request(1)Don't feel modifying CP is needed at this time. (3) Do not intend to reject either (4) Will not require because would take NRC out of regulatory posture. (5) Will make increase in staff. (6) Issues have been reopened. Task force put together and issues will be reviewed.

Jay - Conclusions

B. Garde - Focus comments around issues raised in 2.206. Major problem with CCP as presented and your review goes back to quality verification of CCP Review. Feel confident of training, team training and statistical sampling plan. Not a lot of rrom for negotiations or presentation you have made. Original request for third party review still needed. Want to know methodology. Will do conscientious review. S&W not adequate. Teams spotcheck o.k.

Keppler - S&W material will be put in PDR.

Terry Miller - Want to thank NRC, etc. Opposed to plant. Unnecessary, costly. Endorsed by mayors of Bay City and Saginaw. This company should not be allowed to verify their own construction. We have no trust in this company.

Keppler - Could comment on overviews?

Miller - Extremely impressed. Many things excellent. Third party should supervise the continuing construction. Public is aware CPCo is under the

gun as far as cost and scheduling. In paper daily. Tri-county community skeptical about program allowing utility to oversee their own construction.

Kathy - Education campaign started in June. Brochures (Cost, Danger in Operation). People feel impotent to fight.

Tanner - Soils settlement problem. Will NRC make their data available to an outside consultant.

Eisenhut - Is all CPCo data.

B. Garde - What kind of input would that expert have if we could raise the money to get him?

Eisenhut - Provided resumes of five individuals who are noted in their field, brought in by Brookhaven Labs., and two other specialists. Will look at all records and information available - go out to the site. Am sure they will be happy to meet with your expert. Cannot commit beyond that.

Tanner - Will he have available to him, every bit of data he will need?

Eisenhut - It's all in the PDR.

B. Garde - Can let us know in a day or so the boundaries of his involvement?

B. Stamiris -Opinion on D. G. Bldg.

Eisenhut - Congressional hearings first time I heard views against D. G. Bldg. Asked everyone else if they disagreed and no one else did.

Romo - People in Tri-cities have lost trust in CPCo. Outline shows why. What about that which is not accessible? How can that be reviewed and what is percentage?

Jay - Can only look at records on some things. Program set up on how to administer.

B. Garde - Outline of CCP is not specific on what is and is not accessible. What plans have CPCo put forth to -----. Why do you think documentation review is acceptable?

Jay - Can't assume everything inaccessible is unacceptable. Will have to see what documents show us.

Keppler - If five of fifteen accessible welds are bad - something would have to be done. If all fifteen were good, assumption would be that inaccessible welds would be good as well.

B. Garde - Have considered a CAT inspection?

Keppler - No. Have other plants that need to be looked at.

Jay - Dedicated staff such as we have is much more effective. Reinforcing steel - many of the problems were way back when. Can't assume whole plant is bad because of what happened in D. G. Bldg.

Lucy - Will we ever know what percentage of problems are inaccessible?

Keppler - Oh sure.

Lucy - How does Zimmer QCP compare to CCP?

Warnick - Both require backward look. Both require work to be done by the utility. Identified over 15,000 nonconforming conditions. Stopping work not related to QCP

Keppler - QCP working so well, it was almost a chaotic situation. Trying to fix things up before -----

Luch - Why not take away QA/QC from CPCo now.

Keppler - Must instill in utility a sense of responsibility to do the job.

Eisenhut - Not in charter to overview or supervise. If it is completed, CPCo will have to operate it and you have to have confidence in them.

Romo - What will happen if CPCo messes up again.

Keppler - Things will come to a halt again.

Eisenhut - Won't get a license if NRC doesn't have confidence.

Stamiris - Isn't the close scrutiny by the NRC and the CCP itself a testimonial to your lack of confidence?

Eisenhut - Not at all. ---------No confidence without third party review.

Stamiris - Don't you feel that allowing CPCo to go in to identify problems that exist poses an inherent conflict due to their financial problems?

Eisenhut - (Couldn't get it)

B. Garde - Summary comments - CPCo shoud not be trusted. Until public and you know what is on that site ---- Not totally comfortable with S&W. Can't make committments to rest of program until we know ----. CPCo developing plan to meet your requirements not to deal with the problem that is out there. NRC hold points were not in first couple of versions of CCP. If plant operates one day, cost can be put in rate base.

Keppler - Jim Cook, do you have anything to say?

J. Cook - Team that is on site is eager to turn opinion around of NRC and public. Will try to show all of you with our actions.

Vol. 126, No. 87 38 Pages

Public Mtg

Consumers came close

Midland Nuclear Plant

By PAUL RAU
Daily News staff writer

Consumers Power Co. got about a D on its Midland nuclear plant soils work in a report card delivered today. And the teacher said only the closest supervision kept the utility from flunking.

The report card — the Systematic Assessment of Licensee Performance (SALP) — is handed out by the U.S. Nuclear Regulatory Commission to all U.S. nuclear plants.

Consumers received another negative government rating for its performance in meeting government rules on the project, and the rating for the soils work almost fell off the low end of the scale.

James G. Keppler, Region III administrator for the NRC, said the only reason the utility warranted even the lowest rating for the soil work is that the NRC has put stringent controls on the work.

"We're still not happy with the way the work is going in the soils area, and it's going at a snail's pace because of that," Keppler said after issuing the new SALP rating for the Midland plant.

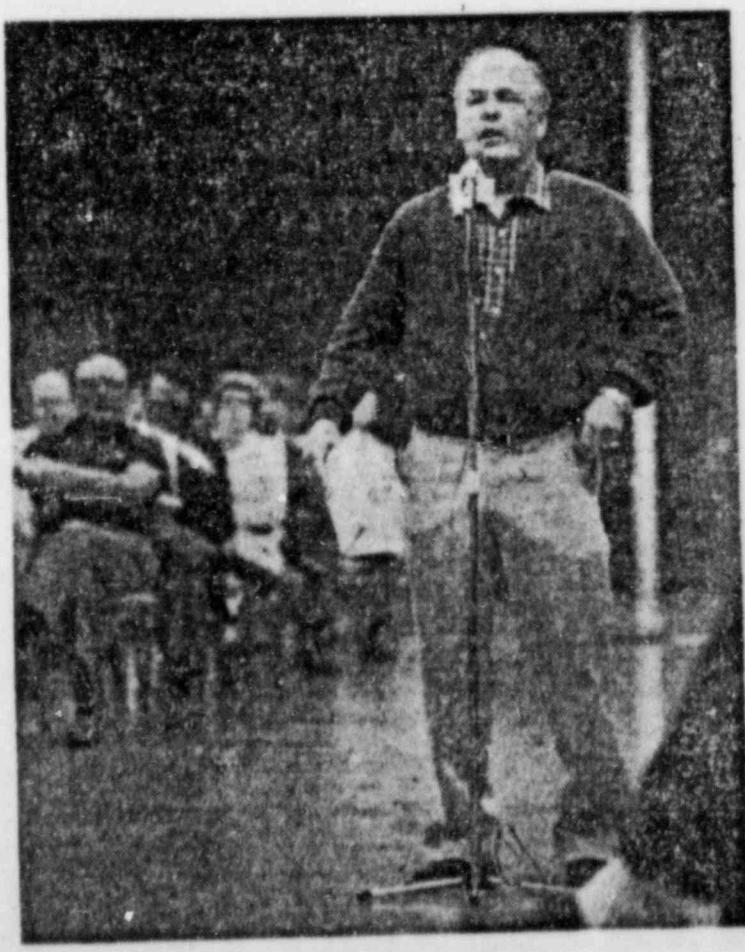
He said it will be questionable "whether this plant will ever be completed" if the stringent controls fail to make the soils work satisfactory. The controls include audits by third parties and authorization procedures to make sure Consumers gets prior NRC approval for soils work.

CONSUMERS POWER Vice President James W. Cook said the utility has no major objections to the NRC's new SALP ratings, but will provide written comments telling the goverment how the utility plans to improve regulatory performance at the Midland plant.

Cook said that while "nobody is satisfied" with the soil work, he said a great deal of care is being taken to improve it.

"It's very true that we have the burden of rebuilding the confidence of the

People talk, NRC listens...



George Yost (standing, l
Local 85, Plumbers and Ste
Nuclear Regulatory Comm
the electricity which will be
land nuclear plant is necess
ing in this area. He was one
spoke up in favor of the pla
ment session at the Great
NRC officials (seated on the
listened to comments from
250 people for more than tw
Daily News by Bri[illegible] Tromp

to flunking soils course

NRC and the public. The goal is absolute perfection, and that's what we're shooting for," Cook said.

The soils work is intended to correct foundation problems caused by poorly compacted soil under some structures at the nuclear plant, and to assure that the plant can safely survive an earthquake.

THIS IS THE THIRD SALP rating issued for the Midland project. In the first, which covered work from mid-1979 to mid-1980, Consumers Power was rated "below average" compared to 11 other nuclear units in nearby states.

The second SALP, covering mid-1980 to mid-1981, was termed "fairly negative" by Keppler.

The new SALP covers only four work areas from mid-1981 to March 31 of this year. Consumers Power was rated category 3, or minimally acceptable, for soils and foundations work.

The utility also received a category 3 for soils work in the last SALP, but NRC officials made it clear that the new rating is a "very low 3" and represents a declining trend.

The SALP report issued today said the rating is due to "the continued lack of attention to detail and the continuing inablility on the part of the licensee (Consumers Power) to implement properly the requirements of the Midland QA (quality assurance) program."

In the other three areas, CPCo was rated adequate, category 2, for work done by Babcock & Wilcox Co. on nuclear steam supply systems and piping and supports (the same rating as last time, although the NRC cited deterioration in the work); adequate for heating, ventilating and air conditioning work (a decline of one rating category from the last SALP); and adequate for a range of licensing activities (unchanged).

THE SOIL WORK is critical. Delays in it could push back plant operation dates.

The work is unprecedented in the nuclear industry, and Keppler said SALP board members were "clawing at each other's throats" before they agreed on the minimally acceptable rating.

"We probably could not let the work continue" without the strict control measures, Keppler said.

Intervenor Barbara Stamiris told the NRC it should halt the soils work until satisfied with it, but Keppler said her suggestion would be "totally punitive" and unnecessary because the NRC has assumed almost more control over the work than is proper for a regulatory agency.

eft), vice president of
mfitters, told the U.S.
ission Thursday that
generated by the Mid-
ry to get industry roll-
of about 20 people who
t during a public com-
Hall in Valley Plaza.
stage in photo at right)
the audience of about
hours. (Photos for the
ter)

NRC almost ready to OK N-plant completion plan

By LORIE SHANE
Daily News staff writer

Federal regulators said Thursday they are nearly ready to approve plans for finishing the Midland nuclear plant.

Approval would give Consumers Power Co. the go-ahead to reinspect past work and later to continue building the project.

The U.S. Nuclear Regulatory Commission said at two meetings here that, pending resolution of various minor items, it will approve Consumers' "Construction Completion Plan (CCP)."

The CCP was drawn up as a response to the continual quality-related problems at the plant, according to NRC inspector J.J. Harrison. The plan calls for Consumers to re-inspect many of the safety-related systems that already are built in order to find and correct any deficiencies. If that reinspection receives NRC approval, the utility will be allowed to go ahead with building the plant.

Consumers has been waiting for NRC action on the CCP for about seven months. The utility stopped nearly all work on safety-related systems late last year, after the NRC found safety violations in the plant's diesel generator building.

TOP-LEVEL NRC officials listened to comments for two hours from

of the Lone Tree Council, an area environmental group.

John Dumler, 5505 Drake, said he believes the plant is too close to a densely-populated area; questioned the justification of licensing a project which has experienced more than 1,000 percent cost over-run; and said the plant is creating a "divisive atmosphere" in the Midland community.

Others pointed out that electric rates will increase and deter business when the plant goes on line.

Environmentalists said they think the NRC should be tougher on Consumers.

"We come to this table not trusting Consumers Power Co. We think they've been given enough chances," Billie Garde said at the afternoon meeting with citizen intervenors. Ms. Garde is with the Government Accountability Project (GAP), a Washington, D.C., public interest organization.

GAP has been investigating workers' allegations of poor quality work at the plant, and also is working with the Lone Tree Council.

Given past problems, Ms. Garde and Lone Tree Council members said, Consumers should not be trusted to reinspect the plant on its own. They suggested an independent group be brought in to find past deficiencies.

Midland D

Vol. 126, No. 83 36 Pages Monday, August 8, 19

Consumers denying all

By LORIE SHANE
Daily News staff writer

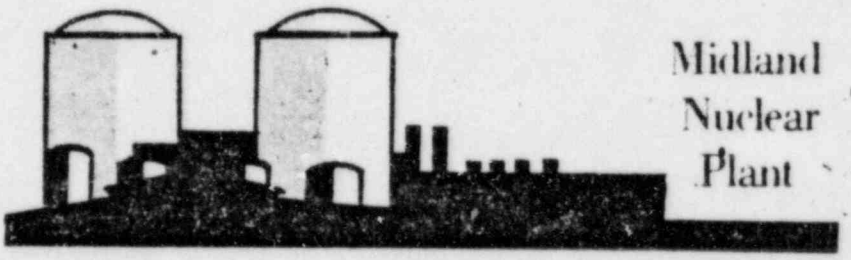
Consumers Power Co. gave the Dow Chemical Co. "true and accurate" information about the Midland nuclear plant before the two companies signed an agreement for Dow to buy steam from the plant, Consumers claimed Fri[illegible] in response to a Dow lawsuit.

Outlining how it will defend itself against the Dow suit, Consumers said in court documents that it denies all of Dow's allegations of misrepresentation, breach of contract and negligence. The utility also claims that Dow has breached the steam purchase contract between the two companies by not paying Consumers a termination payment.

Dow filed suit in July over a 1978 agreement under which Dow was supposed to buy steam from the nuclear plant to supply power to its chemical complex here. Dow now has terminated the agreement.

The agreement calls for Dow to pay Consumers a "termination payment," currently estimated at $440 million, but Dow is asking the court to cancel that contract obligation. It also is asking for $60 million in damages.

IN ITS DEFENSE, Consumers says any delay or failure on its part to meet the terms of the steam purchase agreement were due to causes beyond Consumers' control, such as delays caused by U.S. Nuclear Regulatory Commission regulation.



That excuses Consumers from any liability to Dow, Consumers says.

Also, Dow took the risk that the plant would not be finished on time, Consumers says. Since Dow now is seeking to terminate the steam purchase contract, it is barred from seeking other types of relief, the document says.

Consumers is asking the court to reject Dow's request and to award Consumers costs and attorney fees.

THE UTILITY also has filed a countersuit alleging Dow's termination of the steam purchase agreement is "ineffective" because Dow didn't meet the terms of the agreement. It claims Consumers has suffered damages in excess of $10,000 because of Dow's action, and says Consumers is contractually entitled to the termination payment from Dow.

The suit seeks a judgment that Dow's action to terminate the contract is not valid, and that the utility be awarded the full $440 million termination payment as well as other damages and court costs.

Consumers is being represented in the case by the Detroit law firm Barris, Sott, Denn & Driker. Attorney Eugene Driker signed the response and countersuit.

"WE ARE not surprised by any of the allegations raised by Consumers," Phillip L. Schneider said this morning. Schneider is manager of media relations and issues for the Dow Chemical Co. "Obviously those will be resolved when the issue comes to trial. We still steadfastly adhere to our contentions as outlined in our complaint, namely that through misrepresentations and breach of contract . . we consider the

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# of Dow's allegations

1978 contract to be void and therefore the basis for our termination of it.

HERE ARE SOME of the main points made in Consumers' response and countersuit:

• Consumers denies Dow's allegations of misrepresentation, saying "all information provided by it to Dow in connection with ... the 1978 agreement was true and accurate" to the best of the utility's knowledge and belief.

Dow has claimed that Consumers misled it into signing the 1978 agreement and, later, into not terminating the agreement, by failing to disclose problems which would delay completion of the plant.

Dow would have terminated the agreement earlier — and would have been required to pay less — if it had known about schedule delays caused by such things as soil problems, according to the Dow lawsuit.

• Consumers denies Dow's claim that there was a "fiduciary relationship" between the companies. Dow has claimed there was such a relationship because it placed its complete "faith, trust and confidence" in the utility.

"A fiduciary relationship is ... between a guardian and a ward, if you will," attorney Driker said in a telephone call this morning. "Consumers Power Co. was not Dow Chemical Co.'s trustee. Dow was and did look after itself and certainly wasn't relying on Consumers to look after its (Dow's) business."

Driker said the only relationship between Consumers and Dow was the one outlined in the 1978 agreement.

• Consumers was not negligent, as Dow has claimed, in the planning, supervision and construction of the Midland facility.

"We don't think that Consumers Power Co. is negligent at all," Driker said. The response says Consumers has fulfilled all the duties required of it under the 1978 agreement.

Further, Driker said, the court or jury in this case must look at the relative fault of each party and "apportion the blame among all parties."

• Any delays or failures in Consumers' performance under the 1978 agreement were due to "causes beyond the reasonable control of Consumers Power," the response says. That mainly refers to delays due to NRC requirements, Driker said.

There is a clause in the 1978 agreement which says Dow and Consumers both are excused from performance delays or failures which are due to "exercise of authority or regulation by governmental or military authorities." The same clause excuses both parties from delays due to acts of God, war, action of the elements, storm or flood, fire, riot, labor dispute or disturbance.

Six Idaho cities passed the 100 mark Sunday, with Boise the hottest at 106 degrees. That set a city record for the date, breaking an 18-year-old record by three degrees.

It was even hotter at Mountain Home, Idaho, over the weekend. That community hit 111 degrees Saturday and followed with 104 on Sunday. Lewiston, Idaho and Ontaria, Ore. hit 105 Sunday.

Public's chance tonigh

By LORIE SHANE
And PAUL RAU
Daily News staff writers

The public's chance to comment on Consumers Power Co.'s plans for finishing the Midland nuclear plant is tonight.

Officials from the U.S. Nuclear Regulatory Commission will be in Midland to discuss Consumers' Construction Completion Plan (CCP), which outlines the steps the utility will take to determine the current status of the plant and what has to be done to finish it.

The meeting begins at 7 p.m. in the Great Hall in Valley Plaza, 5221 Bay City Road. The NRC will start the meeting with a discussion of the CCP, followed by an opportunity for the public to comment. Time limits may be placed on commenting individuals to allow everyone a chance to speak, according to the NRC.

The public may observe but not comment during a 9 a.m. Friday meeting at the Quality Inn, 1815 South Saginaw. At that session, the NRC will announce Consumers Power's new "report card" on some work at the Midland plant.

The CCP has been formulated, according to Consumers, "to provide guidance in the planning and management of the design and quality activities necessary for completion" of the plant.

The CCP was drawn up after the NRC found problems during inspections of the plant's diesel generator building. Those problems led to a fine against the utility for safety violations.

Since then Consumers has stopped nearly all safety-related work at the plant and has drawn up the CCP to demonstrate to the NRC how it will finish the plant. The utility is waiting for NRC approval before continuing the safety work.

In the CCP, Consumers promises to improve its quality assurance program — the internal inspection program designed to make sure the plant is built according to requirements. One improvement is shifting the quality control function from contractors directly to Consumers, according to the written CCP.

The CCP goes on to explain how Consumers will re-inspect much of the work that already has been done to make sure it meets requirements, and how Consumers has decided to undergo third party reviews by independent firms.

The NRC wants to get public com-

which deals with Biblical themes

t: Consumers' Nuclear plant completion plan open for comment at Valley Plaza meeting

ment on the plan before approving all or parts of it, according to NRC inspector J.J. Harrison.

The NRC also was to hold a special meeting with local intervenors today. The intervenors are those citizens who have been participating in the federal hearings on whether to license the plant.

FRIDAY'S NRC MEETING concerns a grading system called Systematic Assessment of Licensee Performance (SALP) which the NRC uses to judge regulatory performance at all U.S. nuclear plants.

The public may attend but not comment.

In this cycle, Consumers Power is being graded for activities at the Midland plant between July 1981 and March 31 of this year.

Only four areas will be rated — soils work, licensing activities, piping and supports and Zack Co. welding work on ventilation systems. Categories will be 1, 2 and 3, indicating respectively a high level of performance, satisfactory performance and minimally satisfactory performance.

Consumers Power has known the results of the new SALP since July 21, when the NRC mailed a preliminary copy. But the public will learn of the results for the first time Friday.

The utility may file a written dissent after the meeting, but that likely won't lead to changes in the SALP report, according to NRC spokesman Jan Strasma.

"We're not meeting with Consumers to get their comments and change our mind; we've made up our mind. I don't expect any changes," Strasma said.

CONSUMERS POWER has not fared well in past SALP ratings. The utility's regulatory performance in building the Midland plant was rated "below average" during the first SALP period from mid-1979 to mid-1980.

The second SALP rating to mid-1981 also was fairly negative. Consumers Power was rated minimally satisfactory in five work areas, satisfactory in five other areas and earned only two satisfactory ratings.

Only one nuclear plant received a worse rating in the NRC's Region III, which covers about a dozen nuclear units under construction in eight states.

Nuclear plant delay may be even longer, regulator says

By LORIE SHANE
Daily News staff writer

The Midland nuclear plant may take even longer to complete than the U.S. Nuclear Regulatory Commission announced earlier this week, an NRC official said Thursday.

The NRC already has said it believes the first reactor of the Midland nuclear plant will take at least a year longer to finish than the Consumers Power Co. estimates.

Consumers' estimate is October 1984; the NRC estimate would shift that to October 1985. Both figures refer to the date for fuel loading, not the date for commercial operation, which is typically several months after fuel load.

Even the one-year delay may be optimistic on the NRC's part, according to Thomas M. Novak, the NRC's assistant director of licensing.

Novak was asked about an internal NRC document which states that some NRC officials predict the first reactor will not be finished until "some months beyond the second quarter of 1986," which is about a year beyond what the NRC said Tuesday.

"The issue is still open. This may be correct," Novak said, referring to the 1986 date, but the NRC won't make that official until it has a chance for a more detailed review.

The document is a draft letter from Novak to James W. Cook, Consumers' vice president in charge of the Midland project. The letter was written in May, about two weeks after several NRC officials on a caseload forecast panel visited Midland to hear an update on progress at the plant.

"The panel concludes that some months beyond the second quarter of 1986 is the earliest date that completion of Unit 2 can reasonably be expected," the draft letter said. "Unit 1 is expected to be completed about six to nine months thereafter."

Novak said that letter was never mailed. In a letter Tuesday, however, Novak wrote that the NRC believes the October 1984 schedule is optimistic by about a year.

He said he used that figure instead of the 1986 figure because not everyone within NRC has had a chance to review the panel's work.

He said the agency feel firmly that there will be at least a year's delay, but is less firm about the 1986 figure.

Novak and Darrell G. Eisenhut, director of the division of licensing, each said the agency may change its estimate after meeting with Consumers in September. The meeting is to allow Consumers to present more information.

The NRC has said it believes Consumers is not allowing enough time for pre-operational and acceptance testing, which involves testing each plant system to make sure it will work before fueling up the plant.

Consumers has estimated that will take 14 months, but the NRC says experience at a single-unit plant shows it will take 24 months.

Citizens speak out on n-plant

Continued from page 1

that "the team that is on that site now is very eager to go out and try to turn the opinion around ... because we think we can do it."

"Let us try to show you," Cook said. "Give us the opportunity to change your mind."

During the evening meeting, Cook said Consumers wants to finish the plant "to the satisfaction of all and operate it as an asset to industry."

Asked for his assessment of past problems, he acknowledged the utility has not met its own expectations in terms of discipline and rigor.

He said he believes past problems have been fully addressed and resolved and what the utility now must do is make sure the as-built condition of the plant and the detailed design match.

Cook said he believes workers can report construction problems to management without fear of losing their jobs. Any worker who doesn't want to use the current system can call Cook directly, he said.

Many of the public comments heard Thursday evening can't be given much weight by the NRC, Keppler said after the meeting, because it is not the NRC's job to consider the economics of the plant or to consider whether the plant should be built.

Still, he said, it is valuable for the NRC to hear the public's opinion.

Trial unlikely until 1984 in waste lawsuit

Consumers off CreditWatch

DETROIT (AP) — Consumers Power Co.'s $440 million counterclaim to a Dow Chemical Co. lawsuit and plans to replace electricity at the utility's Midland nuclear plant with steam-generating equipment have improved Consumers' credit outlook, officials said Tuesday.

Standard & Poor's Corp. on Friday removed Consumers from its CreditWatch list, where it had been since July 15. The CreditWatch had been announced in the wake of Dow's cancellation of a contract to purchase steam and its filing of a lawsuit.

"That contract represented a potential for recovery of costs associated with a significant part of that plant," said William J. Stow, a ratings specialist at Standard & Poor's. "In reviewing the situation, we find there is a strong possibility of that recovery from other sources."

Consumers' credit rating still remains one step below investment grade, as it has since January, Stow said.

Dow's lawsuit seeks $60 million damages and release from a $440 million termination penalty in the contract. The chemical giant claims Consumers delayed the plant's completion and boosted its cost, and accuses the utility of "recklessness and negligence."

Consumers' counterclaim, filed Friday, seeks $440 million from Dow and alleges the Midland-based firm improperly canceled its contract to purchase steam.

If Consumers is successful with its counterclaim, "the effect of Dow's cancellation can be significantly reduced," Stow said.

"Of course, we're tickled," Consumers spokesman Michael K. Blombach said Tuesday of the Standard & Poor's action. "We fully expected this to happen after we filed our answer to the Dow lawsuit."

Consumers is investigating "a whole gamut of alternatives" to selling steam, including conversion of the steam-generating equipment to production of electricity, a utility spokesman said.

NRC thinks reactor date too early

By LORIE SHANE
Daily News staff writer

The first reactor of the Midland nuclear plant will take at least one year longer to build than Consumers Power Co. now estimates, according the U.S. Nuclear Regulatory Commission. However, the NRC is going to give the utility a chance to prove them wrong.

In a letter to Consumers Tuesday, the NRC's assistant director for licensing said the utility's plan to load Midland's first reactor with fuel by October 1984 is "optimistic by at least a year."

Consumers has said it can load fuel by that date, and will put the reactor into commercial operation by February 1985.

Based on the NRC letter, however, the reactor would be loaded around October 1985, followed by commercial operation in 1986.

The letter does not mention Midland's second reactor. That unit now is scheduled for commercial operation in October 1985, but Consumers said recently the schedule may be revised.

THE NRC has said for several months that Consumers' schedule was too optimistic, but never stated its own estimate until Tuesday's letter, signed by assistant director Thomas M. Novak.

The letter sets up a September meeting between the sides so Consumers can try to prove its own estimates are correct. At that meeting, Novak said, the NRC also would like more information about Consumers' plans to revise the schedule for the second reactor, due to the recent loss of its major steam customer, the Dow Chemical Co.

Consumers spokesman Norm Saari said this morning the utility has known since June that the NRC disagrees with Consumers' schedule. Consumers believes, however, that the NRC does not fully understand the utility's plans, he said, and will try to explain that at the September meeting.

In Washington, D.C., Novak's letter has angered the director of the Government Accountability Project (GAP), a public interest organization which has been investigating the Midland plant for alleged poor quality workmanship.

Director Billie Garde claimed in a telephone call this morning that the NRC knew its own completion estimate in May, and should have made it public then. She said the public deserves such information in order to make cost-benefit analyses of the plant.

NOVAK'S LETTER said Consumers' estimate that it will take 14 months to complete pre-operational and acceptance testing is "unduly optimistic."

Past experience at a single-unit plant shows it will take at least 24 months to conduct such tests, the letter said.

Pre-operational testing is a sort of dry run. Each plant system is tested alone, followed by tests of systems working together, Saari explained. The tests are to make sure the systems are working correctly prior to fuel load. Some of Midland's systems already are being tested.

Saari said Consumers doesn't believe the NRC "fully understands what our program is," for pre-operational testing. That's why Consumers wants to meet with the commission again, he said.

Novak goes on to say that Consumers' schedule "does not realistically account for large uncertainties" in work which must be done before some systems can be tested.

NRC project manager Darl Hood said this morning that refers to the re-inspection and possible re-work which must be done at the plant. Consumers has agreed to re-inspect much of its safety-related systems because of problems identified during an NRC inspection last fall.

"The question is how much re-work will come out of that re-inspection," he said. "They (Consumers) don't believe a great deal of re-work will be needed. I guess we tend to be a little less optimistic."

Any re-work would add time to the schedule, Novak pointed out in the letter.

MS. GARDE said she has an internal NRC memo which indicates that NRC inspectors estimated in May that the first reactor would not be finished until "some months beyond the second quarter of 1986," and the second reactor six to nine months later.

The memo, handwritten from Novak to Consumers, cites the same uncertainty of re-work that Novak wrote about in Tuesday's letter.

Hood and Ronald Gardener, one of the NRC inspectors who reviewed Consumers' completion schedule, said this morning they had no comment on the memo.

Gardener said there was a draft memo issued by NRC inspectors about the completion schedule, but that "I'd rather not discuss it, since it's a draft."

"The cost and completion date is wrong and the NRC knows it's wrong," Ms. Garde said. "That's intolerable. This (scheduling) is one of the biggest questions about the Midland plant."

She said the NRC's information should have been made known to the public and to federal administrative judges who are presiding at licensing hearings on the Midland plant. It also should have been made known to Congress during recent committee hearings on the Midland plant, she said.

NRC almost ready to OK N-plant completion plan

By LORIE SHANE
Daily News staff writer

Federal regulators said Thursday they are nearly ready to approve plans for finishing the Midland nuclear plant.

Approval would give Consumers Power Co. the go-ahead to reinspect past work and later to continue building the project.

The U.S. Nuclear Regulatory Commission said at two meetings here that, pending resolution of various minor items, it will approve Consumers' "Construction Completion Plan (CCP)."

The CCP was drawn up as a response to the continual quality-related problems at the plant, according to NRC inspector J.J. Harrison. The plan calls for Consumers to re-inspect many of the safety-related systems that already are built in order to find and correct any deficiencies. If that reinspection receives NRC approval, the utility will be allowed to go ahead with building the plant.

Consumers has been waiting for NRC action on the CCP for about seven months. The utility stopped nearly all work on safety-related systems late last year, after the NRC found safety violations in the plant's diesel generator building.

TOP-LEVEL NRC officials listened to comments for two hours from more than 250 people during the evening meeting at the Great Hall in Valley Plaza. They had met earlier in the day with citizen intervenors.

Business, labor and environmental groups all spoke up, most of them not commenting specifically on the CCP but repeating positions they have held for years for or against the plant. Of the more than 30 people who addressed the NRC, about 22 urged them to license the facility, while about 11 spoke against it.

Labor representatives — many of them plant employees — said they resent implications that the plant is not safe.

"I take pride in my job.... We try to do our best," said Marc Corbat of Bay City, a foreman with the Mergentime Corp., a subcontractor at the plant. "I don't know where you people come up with this stuff. It makes you mad."

One worker said his work has been "checked and re-checked and re-checked, I can't tell you how many times. The quality is there."

Business representatives — including people from area Chambers of Commerce and economic development corporations — said the plant is needed to stimulate growth in the Tri-County area. A long-term supply of electrical energy will attract business, which means jobs, they said.

"We believe that no other single issue is more important than the completion and licensing of the Midland nuclear plant," said William Welch, executive vice president of the Midland Area Chamber of Commerce.

They trust the NRC to guarantee the plant is safe, Welch and others said.

SPEAKING AGAINST the plant were several local citizens and members of the Lone Tree Council, an area environmental group.

John Dumler, 5505 Drake, said he believes the plant is too close to a densely-populated area; questioned the justification of licensing a project which has experienced more than 1,000 percent cost over-run; and said the plant is creating a "divisive atmosphere" in the Midland community.

Others pointed out that electric rates will increase and deter business when the plant goes on line.

Environmentalists said they think the NRC should be tougher on Consumers.

"We come to this table not trusting Consumers Power Co. We think they've been given enough chances," Billie Garde said at the afternoon meeting with citizen intervenors. Ms. Garde is with the Government Accountability Project (GAP), a Washington, D.C., public interest organization.

GAP has been investigating workers' allegations of poor quality work at the plant, and also is working with the Lone Tree Council.

Given past problems, Ms. Garde and Lone Tree Council members said, Consumers should not be trusted to reinspect the plant on its own. They suggested an independent group be brought in to find past deficiencies.

HOWEVER, JAMES G. Keppler, the NRC's chief regional administrator, said the amount of scrutiny the Midland plant will get during the CCP process will be "almost precedent-setting." Not only will Consumers itself re-inspect the past work, but an independent consultant will then check Consumers' work and the NRC will then check both parties' work.

The consultant is the Stone & Webster Corp., a national architecture and engineering firm.

Keppler said the NRC does not have complete confidence in Consumers; that's why it insisted on the third party review and on increased NRC inspections.

He said seven people will be added to the NRC's regional staff in fiscal year 1983-84 to concentrate on Midland and a nuclear plant in Ohio. Also, the NRC may begin holding regular monthly meetings in Midland to update the public on work at the plant.

Ms. Garde pointed out that neither the Stone & Webster review nor the NRC review will be a 100 percent check of Consumers work.

NRC officials acknowledged they may not do a 100 percent check, but stressed that they will not let work proceed until they are satisfied that all past deficiencies have been found and corrected.

Keppler said the NRC and the public have got to be able to trust Consumers — and the best way to get that trust is to let the utility go back to work and prove it can do the job.

JAMES W. COOK, Consumers' vice president in charge of the Midland project, said during the afternoon meeting

Continued on page 3

U. S. NUCLEAR REGULATORY COMMISSION
REGION III

SUBJECT:

DATE:

COMMENTS MUST NOT BE REMOVED

RETURN TO: REGION III CENTRAL FILES

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

AUG 1 9 1983

Docket No. 50-329
Docket No. 50-330

Consumers Power Company
ATTN: Mr. James W. Cook
Vice President
Midland Project
1945 West Parnall Road
Jackson, MI 49201

Gentlemen:

By letter dated June 10, 1983, Consumers Power Company (CPCo) submitted its proposed Construction Completion Program (CCP) for the Midland Nuclear facility. The program as submitted was a compilation of all prior CPCo submittals with revisions incorporated.

The NRC has completed a review of the June 10, 1983, CCP submittal. As a result of this review, the following comments were developed. Prior to final approval of the CCP, the responses to these comments must be incorporated into the CCP.

A. Comments on Construction Completion Program

1. Executive Summary

The scope of the CCP is not clear. The statement in the first paragraph of the Executive Summary appears to be in conflict with the penultimate paragraph on page 4 and the Description Section (9.3) on page 34. In addition, the relationship of the Quality Verification Program to the CCP is not clear. Clarify the scope of the CCP and define the relationship of the Quality Verification Program to the CCP.

2. Page 2

a. Page 2 of the CCP states that, "safety-related systems and areas of the plant will be systematically reviewed." Define or identify what is meant by the term "safety-related systems and areas."

b. As stated in the CCP, phase 1 implementation will be on an area-by-area basis, but will be accomplished mainly by teams organized with systems responsibility. Our concern deals with the interface between the area-by-area basis and the systems basis. Provide assurance that all safety related systems and components of the plant are covered during phase 1.

3. Page 3

The description of the major components of the CCP does not include NRC Hold Points. Describe the NRC Hold Points to be covered prior to initiating phase 1 and phase 2 activities.

4. Page 4

a. As stated in the CCP, the major areas of continuing safety-related work outside the CCP includes post-turnover punch list work. Provide assurance that these post-turnover list activities are minor and not major.

b. This section states that CPCo intends to schedule periodic reviews of Program status and progress with the NRC. Provide assurance that such meetings will be noticed such that members of the public and interested parties will be provided the opportunity to attend as observers.

5. Page 7

As stated in the CCP, during phase 2 implementation the assigned team will plan and carry out the remaining work needed for completion including QC inspections. Since we understand that QC inspections will not be performed by the CCP teams, clarify the teams involvement in QC inspection activities during phase 2.

6. Page 8

In describing the limitation to work on Q-Systems, the CCP states that this limitation permits important work to proceed outside the CCP. Describe the measures to be taken to prevent nonconforming items, in areas covered by the CCP, from becoming inaccessible due to ongoing work.

7. Figure 1-1

The CCP schematic does not identify the NRC Hold Points. Revise this schematic to include the phase 1 and phase 2 Hold Points.

8. Page 11 - Section 3.1

As stated in the CCP, MPQAD was expanded to assume direct control of QC except ASME. Clarify the boundaries of MPQAD and CCP controls over "N" stamp activities and non-"N" stamp activities.

9. Page 12 - Section 3.3.5

As stated in the CCP, MPQAD will continue to use Bechtel's Quality Control Notices Manual (QCNM) and Quality Assurance Manual (BQAM). Provide clarification as to the decision not to use the Consumers QA manual. In addition, describe the measures taken to provide assurance that the Bechtel and Consumers manuals are in agreement.

10. Page 13 - Paragraph 2 and Paragraph 3.B

Regarding the revision to PQCI's, identify in the CCP:

a. That the documentated basis for the determination of the need (or lack thereof) for pilot runs will be available for review by the NRC.

b. That the documented basis for the determination of the need (or lack thereof) for retraining or recertification of affected QC inspectors will be available for review by the NRC.

11. Page 17

Describe the criteria to be used in determining the need and extent for reinspection of the past work of an inspector failing any part of the recertification process. Also identify who will make the determination and the manner in which the determination will be documented.

12. Page 19

a. As stated in the CCP, the scope of team work activities includes the requirements to ensure early identification and resolution of problem areas. In view of the fact that phase 1 allows only the identification (and not the resolution) of problems, clarify this statement.

b. In the discussion of the team MPQAD representative, it is stated, "He assures validation of NCR's." Explain what this statement means.

13. Page 20

a. As stated in the CCP, tool box training sessions will be conducted at least monthly. Addres the adequacy of the tool box training sessions and the manner in which the sessions will be documented.

b. As stated in the CCP, nonconformances are documented in nonconformance reports. Identify how incomplete items (system status) will be documented.

14. Page 21 - Section 4.3.2.b

Although not quantified, it would appear that a significant portion of the CCP will be involved with verification of acceptability of inaccessible attributes. This is predominantly a paperwork review, but "if required" will be supplemented by NDE techniques and destructive examination. In view of past documentation problems and the extent of inaccessible items, explain why the CCP should not include some NDE of inaccessible items on a sampling basis. Also define "if required."

15. Page 24 - Section 4.5.4

Identify the critical systems referred to in this section.

16. Page 28

Identify the composition of project management, site management and management teams. Also clarify the scope of the phase 2 management reviews.

17. Page 32

Identify whether the CIO review of site construction activities will include systems excluded from the CCP.

18. Page 33

Clarify the extent of measures taken to maintain and protect equipment in system layup.

19. Page 34 - Section 9.2

Clarify the second sentence.

20. Page 35

a. Clarify the extent to which the third party CCP overview will address the three systems in the TERA scope and revise, if necessary, the statement on page 32 of the CCP which states that the CIO will not include an overview of the other third party evaluations being conducted.

b. Provide your rationale for not including in the CCP systems and equipment that are important to safety but that are not safety-related.

c. Provide a definition of your understanding of the term "systems important to safety."

21. Page 36 - Section 10.3

Clarify this section to provide assurance that changes to the CCP will not be implemented without prior NRC review and approval.

B. Comments on Quality Verification Program (QVP)

1. Page 1 - Section 2

a. Clarify the scope of the QVP in regards to the implementation of IPIN's in Soils, HVAC, and B&W work activities.

b. Clarify the reinspection requirements for partially completed IR's.

2. Page 9

a. Clarify the statement "System/area reinspection will be supplemented by random plant-wide inspections as appropriate to establish a valid quality baseline on an expeditious basis."

b. As stated in the CCP, 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. Clarify this statement to provide assurance that the nonconforming condition need not be documented only if there is an open NCR on the same item.

3. Page 10 - Section 5.3.1

As stated in the CCP, any deficiencies, other than those previously identified on nonconformance reports as a result of prior inspections, will be identified on a nonconformance report. Clarify this statement to provide assurance that the deficiency need not be documented only if there is an open NCR on the same item.

4. Page 13 - Section 6.4

Identify whether material traceability aspects are to be covered by this program.

C. Comments on Appendix B

1. Page 1

Provide clarification as to the reason why PQCI's associated with the remedial soils program are listed since the CCP excepts that activity.

Should you have any questions regarding this letter please contact Mr. R. F. Warnick of my staff.

Sincerely,

Original signed by
James G. Keppler

James G. Keppler
Regional Administrator

cc: DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
The Honorable Charles Bechhoefer, ASLB
The Honorable Jerry Harbour, ASLB
The Honorable Frederick P. Cowan, ASLB
The Honorable Ralph S. Decker, ASLB
William Paton, ELD
Michael Miller
Ronald Callen, Michigan
Public Service Commission
Myron M. Cherry
Barbara Stamiris
Mary Sinclair
Wendell Marshall
Colonel Steve J. Gadler (P.E.)
Howard Levin (TERA)
Billie P. Garde, Government
Accountability Project
Lynne Bernabei, Government
Accountability Project

RIII	RIII	RIII	RIII	ELD	IE	NRR	RIII	RIII
Gardner/jg	Harrison	Warnick	Lewis	Cuocco	Stone	Hood/Adensam	Davis	Keppler
8/19/83	8/19/83	8/19/83	8/19/83	8/19/83	8/19/83	8/19/83	8/19/83	8/19/83

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

830708

MEMORANDUM FOR: R. F. Warnick, Director
Office of Special Cases, Region III

FROM: James M. Taylor, Director
Division of Quality Assurance, Safeguards,
and Inspection Programs
Office of Inspection and Enforcement

SUBJECT: MIDLAND CONSTRUCTION COMPLETION PROGRAM
(DOCKET NOS. 50-329/330)

We have reviewed the Consumers Power Construction Completion Program for Midland as requested in your June 23, 1983 memorandum. Our comments are enclosed. The majority of the comments were discussed with J. Harrison on July 6, 1983.

In addition we have reviewed the Stone & Webster proposal to conduct the third party assessment of the Construction Completion Program. We have concluded that Stone & Webster Engineering Corporation has sufficient independence and competence to perform the third party assessment of the Construction Completion Program. However, there is a concern that the size of the proposed Stone & Webster staff to perform the third party assessment is too small. Some assurance that an adequate staff will be available to conduct the third party assessment is needed.

If you have any questions about the comments please call.

James M. Taylor, Director
Division of Quality Assurance, Safeguards
and Inspection Programs
Office of Inspection and Enforcement

Enclosure:
Comments

cc w/enclosure:
D. Eisenhut, NRR
T. Novak, NRR
E. Adensam, NRR

8406020291

COMMENTS ON MIDLAND CONSTRUCTION COMPLETION PROGRAM

I. Comments from Reactor Construction Programs Branch

A. Comments on Construction Completion Program

1. Of concern was the integration of the QA/QC function into the various teams. We now understand that the MPQAD representative is performing a liaison function between the team and MPQAD and actual inspections will not be performed by the MPQAD team representative. The CCP should be unambiguous concerning the function and duties of the team MPQAD representative.

2. Page 11 and Page 12

   Will completed ASME Code work, including N-stamp work, be subject to the reverification program? If so, this should be clearly stated.

3. Page 12

   What are the differences between (a) Quality Control inspection plans, (b) Project Quality Control Instructions (PQCI's) and (c) Quality Work Plans (QWP) (referred to on page 24)?

4. Page 12

   Under training of MPQAD Personnel the statement is made "Early in 1983, MPQAD decided to terminate recertification of old PQCIs except in selected cases, ...". What old PQCIs have been retained and will they be used in the CCP program?

5. Page 19

   In the discussion of the team MPQAD representative it is stated "He assures validation of NCR's". Please explain what this statement means.

6. Page 20

   Nonconformances are documented in Nonconformance Reports (NCRs), how will incomplete items (system status) be documented?

7. Has Region III reviewed the three procedures listed in Figure 4-1, Page 26?

8. Page 28

   Under Evaluation and Management - Phase 2, need further clarification of the meaning of "The first management review for work release will be done by the management team. Subsequent status assessment results will be released by site management prior to initiation of additional completion segments."

9. Page 33

System Layup - Is equipment requiring inert gas cover being checked and maintained as recommended by the manufacturer? Is normal preventive maintenance (shafts rotated, heat applied, etc.) being performed on the equipment?

10. Page 36

For changes to the CCP does Region III feel being informed before implementation is adequate?

B. Comments on Quality Verification Program (Appendix 1)

1. Page 9

Need clarification of the statement "System/area reinspection will be supplemented by random plant-wide inspections as appropriate to establish a valid quality baseline on an expeditious basis."

2. Page 9

Last line, insert between the words "reports" and "will" the following: "that have not been dispositioned". This is to clarify that the nonconforming condition need not be reported only if there is an open NCR on the same item.

3. Page 10

Section 5.3.1, third sentence, insert between the words "reports" and "as" the following: "that have not been dispositioned". This is to clarify that the nonconforming condition need not be reported only if there is an open NCR on the same item.

4. Page 13, Section 6.4

Are material traceability aspects to be covered by this program?

C. Comments on Appendix B

1. Page 1

Why are PQCIs associated with remedial soils program listed? The CCP excepts that activity.

II. Comments from Quality Assurance Branch

Page four of the plan identifies four major safety-related work items outside the scope of the CCP. However, Section 9 of the plan (page 34)

describes activities associated with these four areas. In this regard it is recommended that:

1. The extent Section 9 is or is not part of the CCP be clearly stated.

2. Additional information be provided which led Consumers Power to determine that those activities identified in Section 9.3 (page 34) of the plan have demonstrated effectiveness in the Quality Program implementation.

3. The quality assurance program and organization be described for controlling those activities identified in Section 9.3 (page 34). (Consumers Power could reference previously established commitments.)

If not already provided, Consumers Power should provide clear justification as to why the activities described in Section 9.3 need not be part of the CCP and why additional quality assurance controls are not necessary during the completion of these activities.

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

August 3, 1983

PRINCIPAL STAFF			
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DPRP		SLO	
DRMA		RC	
DHMSP			
DE			
ML			
OL		FILE	

Docket Nos: 50-329
and 50-330

MEMORANDUM FOR: [redacted] Regional Administrator, Region III

FROM: Darrell G. Eisenhut, Director
Division of Licensing, NRR

SUBJECT: NRR COMMENTS ON MIDLAND CONSTRUCTION COMPLETION PLAN

In response to your memorandum of June 23, 1983, Enclosure 1 provides NRR's comments on the Midland Construction Completion Program (CCP) submittal of June 10, 1983.

We understand that NRR and I&E comments will be combined with any Region III comments since March 28, 1983, and an NRC package of comments will be issued to CPCo. This will be followed by a public meeting which will be held prior to final NRC approval. CPCo will also be required to update the CCP to reflect NRC comments prior to final NRC approval.

We have reviewed I&E's comments provided to R. Warnick on July 8, 1983, and consider them to be appropriate. In fact, two NRR comments in Enclosure 1 (Comments 10 and 12) correspond to similar comments made by I&E.

We have also reviewed the Stone & Webster documents dated April 1, April 11, and May 19, 1983, for Stone & Webster's acceptability as a third party overviewer of the CCP. We conclude that Stone & Webster is appropriately independent and qualified. Earlier concerns about the qualifications of two individuals on the Stone & Webster team have been resolved through the provision of missing pages from one of the submittals.

Should you have questions regarding Enclosure 1, contact Licensing Branch No. 4.

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosure:
As stated

AUG 8 1983

8408220218

NRR Comments on Construction Completion Program
(J. W. Cook letter to J. Keppler dated June 10, 1983)

(1) Page 2 & 35

Page 2 of CCP notes that "safety-related systems and areas of the plant will be systematically reviewed." CPCo should define or identify what it means by safety-related systems.

The brief discussion on the top of page 35 identifies a "separate organization" to carry out a spatial systems interaction (SSI) review, and notes that the SSI represents the Project response to the generic licensing issue of "important to safety" that is being handled outside of the CCP with NRC/NRR. CPCo should provide a clear definition of systems "important to safety", but not safety-related, and a description of the process they (CPCo) used to decide that systems "important to safety" can be excluded from the CCP.

(2) Page 4 - Last paragraph

This section notes that CPCo intends to schedule periodic reviews of Program status and progress with the NRC. Such meetings should be noticed and members of the public and interested parties should be provided the opportunity to attend as observers.

(3) Page 4 & 34

The scope of the CCP is not clear. The statement in the first paragraph of the Executive Summary appears to conflict with the penultimate paragraph on page 4 and the Description Section 9.3 on page 34. The relationship of the Quality Verification Program to the CCP is also not clear, although it appears to be part of it.

(4) Page 17 - Second paragraph

Who will determine the need and extent for reinspection of the past work of an inspector failing any part of the recertification process? What criteria are used for these decisions? What information is provided to RIII to justify the decision?

(5) Page 21 - Section 4.3.2.b.

Although not quantified, it would appear that a significant portion of the CCP will be involved with verification of acceptability of inaccessible attributes. This is predominately a paper work review, but "if required" will be supplemented by NDE techiques and destructive examination. Define "if required". In view of past documentation problems and the extent of inaccessible items, the CCP should include some NDE of inaccessible items on a sampling basis.

NRR further suggests that RIII consider auditing/supplementing the Applicant's NDE conclusions with its own findings based on use of the NRC's NDE mobile van.

(6) Page 28 - Section 5.3.2

The composition of "site management", "Project management", and "management team" should be defined if not already done elsewhere.

(7) Page 32 - First paragraph

Because we do not have access to the protocol for communications used on the soils remedial activities, we are unable to comment on the appropriateness of using that protocol in dealing with the CIO team.

(8) Page 32 - Third paragraph

Will the overview of site construction activities include systems excluded from the CCP?

(9) Page 32 - Fourth paragraph

Justification should be provided for the size of the S&W staff for the CIO outlined in their April 1, 1983, letter to J. Cook. What criteria were used, and by whom, to establish the proposed number of S&W personnel? What restrictions and lead times would exist in the event S&W should identify the need to increase its staffing levels?

(10) Qualifications of CIO Overviewers

We recommend that provisions be made for the NRC to review the experience records of all personnel added to the S&W Team in the future.

(11) Page 34 - Section 9.3.1

Item 1 under Section 9.3 excludes NSSS installation by B&W as part of the CCP. Staff acceptance of this exclusion has been noted in the hearing to depend upon results of a future NRC audit of B&W work areas. Staff acceptance of this item should be acknowledged to be conditional. In the interim, the basis for CPCo's decision should be provided for NRC review.

(12) Page 35 - First paragraph and Page 32 - Third paragraph

The spatial systems interaction (SSI) is proposed to be overviewed by the CIO reviewer, S&W. As indicated at an April 13, 1983, meeting, the staff understands TERA will audit portions of the Systems Interactions activities applicable to three systems. On page 32, CPCo states that the CIO will not include an overview of other third party evaluations being conducted. CPCo should clarify to what extent the CIO effort will address the three systems in the TERA scope. They should further verify whether or not TERA will audit those portions of the SSI review applicable to the three systems under the TERA scope.

OSC
Midland file

JUN 27 1983

Docket No. 50-329
Docket No. 50-330

Consumers Power Company
ATTN: Mr. James W. Cook
Vice President
Midland Project
1945 West Parnall Road
Jackson, MI 49201

Gentlemen:

NRC Region III has completed a preliminary review of your June 10, 1983, submittal regarding the Construction Completion Program (CCP). Based on this review the Region has authorized Consumers Power Company (CPCo) to initiate CCP team training activities; this authorization was made per teleconference to Mr. D. Miller of your staff by Messrs. R. Gardner and J. Harrison of my staff on June 20, 1983.

A complete review and approval of the CCP final submittal will be required by the NRC prior to granting CPCo authorization to further implement the Construction Completion Program. The team training that was authorized by the NRC is at CPCo risk pending CCP approval.

Your cooperation with us is appreciated.

Sincerely,

Original signed by
J. G. Harrison

for R. F. Warnick, Director
Office of Special Cases

cc w/ltr dtd 6/10/83:
See attached distribution list

8307200184

OFFICE ▶	RIII						
NAME ▶	Gardner/ls	Harrison	Warnick for	Lewis	Davis	Keppler	D.D. & NRR
DATE ▶	6/24/83	6/24/83	6/24/83	6/24	6/24	6/24/83	6/24/83

NRC FORM 318 (10-80) NRCM 0240

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cc w/ltr dtd 6/10/83:
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
The Honorable Charles Bechhoefer, ASLB
The Honorable Jerry Harbour, ASLB
The Honorable Frederick P. Cowan, ASLB
The Honorable Ralph S. Decker, ASLB
William Paton, ELD
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Accountability Project
Lynne Bernabei, Government
Accountability Project

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

JUN 2 3 1983

MEMORANDUM FOR: D. G. Eisenhut, Director, Division of Licensing, NRR
J. M. Taylor, Director, Division of Quality Assurance, Safeguards, and Inspection Programs, IE

FROM: R. F. Warnick, Director, Office of Special Cases

SUBJECT: REQUEST FOR REVIEW OF CONSUMERS POWER COMPANY FINALIZED CONSTRUCTION COMPLETION PROGRAM

The attached CPCo Construction Completion Program submittal of June 10, 1983, is forwarded for your review and approval. Please provide any comments or questions to me by July 1, 1983. The program as submitted is a compilation of all prior CPCo submittals with revisions incorporated. The review and approval of the CCP Quality Verification Plan Statistical Sampling Plan, Appendix C, is not needed at this time. This sampling plan should, however, be reviewed and commented on by September 2, 1983.

Region III has completed a preliminary review and has given the licensee permission, on June 20, 1983, to begin team training at their risk pending final program approval by the NRC.

Your cooperation with us is appreciated.

J. A. Harrison for

R. F. Warnick, Director
Office of Special Cases

Attachment: As stated

cc w/o attachment:
DMB/Document Control Desk (RIDS)

8306270150

James W Cook
Vice President - Projects, Engineering and Construction

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

June 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 23255

Reference

1. Letter to Mr J G Keppler dated January 3, 1983, from Mr J W Cook regarding Construction Completion Program.

The enclosure to this letter is a revision to the Construction Completion Program description submitted on June 3, 1983 (Reference 1). The revisions incorporate the comments and changes suggested by Region III staff.

NRC release points following Project Management review of plans and performance on major activities are incorporated directly in the body of the text (Section 5). In addition, an expanded description of special activities, such as installation of pipe hangers and watertight doors is provided (Section 4.5). Other changes were made to provide clarification; the intent of Reference 1 has not been changed. All changes are indicated with a margin slash to facilitate identification.

The Quality Verification Program which is included as an appendix to the Construction Completion Program has been revised to provide a 100% verification program for accessible portions of items associated with the use of the Attachment 10 form.

JUN 22 1983

oc0683-4032a-66

8306300105

We trust that these revisions fulfill your request for clarification and incorporation of the NRC release points in the Construction Completion Program document.

James W. Cook

JWC/DMB/klc

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
JJHarrison, NRC
RFWarnick, NRC
BStamiris
MSinclair
LLBishop

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

Letter Serial 23255 Dated June 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 Revision 1 to its Construction Completion Program.

CONSUMERS POWER COMPANY

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

Sworn and subscribed before me this 11th day of June 1983.

Alva C Robinson
Alva C Robinson - Notary Public
Jackson County, Michigan

My Commission Expires October 1, 1986

mi0683-4032a168

MIDLAND NUCLEAR COGENERATION PLANT
Docket No-50-329, 50-330

CONSTRUCTION COMPLETION PROGRAM

Consumers Power Company
June 10, 1983

~~8306200107~~

Revision 1
mi0683-4033a-66-168

TABLE OF CONTENTS

CONSTRUCTION COMPLETION PROGRAM

Executive Summary

The Construction Completion Program has been formulated to provide guidance in the planning and management of the construction 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 months preceding this Program, 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 the quality of completed work is acceptable.
- 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 has been carried out in preparation for installation and inspection status assessment and quality verification activities.

- A review has been 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 Engineer/Constructor QC function into the Midland Project Quality Assurance Department (MPQAD) under Consumers Power Company management has been completed.

- MPQAD is carrying out a recertification program of QC inspectors, and review of the inspection procedures to be utilized.

- The completion teams are being organized, staffed and trained according to procedures developed to define the team's work process.

- The completion teams will 1) accomplish installation and inspection status assessment, 2) complete installation and ensure quality inspections are performed 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 completion teams.

- A series of management reviews are being carried out to carefully monitor the development and 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 are being undertaken to monitor Project performance and to carry out the NRC's requirements for independent design verification.

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 period prior to December 2, 1982, activities in support of these commitments such as QC integration into MPQAD and the recertification of QC inspectors, had been initiated prior to December.

Milestones for each element of the Plan are enumerated in the text. In general, preparation for the Phase 1 activities are in place and the

management reviews are being held. A pilot team is developing the procedures and training requirements. It is expected that the Phase 1 will begin shortly.

The Program provides for the Phase 1 results on an area, 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 outside the Construction Completion Program 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.

During the continuing implementation of the Program in 1983, the NRC Region III 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.

1.0 INTRODUCTION

The Construction Completion Program has been formulated to provide guidance in the planning, and implementation of the construction 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 was developed in response to a number of management concerns that were 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 months preceding this Program, been in a reactive rather than proactive posture with regard to quality assurance matters.

In recognition of these conditions, Consumers Power Company 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 the quality of completed work is acceptable.

- 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 activities:

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

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

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 developed to determine present installation and inspection status. The installation status assessment includes a comparison of partially

installed work to current design and identification of remaining work items for completion. The inspection status assessment includes the Team Quality Representative requesting MPQAD to perform additional inspections using recertified inspectors on partially completed or completed work to bring inspections up to date. A closely coordinated effort involving the Engineer/Constructor and Consumers Power Company (QA/QC, testing and construction) personnel will improve quality performance. Separate teams are also being assigned to work area type commodities such as cable trays and doors. (ie, commodities not related to a particular system.)

- The quality verification of completed work initiated on a 100% basis using re-certified inspectors.

The second phase includes:

- Work completion, following quality verification, installation and inspection status assessment under responsibility of the team organization.

- An integration of the QC inspection process for new work with the completion work to ensure adequate quality performance.

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. Verification of completed and previously inspected work will be carried out by MPQAD in accordance with the Quality Verification Plan, in coordination with the team effort. The teams will conduct the installation and inspection status assessment; as part of this effort MPQAD will be requested to bring inspections up to date on partially completed or completed work. Following Phase 1 completion of the first verification and status assessment segment, a management review will be made of the evaluation of the initial Phase 1 results and the process and procedures for Phase 2 activities. In second phase Program implementation, the assigned team will plan and carry out the remaining work needed for completion including QC inspections.

The adequacy and completeness of the quality program will be reviewed, as appropriate, on an ongoing basis, taking into consideration questions raised by NRC inspections and findings by third party reviewers.

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

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

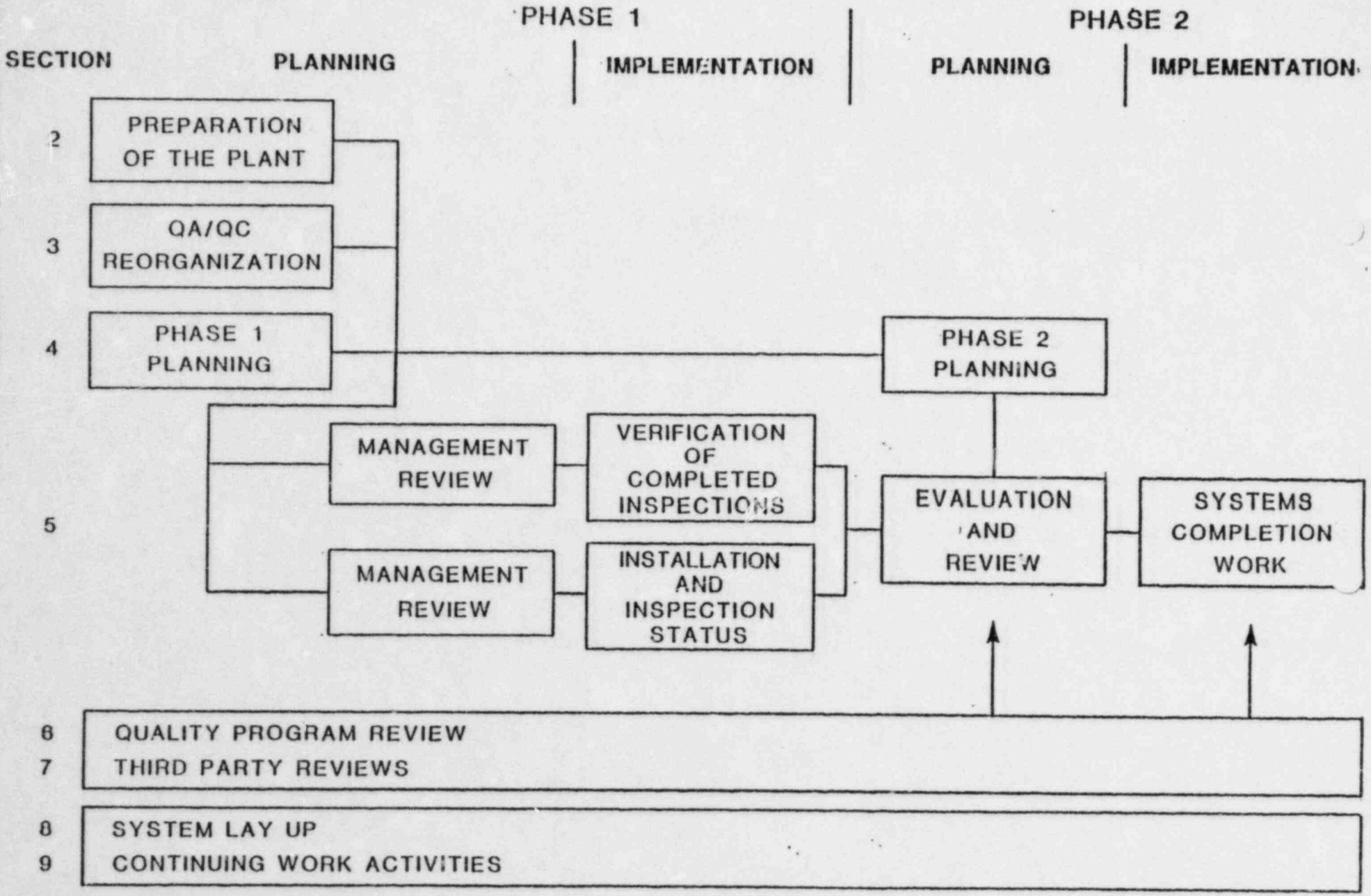
Work on Q-Systems has been limited to specific activities. This limitation permits important work to proceed outside of the Construction Completion Program while allowing building preparation for status assessment and verification activities on that work which is under the Construction Completion Program.

Summary

The program is a comprehensive plan to complete the Midland Nuclear Cogeneration Plant in a manner that assures the licensibility of the plant when construction is complete. Cost and schedule for completion of the Midland Project are also a concern for Consumers Power Company. The Company believes that the most efficent way to project completion is to understand the current plant status, establish the requirements to finish the project and complete the work according to these requirements. Thus the theme of the Construction Completion Program to verify past work and proceed on future work with improved performance is consistent with this philosophy.

FIGURE 1-1

CONSTRUCTION COMPLETION PROGRAM SCHEMATIC



2.0 PREPARATION OF THE PLANT

2.1 Introduction

The preparation of the Plant cleared 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 specific 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 of the Plant for CCP activities.

2.4 Milestones

Complete preparation of affected areas of the plant. (Complete)

3.0 QA/QC ORGANIZATION CHANGES

3.1 Introduction

The Consumer Power Company's Midland Project Quality Assurance Department (MPQAD) was expanded to assume direct control of site project quality functions including Engineer/Constructor QC except ASME. The new organization is described below. The transferred QC Inspectors are being recertified as part of this transition.

3.2 Objectives

Establish New QA/QC Organization

Establish an integrated organization which includes the transition of Engineer/Constructor 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 will be trained and recertified in accordance with MPQAD Procedure B-3M-1.

3.3 Description

Establish New QA/QC Organization

A new organization was implemented under Consumers Power Company and has been described in the appropriate Topical Report (CPC-1A), the FSAR and quality program manuals (Vol. 1, BQAM and NQAM). Changes to CPC-1A were approved by NRC on March 14, 1983.

Features of the new organization:

1. Lead QC Supervisors report 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 current reporting relationships is attached. The official organization chart is contained in project procedures.

Training of MPQAD Personnel

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

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

Attributes that affect 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 PQCIs are revised as necessary, Quality Control Engineers (Inspectors) are being trained and must pass an examination and demonstration test to assure their proficiency in utilizing the new instruction. Upon successful completion, each inspector is being certified to perform inspections to those PQCIs in which he was trained.

The adequacy of PQCIs prior to training is assured by the following programmatic requirements:

1. 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 PQCIs by QA personnel.

   As a part of the initial PQCI revision process, Project Engineering does a review of the PQCI for MPQAD to assist in ensuring that attributes that affect safety have been identified for inspection, and further to ensure that the PQCI is consistent with the specification requirements and that clarifications are made to specifications wherever necessary. The final responsibility for the content of the inspection plan remains with MPQAD-QA.

2. 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.

3. Once the PQCI is ready for issue, an effectivity date is established in conjunction with the Training Department.

   A. For PQCIs on which training was not previously conducted, the training and certification process is then started.

   B. 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.

4. During the training process, student questions (see below) are solicited and monitored. Based on this, further revision to a PQCI may be initiated.

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

1. The development of an MPQA Department "Statement of Training Policy." A copy of the current Policy is included as Figure 3-2.

2. The Policy Statement is handed out at the start of each class and reviewed with the trainees.

3. 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.

4. When the instructor determines the need, 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.

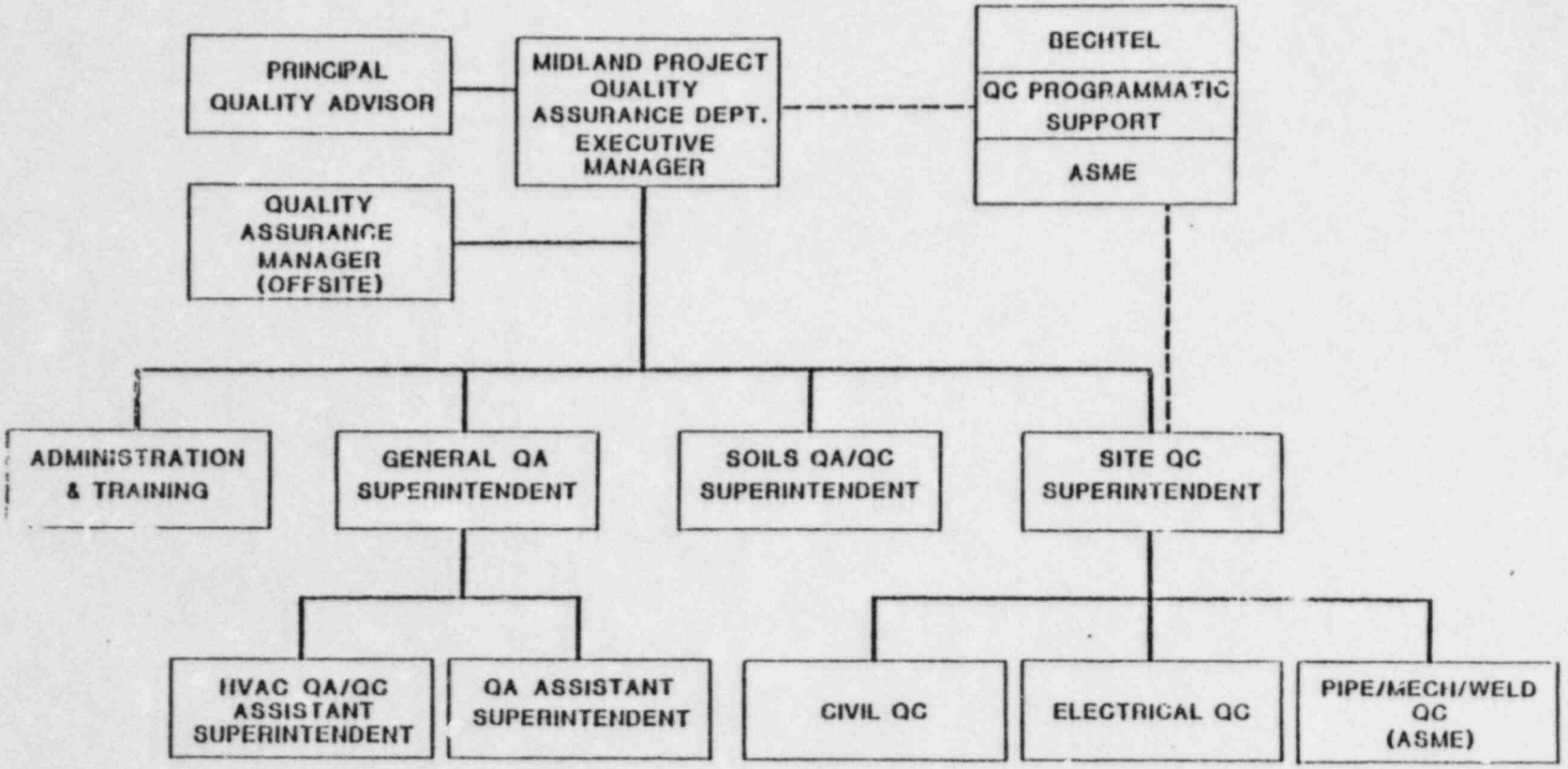
5. If there are unanswered questions at the end of the scheduled class time, an evaluation is made by the instructor as to whether training can nevertheless be considered complete and the examination given without jeopardizing the students opportunity to satisfactorily write the exam.

6. Even if the examination can be given, prior to answering questions, the questions are still tracked and answered prior to certification.

7. 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.

FIGURE 3-1

MPQAD ORGANIZATION



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

MPQA DEPARTMENT STATEMENT OF TRAINING POLICY

FIGURE 3-2

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

RAWells 4/20/83

6-20-83

Type 46 or 1

Recertify QC Inspectors

The training and recertification process for QC Inspectors as just discussed satisfies commitments made during the September 29, 1982 public meeting with the NRC. Those inspectors transferred from the Engineer/Constructor to MPQAD are 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 are certified on a schedule which supports ongoing work and system completion team activities.

Where individual inspectors fail any part of the recertification process an evaluation will be made of the cause of the failure and based on that evaluation, a determination will be made of the need and extent for reinspection of the individual inspector's past work.

3.4 Milestones

Establish New Organization

Transfer the Bechtel QC Organization to MPQAD.	Complete
Submit changes to Topical Reports and quality program manuals to NRC.	Complete

Recertify QC Inspectors

Specify the revised training and examination requirements for certification (B-3M-1)	Complete

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, process and procedures to assess the installation and inspection status of Q-systems, Q-components and Q-structures (Section 4.2) and to verify the quality status of hardware installed and inspected prior to December 2, 1983, (Section 4.3).

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

4.2 Team Organization (Phase 1)

4.2.1 Introduction

The planning for team organization consists of procedures preparation and team organization and training for an installation and inspection status assessment.

4.2.2 Objectives

1. Establish and implement a team organization ready to inspect and assess work 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

Team Organization

The team organization structure will vary depending upon the assigned scope of work. The assigned scope of work will be made on the basis of systems, specific items such as hangers and commodities that are installed and tracked on an area basis such as conduit, cable tray supports and watertight doors. (For example, see Bechtel Field Procedure FPG9800, "Bulk Hanger Organization Charts".) 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 are 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 are being 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 but receives all other direction from and reports to management within MPQAD. To support the team, 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 assures validation of NCR's. He maintains cognizance of the quality status of the verification activities.

Pilot teams are being utilized to develop and test processes and procedures during the development stage to assure that Program objectives can be met. This also provides practical field input to assure that efficient and workable methods are used.

Team members are physically located together to the extent practicable to improve communication, status assessment, problem identification and problem resolution. The MPQAD representative, however, will continue to report to MPQAD management and will maintain a permanent physical assignment within the MPQAD area.

Team Training

The construction training procedure (FPG-2.000) has been revised 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 training requirements by type and subject are defined in a matrix for each organization, management and staff level including craftpersons. The training matrix will be approved by Consumers Power Company.

The team training includes the major elements described below:

1. General training will be provided in

   A. Quality requirements for nuclear work

   B. Requirements of the CCP

   C. Safety orientation

   D. Inspection and work procedures

   Training in Items (A) through (C) and selected parts of (D) 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 at least monthly 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.

2. Training in the procedures used to govern the performance of work will be conducted for designated field engineering, support personnel and craft personnel as defined in the training matrices.

   Formal training will be conducted for identified procedures that define the control of designated work processes, procedures for control of special processes and requirements for inspection and acceptance of completed work. Formal training includes classroom or field demonstration/discussion sessions.

Documentation of Nonconformances

Non-conformances on the finished portion of partially completed work identified during the status assessment will be documented on Non-conformance Reports (NCR's).

4.2.4 Milestones

. Complete assignment of team supervisors and members to designated systems.	Complete
. Complete organization description and procedures for team functions.	Complete
. Set up training program for teams.	

4.3 Quality Verification (Phase 1)

4.3.1 Introduction

The verification program is the activity undertaken to establish, using a variety of methods, that the hardware installations completed and inspected prior to December 2, 1982 have an acceptable quality status and that prior inspections were performed in an acceptable manner.

4.3.2 Objectives

The objectives of the verification program are to:

- Develop and implement a verification inspection plan using reviewed/revised PQCI for completed and inspected work which considers:

  a. Re-inspection of accessible items for quality verification.

  b. Verification of acceptability of inaccessible attributes by a review of documentation, over-inspection results and past corrective actions and supplementary to these reviews, if required, by NDE techniques and destructive examination.

4.3.3 Quality Verification Program Description

The Quality Verification Program is provided in Appendix 1 of this document.

The quality verification program is based on a 100% reinspection of accessible attributes and review of documentation for inaccessible attributes. At some future date, once the quality level of completed work has been established, Consumers Power Company will make a determination as to whether or not further verification efforts can appropriately be based on less than a 100% reinspection program.

When Consumers Power Company believes that sufficient justification exists for a reduction in the 100% commitment, it will recommend such a reduction to the NRC in accordance with the statistical sampling plan described in an appendix to the Quality Verification Program.

4.3.4 Milestone

- Issue Quality Verification Plan — Complete

4.4 Completion Planning (Phase 2)

4.4.1 Introduction

Establish completion processes, prepare procedures and expand training to cover completion work.

4.4.2 Objective

The objectives of completion planning are as follows:

- Establish processes and interfaces for work completion.
- Prepare procedures defining tasks of each completion team.
- Train team members by expanding upon training received previously for inspection and status assessment.
- Establish scheduling methods to be used during 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 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 and procedural requirements, and the change process to be used when the design or the procedures must be modified.

Completion work will be identified and released for construction using a controlled process to ensure that new work does not cover up existing nonconformances or items that have not been inspected or re-inspected. This process is described in Section 4.5.3 and 4.5.4.

4.4.4 Milestone

- Complete team procedures and training program for initiation of completion work.

4.5 QA/QC Completion Planning (Phase 2)

4.5.1 Introduction

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

4.5.2 Objectives

Establish in-process inspection program and complete review and modification of PQCIs.

4.5.3 Description

The QC in-process inspection program will be directly coordinated with construction work plans for new work to insure that inspection points 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 completion team quality representative will be responsible for providing the interface between the completion team and MPQAD to insure that quality requirements are satisfied.

Procedure for Control and Release of New Work

The process for release of work will be controlled by procedures that ensure that the requirements of the Construction Completion Program 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 4-1. 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 completion team and the QA/QC organization are as follows. Prior to Phase 1, quantification of Q items will be performed by the completion team. The completed items will be identified to the QA/QC organization for the association of closed IRs and subsequent verification during Phase 1. The remaining items will be placed in an incomplete category and will be the basis for the status assessment by the completion team during Phase 1. A commodity list will be prepared as the Phase 1 verification and status assessment activities are carried out and will result in a documented status for each system/area.

This documented status will form the basis for site management review prior to release for Phase 2 completion work. Construction work plans (CWPs) for new work will be prepared based on the lists as they are developed.

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 according to MPQAD procedure 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 or uninspected work are not covered up. The review will be based on the steps in the three procedures identified in Figure 4-1. After the CWP is returned to construction, and the QWP is prepared, work can proceed.

4.5.4 Special Procedures

As the detailed planning for CCP implementation has developed, it has become apparent that certain activities involving installation of some bulk commodities can be performed most efficiently if performed by a specialized team set up for that specific commodity.

A team organization for status assessment and subsequent installation of pipe hangers has been formed. This team will work under procedures that provide for meeting all conditions imposed on the system team organization. The same procedure for control and release of new work described in Section 4.5.3 will be in effect for this activity. Since the status assessment and verification of all items in an area will not be complete prior to initiating hanger work, the area release contains special provisions to ensure existing non-conformances or uninspected work is not covered up. Essentially, each Construction Work Plan (CWP) will contain a specific review and check that the new work will not effect status assessment or verification for existing installation.

The installation of water tight doors can also be performed outside the system team organization but will be governed by the same procedures for control and release of new work. These procedures will ensure that there is no coverup of existing non-conformances or uninspected work.

It will also be desirable to allow installation of specific items on systems critical to the turnover schedule prior to full release of an area for Phase 2 work. In these limited cases, the procedures identified in Figure 4-1, provide for a full examination in the CWP of each item and identification of items that might be covered up. This information will be used by MPQAD and the team organizations to ensure each item

that might be covered up will be status assessed and/or inspected and completed prior to release of the CWP.

In each of the cases described above, management reviews will be held, third party and NRC release points identified in, Section 5.0 will be adhered to. These activities all meet the requirements identified in Section 10.0 for CCP activities.

4.5.5. Milestone

- Complete procedures for integration of inspection points with construction work process.
- Complete procedures for control and release of new work.

FIGURE 4-1

Procedures for Controlling Release for New Work

Procedure	Organization	Purpose
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 nonconformances
Construction Work Plans (FPG 7.300)	Construction	
Control, Release and Handling of Construction Work Plans and Quality Work Packages (T-3)	MPQAD	

5.0 PROGRAM IMPLEMENTATION

5.1 Introduction

The implementation of the Phase 1 Construction Completion Program activities will be initiated after management reviews 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 and inspection personnel in accordance with the procedures described in the preceding sections. The verification and installation and inspection status assessment of an area, system or partial system will be followed by a review of results and a second management review before initiating the Phase 2 completion work. NRC hold points have been placed in the process. These hold points have been established to give the NRC confidence in the effectiveness of the CCP implementation. Third party (Section 7.0) hold points will be determined after the NRC has approved the contractor.

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.
- Establish a management involvement that ensures program committments are properly defined and carried out.
- Provide NRC with confidence in the projects ability to complete the plant.

5.3 Description

The preceding sections have objectives that establish the prerequisites for the implementation of the Construction Completion Program. The Project Management reviews (identified in Figure 1-1) and NRC release are described in this section.

5.3.1 Management Review - Phase 1

Project management will conduct formal reviews of the plans for implementation activities prior to initiation of team activities for the Phase 1 work. Each major activity (systems and area completion, pipe hangers, etc) described in Section 4.0 will be reviewed. 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.

NRC Hold Point

Upon completion of each Phase 1 management review and resolution of open items, NRC will release the activity to proceed. This process will allow the Project to establish NRC confidence in the project's preparation and ability to proceed.

Phase 1 Implementation

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

5.3.2 Evaluation and Management Reviews - Phase 2

The installation and status assessment will be performed on a system and/or area basis. Prior to the start of Phase 2 a review will be held of the CCP activities to date and of the results of the initial verification and status assessment activities. In addition, the plans and procedures for Phase 2 implementation will be reviewed. This evaluation assures management that the project is prepared to release new work. The first management review for work release will be done by the management team. Subsequent status assessment results will be released by site management prior to initiation of additional completion segments. Reports will be made to Project management at regularly scheduled meetings.

NRC Hold Point

NRC will release Phase 2 activities to proceed following completion of the Phase 2 management reviews and releases described above.

Phase 2 Implementation

This activity starts 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 completion teams will schedule their work based on these priorities.

The plant will be divided into many distinct modules and the CCP sequence will be applied to each module. As a result, there will be situations in the plant where Phase 2 activities will be occurring immediately adjacent to an area undergoing Phase 1 activities.

Third Party Construction Implementation Overview

The Phase 1 management reviews and the initial Phase 2 management review will be audited by the Construction Implementation Overview Third Party as described in Section 7.3.

5.4 Milestones

- Complete Management review and initiate implementation of plan for verification of completed inspections.
- Complete Management review and initiate implementation of plan for status assessment.
- Complete Management review of initial verification and installation and inspection status results and initiate systems completion work.
- Satisfy the NRC hold points.
- Establish third party hold points.

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 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 an expeditious evaluation of these issues to be considered as part of the management review prior to initiation of Phase 2. Items identified in the NRC D/G Bldg inspection report are addressed and being 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 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:

- 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 Construction Implementation Overview (CIO) 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. Only the CIO is described in this section.

Construction Implementation Overview

A third-party Construction Implementation Overview (CIO)is being undertaken using, as a model, the program developed specifically for the underpinning portion of the soils remedial work. The overview was initiated by retaining an independent firm, having considerable experience and depth of personnel in the nuclear construction field. The consultant's overview team is located at the Midland Plant site and observe the work activities being conducted in accordance with this Plan. The overview will continue until Consumers Power and the NRC have confidence in the adequacy of the implementation of the Consumers Quality Assurance Program for the Midland Project.

Findings identified by the installation overview team will be made available to the NRC in accordance with established procedures. The protocol for communications between the parties will be the same as used on the soils remedial activities.

In order to ensure the Project's readiness to undertake the major steps in the Construction Completion Program (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, the duties of the third party CIO will include responsibility for audits of Project performance of these management reviews of the CCP process. The CCP implementation will not proceed 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 findings, in their weekly reports or other memoranda.

The CIO will also overview site construction activities while in residence, although the significant focus will be on the implementation of the CCP. The exception is that the CIO will not include an overview of the other third party evaluations being conducted.

Consumers Power Company has proposed that Stone and Webster (S&W) be the organization to perform the CIO. This is based on the fact that S&W is considered 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 an independent overview of the soils remedial activities and have been found acceptable by the NRC for corporate independence.

7.4 Milestones

Construction Implementation Overview

Define scope	Complete
Select consultant	Complete
Mobilize CIO Team	Complete

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 were 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 hydrotested but are not currently in controlled layup require action to place the system in layup. Layup consists checking to ensure that system water conditions are within specification followed by moisture removal and closing the system from the atmosphere.

8.4 Milestones

- Complete the layup preparation walkdown — Complete

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 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

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 will engineering support of other project activites.

Other programs that are not a part of the Construction Completion Program (CCP) will be integrated with the CCP effort as required for overall project coordination and control by Midland Project Site Management Office.

A separate organization of design engineers (presently existing) will carry out spatial systems interaction (SSI) review and examination. Although not part of the CCP, this will be done in coordination with the activities of the CCP. The conduct of the SSI is not a prerequisite to either Phase 1 or Phase 2 of the Construction Completion Program. This program is being overviewed by the CIO as described in Section 7.3. The SSI represents the Project response to the generic licensing issue of "important to safety" and is being handled outside of the CCP with NRC NRR.

9.4 Milestones

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

10.0 CHANGES TO THE CONSTRUCTION COMPLETION PROGRAM

10.1 Introduction

The mechanism for obtaining approval to initiate activities that do not meet the requirements of the CCP is described in this section.

10.2 Objectives

Establish a management control to ensure that any activities that do not meet the requirements of the CCP are reviewed and approved prior to initiation.

10.3 Description

A procedure (MPPM-19) is being issued to control changes to the CCP. The procedure will provide that Q work activity outside the exceptions defined in Section 9.0 will meet the requirements of the CCP. Any changes to the defined CCP process will receive management review and approval for any deviation from the CCP 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 prior to 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 inspection 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 Overviewer. The NRC Region III management will be informed prior to implementation.

CCP

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

JUL 27 1983

MEMORANDUM FOR: R. F. Warnick, Director, Office of Special Cases

FROM: J. J. Harrison, Chief, Section 2, Midland

SUBJECT: MIDLAND CONSTRUCTION COMPLETION PROGRAM

The Midland Section has reviewed the licensee's June 10, 1983 submittal of the Midland Construction Completion Program (CCP). We have the following comments:

A. Comments on Construction Completion Program

1. Page 2 - Description

As stated in the CCP, phase 1 implementation will be on an area-by-area basis, but will be accomplished mainly by teams organized with systems responsibility. Our concern deals with the interface between the area-by-area basis and the systems basis. We should require assurance that all parts of the plant are covered during phase 1.

2. Page 3

In describing the major components of the CCP, the licensee did not describe the NRC Hold Points to be observed prior to initiating phase 1 and phase 2 activities.

3. Page 4

As stated in the CCP, the major areas of continuing safety-related work outside the CCP includes post-turnover punch list work. We should require the licensee to provide assurance that these post-turnover punch list activities are minor and not major.

4. Page 7

As stated in the CCP, during phase 2 implementation the assigned team will plan and carry out the remaining work needed for completion including QC inspections. We should requ're the licensee to clarify the teams' involvement in QC inspection activities.

5. Page 8

In describing the limitation to work on Q-Systems, the CCP states that this limitation permits important work to proceed outside of the CCP. Our concern deals with the measures the licensee would take to prevent nonconforming items from being covered up.

6. Figure 1-1

The CCP schematic does not identify the NRC Hold Points.

7. Page 11 - Section 3.1

As stated in the CCP, MPQAD was expanded to assume direct control of QC except ASME. We view the boundaries of MPQAD control to be between "N" stamp activities and non-"N" stamp activities and should require the licensee to clarify this matter.

8. Page 11 - Section 3.2.1

We should require the licensee to clarify the statement concerning direct CPCo controls over QC.

9. Page 12 - Section 3.3.5

As stated in the CCP, MPQAD will continue to use Bechtel's Quality Control Notices Manual (QCNM) and Quality Assurance Manual (BQAM). We should require clarification as to the reason for not using the Consumers QA manual. We also should require the licensee to assure that the Bechtel and Consumers manuals are in agreement.

10. Page 13 - Paragraph 2

We should require that the licensee provide documentation regarding future PQCI revision and the requirement for a pilot run.

11. Page 13 - Paragraph 3.B

We should require the licensee to document their basis for determining the need for retraining when PQCI's are revised.

12. Page 17

We should require the licensee to document their basis for determining the need to reinspect the work inspected by QC inspectors who fail recertification exams.

13. Page 19

As stated in the CCP, the scope of team work activities includes the requirements to insure early identification and resolution of problem areas. In view of the fact that phase 1 allows only the identification (and not the resolution) of problems, we should require the licensee to clarify this statement.

14. Page 20

As stated in the CCP, tool box training sessions will be conducted at least monthly. We should require the licensee to address the adequacy of the tool box training sessions and the manner in which the sessions will be documented.

15. Page 27 - Section 5.3.1

We should require the licensee to define the term project management and site management.

16. Page 28 - Section 5.3.2

We should require the licensee to clarify the extent of the phase 2 management reviews.

17. Page 29

We should require the licensee to clarify the extent of Stone and Webster audits of phase 1 and phase 2 management reviews.

18. Page 34 - Section 9.2

The second sentence needs to be rewritten due to obvious miswording.

B. Quality Verification Program

1. Page 1 - Section 2

We should require the licensee to clarify the scope of the Quality Verification Program (QVP) in regards to the implementation of IPIN's in Soils, HVAC, and B&W work activities. We also should require the licensee to clarify the reinspection requirements for partially closed IR's.

J. J. Harrison

J. J. Harrison, Chief
Section 2, Midland

QUALITY VERIFICATION PROGRAM
MIDLAND NUCLEAR COGENERATION PLANT UNITS 1 AND 2

Index of Topics

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QUALITY VERIFICATION PROGRAM
MIDLAND NUCLEAR COGENERATION PLANT UNITS 1 AND 2

Index of Topics

QUALITY VERIFICATION PROGRAM

Midland Nuclear Cogeneration Plant Units 1 and 2

1. Purpose: To confirm through a verification program under the direction of Consumers Power Company, the acceptable quality status of safety related procurement and construction activities completed and inspected by the Engineer-Constructor quality control personnel prior to December 2, 1982.

2. Scope: This program will cover all closed Inspection Records of inspections performed by the Engineer-Constructor quality control personnel on safety related material, systems, components and structures of the Midland Nuclear Cogeneration Plant Units 1 and 2 prior to December 2, 1982, except:

   2.1 Remedial Soils Work, which has been under the direction of Consumers Power Company Quality Assurance (QA) personnel since August, 1982.

   2.2 HVAC work, which has been under the direction of Consumers Power Company QA personnel since the major reorganization in June 1981.

   2.3 Verification of cable routing, identification and other accessible attributes which is being done on a 100% reinspection basis in accordance with PQCI E-4.0.

2.4 Verification of ASME hangers which will be done under a separate reinspection program as previously committed to the NRC on November 15, 1982 and March 29, 1983. This program requires 100% reinspection of all hangers with closed IR's as of December 1982. This program will be conducted under the direction of Consumers Power Company QA personnel.

2.5 B&W Construction Company activities which have been performed under the B&W Quality Assurance Program.

3. References:

3.1 Regulatory Guide 1.58, Rev 1, Qualification of Nuclear Power Inspection, Examination and Testing Personnel.

3.2 MPQAD Procedure E-3M, Preparation and Approval of Project Quality Control Instructions

4. Definitions:

Attachment 10	A form previously utilized to Document Walkdown statusing on specified piping systems prior to Hydrostatic or Pneumatic Testing.

Discrepancy Report (DR): A form similar to the IPIN previously used to report inprocess nonconformances.

Inaccessible: An item or attribute of an item which, due to its physical location or configuration, cannot be physically or visually reinspected without removing and thereby invalidating installed work. Under the Quality Verification Program, this includes those items or attributes normally inspected in process and which subsequent construction processing makes inaccessible, eg, piping fit-up, root weld and subsequent layers under the cover pass, anchor bolt hole drilling, internal cleanliness, embedment in concrete, etc. Inaccessible does not include those items which can reasonably be reached by scaffold erection, limited access (remote) areas which require the physical size of the inspection personnel to be limited or those items that can be viewed by removal of access cover or panels, eg, electrical consoles, cabinets, conduit boxes, etc.

The inaccessibility of attributes covered by insulation or coatings will be handled on a case by case basis. When such coverings can be practically removed and replaced and where their particular reinspection is required to establish an acceptable level of confidence of the quality of a particu-lar attribute, the coverings will be removed. Items which fall into this category and are scheduled for verification in accordance with plan requirements will not be considered inaccessible unless so approved on a case by case basis by the Executive Manager - MPQAD.

In Process Inspection Notice (IPIN): A form previously used to record nonconforming conditions or work returned to construction forces for rework prior to completion of inspection activities for the item in question.

Inspection by Attributes: Inspection whereby the item or attribute is classified simply as conforming or nonconforming without regard for the degree of nonconformance.

Inspection Record (IR):	A report that scopes the inspection to be performed, relating it to a specific PQCI and a system, component, structure or portion thereof and which records the results of inspections.
Nonconformance:	A deficiency in characteristic, documentation or procedure which renders the quality of an item unacceptable or indeterminate.
Nonconformance Report (NCR):	A document used for reporting nonconforming conditions.
Population:	The entire quantity of closed Inspection Records (IR) as of December 2, 1982 relating to a specific PQCI.
Project Quality Control Instruction (PQCI):	The document that provides Quality Control Engineers (QCEs) with specific direction as to attributes to be verified, how they are to be verified and the acceptance criteria.

Reinspection: As used in this Verification Program, reinspection means a complete review of requisite documentation and a physical or visual recheck of accessible inspection attributes covered by a specific PQCI or a review of applicable inspection records and related quality documentation where attributes are not accessible.

Verification: As used in this program, verification refers to the overall process of establishing the quality acceptance of the total population of completed and inspected work through combinations, as applicable, of efforts such as re-inspection, documentation review, review of past efforts to investigate and resolve problems, analysis of past overinspection results and, if necessary, NDE techniques and destructive examination.

5. Program Content: As identified in Section 2, Scope, Consumers Power Company (CPCo) will conduct a Quality Verification Program of safety related procurement and construction work in which the prior 100% inspections have been performed under the direct supervision of the Engineer-Constructor. Such inspections were performed in accordance with approximately 100 PQCIs, as listed in Appendix A, that specified the inspection requirements to be achieved by Quality Control (QC) Personnel. As noted in section 5.1, this listing includes all inspections completed by the Engineer-Constructor prior to December 2, 1982, including those excluded from this program for reasons stated herein. The Quality Verification Program has the purpose of establishing a quality baseline for the completion of construction of the Midland Project.

5.1 Detailed Scope: The program will include approximately 100,900 IRs subject to the Quality Verification Program, for which the Engineer-Constructor has a record of completed inspections as documented by closed Inspection Records (IR) and for which no other 100% verification activity has taken place or is scheduled to take place. There are approximately 147,500 closed IRs of which approximately 14,700 were for reinspections which occurred due to design change, construction rework, etc., and approximately 31,900 which are excluded, due to previous commitments under the Remedial Soil, HVAC, Cable routing and identification and ASME hanger Programs. Where a reinspection has occurred on a specific item or

attribute the verification will relate to the latest IR. In addition, prior to the use of PQCIs, Material Receipt Inspections (MRI), Field Inspection Plans (FIP) and Welding Inspection WR-5 forms were used as quality instructions and records. These also will be used for quality verification. Where applicable, the results of the inspections will be grouped with like PQCIs. Otherwise they will be treated as separate populations.

5.2 Methodology: This program will confirm the acceptable quality status of completed work and establish the validity of prior inspections. To accomplish this, accessible attributes of items covered by completed IRs will be reinspected to the lastest design requirements with PQCI's which have been reviewed and/or revised as necessary to assure clarity of acceptance criteria and uniformity of implementation. For inaccessible attributes, the original inspection documents will be reviewed for evidence of acceptability, and justification will be developed as described in section 6.5 to establish hardware quality and support the validity of inspections associated with such PQCIs. Each IR relates to a specific PQCI. PQCIs are organized by discipline and further structured to activities within that discipline, e.g., there are separate PQCIs and corresponding IRs for preplacement, placement and post-placement inspections of concrete. Closed IRs related to each PQCI provide a population of like activities. Closed IRs are those where the Engineer-Constructors 100% inspection of construction and installed hardware has been completed.

To assess the validity of these past completed inspections, and verify the hardware quality, CPCo will initiate a 100% reinspection of the population to provide adequate confidence that safety related systems components and structures will perform satisfactorily in service.

The initial 100% reinspection effort will be based on a systems/area orientation to provide a quality baseline for subsequent construction completion activities. System/area reinspections will be supplemented by random plant-wide inspections as appropriate to establish a valid quality baseline on an expeditious basis.

At some future date, once the quality level of completed work has been established, CPCo will make a determination as to whether or not further verification efforts can appropriately be based on less than a 100% reinspection program.

When CPCo believes that sufficient justification exists for a reduction in the 100% commitment, it will recommend such a reduction to the NRC in accordance with the statistical sampling plan attached as Appendix C.

5.3 Identification of Deficiencies: 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 established procedures.

5.3.1 Deficiencies Found During Reinspection of Accessible Attributes: Reinspections will be conducted in accordance with PQCIs which have been reviewed and/or revised since implementation of the Construction Completion Program (CCP) and in accordance with current design drawings and specifications. An acceptable reinspection will validate both the hardware quality and the prior IR. Any deficiencies, other than those previously identified on nonconformance reports as a result of prior inspections, will be identified on a nonconformance report which will be traceable to both the verification and original IR and the item or attribute in question. When a nonconformance documents a difference between the as built condition of the unit and the referenced design drawing or specification, a further check will be made to determine the design basis against which the IR was originally completed, as well as the current stage of construction, to further establish the validity of the original IR.

5.3.2 Deficiencies Found During Reinspection of Documentation for Inaccessible Attributes: The verification process for inaccessible attributes is discussed in Section 6.5. As

noted in that section, any documentation deficiencies will be recorded on the new IR, entered on a nonconformance report and cross referenced to the original IR.

o. Special Program Elements

6.1 Cable Reinspection: As noted in Section 2, Scope, reinspection of routing and identification of installed cables is underway and is being performed 100% for all accessible attributes per PQCI E-4.0. Other electrical work, including cable tensioning and terminations, on which inspections have been completed by the Engineer Constructor will be handled in accordance with this program. This includes PQCIs E-1.0, E-1.1, E-1.60, E-2.0, E-2.1, E-3.1, E-5.0, E-6.0, E-6.2, E-6.6 and E-6.6.1. These PQCIs are further defined and affected quantities of IRs are shown in Appendix A.

6.2 IPIN and DR: In accordance with approved procedures the QC inspection process has used in the past In Process Inspection Notices (IPIN) and Discrepancy Reports (DR) rather than Nonconformance Reports (NCR) to record nonconforming conditions noted by the inspector on work returned to construction for rework. The process required that IPINs be dispositioned before the Inspection Record could be closed. Because the use of IPINs and DRs raises the possibility that a complete inspection may not have been performed on items or attributes covered by IRs with associated IPINs or DRs,

all such IRs will be created as a unique population and will be reinspected 100%. IPINs are no longer used in the inspection process. Discrepancy Reports (DF) were used prior to the use of the IPINs. They are no longer in use, but are recorded and will be treated the same as the IPIN.

6.2.1 Attachment 10 Forms: Attachment 10's were used in conjunction with Hydrostatic/Pneumatic Test Procedures as a punchlist for a defined Hydrostatic or Pneumatic Test, and included line numbers, drawing numbers and test boundaries. The Attachment 10 was not intended to be the quality document that identified documented acceptance by the QCE of subsequent action taken to correct punchlist deficiencies identified during the walkdown process. These deficiencies were intended to be tracked on other quality documents, such as Nonconformance Reports, Inspection Reports, etc. In order to verify that this use of the Attachment 10 did not compromise the quality of installed hardware, all completed hardware inspections documented on closed IRs falling within the system boundaries identified on existing Attachment 10 forms will be 100% verified during the Quality Verification Program.

6.3 Exceptions to this Program: Exceptions to this Program shall not be taken unless such exceptions can be fully justified. One such example would be a case where objective evidence is available of a CPCo overinspection of the the Engineer-Constructor's inspections and which demonstrates effective quality control and provides the basis to verify acceptability of the items or attributes covered by these past IRs.

Where such exceptions are proposed to be taken, a special report will be prepared by the MPQAD-QA General Superintendent for review and approval of the Executive Manager-MPQAD. This report will contain full justification for the exception and documentation of objective evidence to support the exception. The Executive Manager-MPQAD will inform the NRC Region III whenever he has made a decision to allow such an exception to the Program prior to implementing the exception.

6.4 Purchased Material: Purchased safety related material and components whether source inspected or inspected upon receipt are subject to this Program for verification of completed receipt inspections performed by the Engineer-Constructor prior to December 2, 1982. In many cases, purchased items have been installed and are not fully accessible for reinspection; however inaccessible interfaces will have been demonstrated and their functional acceptability proven through installation and subsequent testing. Accessible features will be reinspected in accordance with this Program.

The total number of IRs associated with PQCI R-1.00, Material Receiving Inspection, is approximately 12,000. In addition, prior to the introduction of PQCI R-1.00, approximately 150 MRIs and 20 FIPs were used for receipt inspection, covering approximately 700 items. Based upon further review, receipt inspections covered by MRIs will either be grouped with like items covered by PQCI R-1.00 or be reinspected separately. FIPs were also used for construction activities and will be treated separately under this plan. Where materials such as rebar, certain structural members or features of components are inaccessible for reinspection, documentation will be reviewed in accordance with this Program.

6.5 Inaccessible Attributes: There are 57 PQCIs which cover activities that are deemed to be inaccessible for reinspection. These include rebar installed in placed concrete, containment building tendon reinspection, and PQCIs relating to surveillance of sub-contractor activities. A complete listing of these is given in Appendix B to this Program. A brief statement as to why attributes of these IRs are considered inaccessible and why verification by documentation review is appropriate appears in Appendix B. Documentation re-lating to these PQCIs will be reviewed as indicated in this Pro-gram, in accordance with a revised PQCI or checklist specifically developed for review of documentation. These PQCIs, either in-dividually or by groups, will be reviewed and specific detailed justification will be developed to verify the quality

status of associated hardware. This will be done by a combination of methods, applied as necessary to achieve verification, including validation of prior inspections through documentation review, reinspections of attributes that may still be accessible, a review of past overinspections, a review of past activities to resolve problems, and if required, application of NDE techniques or limited destructive examinations. This justification, or recommendations for additional verification activities, where this justification cannot be established, will be provided by the MPQAD-QA General Superintendent to the Executive Manager-MPQAD for decision and approval. Deficiencies in documentation will be reported on nonconformance reports, the disposition of which will determine further actions necessary. These actions will include special testing programs as required to satisfactorily establish the quality acceptance of this category of PQCIs.

7. Documentation and Reports:

7.1 Documentation of Results: Results of reinspections and document reviews will be recorded on new IRs opened specifically for this purpose. Each such new IR will be cross-referenced to the closed original IR. A proper 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.

7.2 Documentation of Nonconformances: Nonconforming conditions observed during reinspection activities will be documented on a nonconformance report and appropriately analyzed for management attention. This includes instances where a design or construction modification has occurred since the Inspection Record was closed and a new IR not yet opened. (Note discussion in Section 5.3.1)

7.2.1 Trending: Deficiencies noted during the verification process will be trended as appropriate for analysis and management information.

7.3 Reports:

7.3.1 Reports to Executive Manager-MPQAD: A weekly status report will be made jointly by the CPCo BOP Quality Control (QC) Superintendent and Quality Assurance (QA) General Superintendent to the Executive Manager - Midland Project Quality Assurance Department (MPQAD) summarizing the results of the program. The report will note the completed Inspection Reports by the unique PQCI number, Nonconformance Reports issued and identification of attribute(s) causing the nonconformance(s).

7.3.2 Reports from Executive Manager-MPQAD: The Executive Manager-MPQAD will inform the CPCo Site Manager, the Engineer-Constructor Project Manager, and the Vice President, Projects, Engineering and Construction, of the status of the quality verification program on a biweekly basis and will provide them with a formal monthly report of the verification effort. As appropriate, he will also report on the acceptability of completed work as it may be impacted by nonconformances.

7.3.3 Reports to NRC and Construction Implementation Overview Team: The Executive Manager-MPQAD will provide copies of the monthly reports noted in section 7.3.2 to NRC Region III and the Construction Implementation Overview Team.

8. Implementation: This program will be implemented under the direct control of MPQAD through procedures approved and issued according to normal programmatic requirements.

8.1 Organizational Responsibilities: The Executive Manager-MPQAD has total overall responsibility and authority for the development and implementation of all quality related aspects of this verification program. He will be responsible for seeing that the implementation phase of the program is coordinated with other project departments as required to assure proper support for this plan commensurate with overall project goals.

8.1.1 MPQAD - BOP QA: is responsible for the programmatic elements of the verification program including, but not limited to, procedure development, PQCI review and approval, nonconformance review, analysis of results, justification for document review, verification of inaccessible attributes, program content modifications and certifying that the verification has been completed for a given area or system, and performing management overview of the reinspection process with appropriate documentation of results.

8.1.2 MPQAD - BOP QC: is responsible for program implementation including, but not limited to, conducting the reinspection activities with QC personnel that satisfy Regulatory Guide 1.58, Rev 1, which requires personnel certification in accordance with ANSI N45.2.6 (no person will reinspect activities for which he performed the original inspection), reporting results to the Executive Manager-MPQAD, reporting nonconformances to MPQAD-BOP QA, and coordinating with Construction Services and Consumers Site Management Office to establish schedule priorities for reinspection activities.

8.1.3 MPQAD - Site Audit Section: is responsible for formal audits of the overall verification program implementation.

8.1.4 MPQAD - QA Administration and Training: MPQAL Procedures will be developed in accordance with programmatic requirements to direct implementation of this plan.

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
C-1.02	Compacted Backfill	181			Hardware & documentation under remedial soils program
C-1.09	Inspection of Crack for BWST Foundation Ring Wall	5			Hardware & documentation under remedial soils program
C-1.10	Insp of Grouting and Dry Packing	1833	±	±	Surface condition and documentation
C-1.11	Drilling & Grouting Rebar	66	±	x	
C-1.20	Concrete Preplacement Inspection	767	±	±	Inspection of remaining unplaced concrete areas plus past documentation
C-1.21	Inspection of Reinforcing Steel	259	±	±	Inspection of accessible rebar plus past documentation
C-1.22	Inspection of Reinforcing Steel at Construction Joints	19	±	±	Inspection of accessible rebar at remaining joints plus past documentation

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
C-1.30	Concrete Placement Inspection	780	±	x	
C-1.31	Inspection of Concrete Activities	246	±	x	
C-1.40	Concrete Post Placement Inspection	1002	±	±	Inspection of concrete surfaces plus documentation
C-1.50	Installation and Testing of Expansion Anchors	4982	±	±	Inspection for proper installed condition
C-1.51	Retest Verification of Drop In Expansion Anchors	54	±	x	
C-1.52	Reinspection of Seismic Category I Pipe Support Expansion Anchors	294	±	x	
C-1.53	Reinspection of Expansion Anchors for Seismic Cat I Support	0			

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
C-1.56	Reinspection of Rock Bolt Installation	20	±	x	
C-1.60	Concrete Drilling and Cutting Reinforcing Steel	325	±	x	
C-1.70	Installation of Pressured Concrete Pipe	2	±	x	
C-1.80	Installation of Concrete Unit Masonry	102	±	x	
C-1.81	Installation of Concrete Unit Masonry	139	±	x	
C-1.90	Installation of SWI Sluice Gates	0			
C-2.00	Plant Area Dewatering	59			Hardware and documentation under remedial soils program

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
C-2.02	Permanent Gravel Packed Wells	17			Hardware and documentation under remedial soils program
C-2.03	Drawdown Recharge Test	1			One time test under remedial soils program
C-2.05	Drilling Q-Listed Areas for Underpinning Operations	14			Remedial Soils Program
C-2.10	Structural Steel Erection	121	±	±	Inspection of accessible attributes plus documentation
C-2.11	Installation of Watertight and Airtight Doors	0			
C-2.20	Field Fabrication of Miscellaneous Steel	1502	±	x	
C-2.21	Field and Offsite Fabrication of Reinforcing Steel	0			

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
C-2.56	Load Monitoring of the Feedwater/Isolation Valve Pit Rod & Rock Bolt	0			Remedial Soils Program
C-3.01	Installation Inspection of Spent Fuel Storage Racks	20	±	±	Inspection of accessible attributes plus documentation
C-3.02	Installation Inspection of Spent Fuel Storage Racks	8	±	±	Inspection of accessible attributes plus documentation
C-3.03	Inspection of Test for Acceptability of the Spent Fuel Rack Cells	0			
C-4.10	Batch Plant Inspection	929	±	x	
C-5.10	Shear Connector Installation	503	±	x	
C-6.00	Mechanical Splicing of Reinforcing Bars	787	±	x	

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
C-7.00	Erection of Reactor Building Liner Plate	10	±	x	
C-8.50	Inspection of Surface Preparation Application Touch Up & Repair of Coating	908	±	x	
C-8.51	Inspection of Decontamination Coat for Concrete	17	±	±	Inspection of surface condition plus documentation
C-8.60	Inspection of Surface Preparation Application Touchup & Repair of Coatings Reactor Bldg Liner Plate	0			
C-9.00	Installation-Post Tensioning Components	40	±	x	
C-9.10	Post Tensioning System Stressing	309	±	x	

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
C-9.20	Containment Bldg Tension Reinsp	11	±	x	
CW-1.00	Welding & NDE of "Q" Listed Non ASME Items	381	±	±	Inspection of surface condition and radiographs plus documentation
E-1.0	Installation of Conduit Boxes and Supports	4716	±	±	Inspection of accessible attributes plus documentation
E-1.1	Installation of Boxes	9	±	±	Inspection of accessible attributes plus documentation
E-1.60	In Process Inspection of Electrical Item Installation	85	±	x	
E-2.0	Installation of Cable Tray and Wireway	1368	±	±	Inspection of accessible attributes plus documentation
E-2.1	Installation of Tray Supports	799	±	±	Inspection of accessible attributes plus documentation

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
E-3.0	Final Electrical Area Completion Activity	0			
E-3.1	Electrical System Turnover Activities	108	±	x	
E-4.0	Installation of Electric Cables	7954	±	x	Inspection of accessible attributes has been accomplished under cable routing & ID program
E-5.0	Cable Terminations	12361	±	±	Inspection of accessible attributes plus documentation
E-6.0	Installation of Electric Equipment and Instrumentation	346	±	±	Inspection of accessible attributes plus documentat' n
E-6.1	Modification of Electric Equipment	209	±	±	Combine with RW 1.10 Inspect accessible attributes plus documentation

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
E-6.2	Installation of Terminal Boxes	108	±	±	Inspect accessible attributes plus documentation
E-6.6	Installation of Electric Penetrations	127	±	±	Inspect accessible attributes plus documentation
E-6.6.1	Installation of Feed Through Assy's for Elec Penetration	388	±	±	Inspect accessible attributes plus documentation
E-6.7.1	Installation of Batteries & Racks	9	±	±	Inspect accessible attributes plus documentation
RW-1.10	Modification to Electrical Equipment	144	±	±	Combine with E-6.1 Inspection of accessible attributes plus documentation
I-1.10	Installation of Instruments	159	±	±	Inspection of accessible attributes plus documentation
M-1.00	Installation of Mechanical Equipment	11	±	±	Inspection of accessible attributes plus documentation

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
M-2.00	Installation of Rotating Equipment	28	±	±	Inspection of accessible attributes plus documentation
M-3.10	Installation of Cranes	1	±	±	Inspection of accessible attributes plus documentation
M-4.00	Complete Installations of Mechanical Equipment	2	±	±	Inspection of accessible attributes plus documentation
MP-1.00	Disassembly Reassembly and Modification of Systems and Components	4	±	±	Inspection of accessible attributes plus documentation
MW-1.00 Rev 1	Welding and NDE of Mechanical Equipment	0			
P-1.00	Piping Completed Line Installation	80	±	±	Inspection of accessible attributes plus documentation
P-1.10	Piping Subassembly Field Installation RW	1858	±	±	Inspection of accessible attributes plus documentation

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL FQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

FQCI #	FQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
P-1.20	Piping Subassembly Shop Fab & Rework	994	±	±	Inspection of accessible attributes plus documentation
P-1.30	Valve and Inline Component Install	1247	±	±	Inspection of accessible attributes plus documentation
P-1.60	In Process Insp Fab/Installation Rework of Piping	167	±	x	
P-2.00	Pipe Component Supports Final Setting	5	±	±	Inspection of accessible attributes plus documentation
P-2.10	Pipe (Component) Support Installation	7057			
P-2.20	Pipe (Component) Supports Fabrication	6460	±	±	Inspection of accessible attributes plus documentation
P-2.30	Pipe (Component) Support P119/P129 Walkdown	6			Closed IR's from P-2.10 and P-2.20 will be reinspected to requirements of P-2.30 where installed

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
PF-1.10	Pipe Flange Installation and Rework	820	±	±	Inspection of accessible attributes plus documentation
PI-1.40	Field Fabrication and Installation of Piping Related Instrumentation	204	±	±	Inspection of accessible attributes plus documentation
PI-2.40	Off-Site Fabrication/ Weld of Pipe Related Instrument Supports	84	±	±	Inspection of accessible attributes plus documentation
PIW-1.00	Welding and NDE of Instrument Tubing and Fittings	642	±	±	Inspection of accessible attributes plus documentation
PW-1.00	Fab/Weld/Heat Treat and NDE of ASME III Piping	31014	±	±	Inspection of accessible attributes plus documentation
R-1.00	Material Receiving Inspection	12007	±	±	Inspection of accessible attributes plus documentation

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
R-1.60	Receiving Area and Storage Facilities Inspection	45	±	x	Walk through of existing conditions plus documentation
R-2.00	Receiving Inspection for NSSS Equipment	198	±	x	
R-2.10	Receiving Inspection for NSSS Equipment	42	±	x	
R-2.20	Receiving Inspection for NSSS Equipment Documentation	217	±	x	
S-1.00	Storage Area/ Facilities Surv	67	±	x	Walk through of existing conditions plus review of documentation
SC-1.05	Material Testing Services	306	±	x	

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
SC-1.06	Recoating Work of Cont Bldg Liner Plate, Misc Steel, and Pipe Hanger Attachment	0			
SC-1.07	Agreement for Tech Services for Soils Laboratory Testing	0			
SC-1.10	Earthwork Subcontract Surveillance	0			
SC-1.11	Concrete and Unit Masonry Surface Sub/ Contract Surv	406	±	x	
SC-1.14	Subcontract Surveillance of Installation of Underpinning	0			
SC-1.16	Field Erected Storage Tanks/Subcontract Surveillance	108	±	x	

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
SC-8.00	Subcontractor Surv of Installation of Soil and Crack Monitoring Devices	58			Remedial Soils Program
SE-1.00	Measuring and Testing Equipment Laboratory Surveillance Inspection	31	±	x	
SH-1.03	Heat, Ventilation and Air Conditioning Subcontract Surveillance	828	±	x	
SH-1.04	Field Erected Component Cooling Water Surge Tanks Subcontracts Surveillance	108	±	x	
SH-1.17	Field Fabricated Incore Installation Tanks Subcontract Surveillance	183	±	x	
SW-1.01	NDE-Subcontractor Surveillance	120	±	x	

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not accessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
T-1.00	Hydrostatic and Pneumatic Leak Testing	460	±	x	
T-1.10	Final Cleaning of Interior Surfaces of Piping, Mech Equipment and Instrumentation	0			
T-5.00	Lift Test for Cranes	0			
W-1.00	Welding, Heat Treatment and Non Destructive Examination	20251	±	±	Inspection of accessible attributes, radiography plus documentation
W-1.60	Area Inspection Of In Process Activities For Welding Q-Listed And ASME III Items	164	±	x	
C-1.01	Excavation in Q-Soil Area	NA			Remedial Soils Program

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
C-2.01	Gravel Packed Wells	224			Documentation and hardware is under remedial soils program
C-2.22	Field Fabrication Of Reinforcing Steel	0			
C-3.05	Inspection Of The Feedwater Isolation Valve Pit Jacking Operation	NA			Remedial Soils program
EU-1.0	Installation Of Conduit & Box For Under Pinning Data Aquisitions System	61			Documentation and hardware is under remedial soils program
EU-4.0	Installation Of Electrical Cables For Under Pinning Data Aquisition System	117			Documentation and Hardware is under remedial soils program
EU-5.0	Cable Termination For Under Pinning Data Aquisition System	178			Documentation and Hardware is under remedial soils program

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
EB-6.0	Installation Of Instruments For Under Pinning Data Aquisitions System	25			Documentation and Hardware is under remedial soils program
EB-6.1	Installation Of Instrument Supports For Under Pinning Data Aquisitions System	29			Documentation and Hardware is under remedial soils program
IC-1.0	Instrument Checkout	67			Documentation and Hardware is under remedial soils program
RM-1.00	Storage & Maintenance Of Material Released To Mergentine	NA			Remedial soils program
RS-1.00	Storage & Maintenance Of Material Released To Spencer, White & Prentis	NA			Remedial soils program

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

PQCI #	PQCI TITLE	QUANTITY	DOC'T	HARDWARE	REMARKS
SCH-1.0	Crack Monitoring Of The Feedwater Isolation Valve Pits Sub-Contract Surveillance	36			Documentation and Hardware is under remedial soils program
SD-1.0	Monitoring, Reducing and Reporting Under Pinning Instrument Data Sub-Contracts Surveillance	189			Documentation and Hardware is under remedial soils program
UP C-1.004	Welding And NDE Of "Q" Material	8			Documentation and Hardware is under remedial soils program
UP C-1.008	Excavation And Lagging Of Access Pits Piers and Drifts For UP	1			Documentation and Hardware is under remedial soils program
UP C-1.010	Field Fabrication Of Steel Sets For Under Pinning Of Aux Bldg & FIVP	5			Documentation and Hardware is under remedial soils program

KEY:
± Document-Review documentation for completeness
± Hardware-Reinspect accessible attributes
x Hardware-Attributes not acessible for reinspection

A LIST OF ALL PQCI'S WITH QUANTITY AND REINSPECTION INFORMATION

The Remedial Soils Program has initiated the following additional PQCI's for which there are no Engineer-Constructor IR's, Inspections have all been conducted by CPCo supervision

UP-C-1.002	UP-C-1.011	UP-C-1.019	SD-2.0
UP-C-1.003	UP-C-1.012	UP-C-2.003	
UP-C-1.005	UP-C-1.013	UP-C-2.004	
UP-C-1.006	UP-C-1.014	UP-C-2.005	
UP-C-1.007	UP-C-1.015	UP-C-2.007	
UP-C-1.009	UP-C-1.016	UP-C-2.008	
UP-C-1.011	UP-C-1.017	UP-C-2.009	
UP-C-1.019	UP-C-1.018	UP-C-2.010	
UP-C-1.020		UP-C-2.019	
UP-C-1.023		UP-C-2.042	
		UP-C-2.150	
		UP-C-3.001	
		RM/RS-1.00	

APPENDIX B

PQCIs To Be Verified by Review of Documentation Only

The following PQCIs are deemed inaccessible for attribute reinspection. Hardware acceptability will be established by documentation validation where possible and by supplemental verification efforts where documentation review alone does not establish hardware acceptability:

1. Remedial Soils Program

C-1.02 - Compacted Backfill

C-1.09 - Inspection of Crack for BWST Foundation Ring Wall

C-2.00 - Plant Area Dewatering

C-2.01 - Gravel Packed Wells

C-2.02 - Permanent Gravel Packed Wells

C-2.05 - Drilling in Q-Listed Areas for Underpinning Operations

EU-1.0 - Installation Of Conduit and Boxes For UP Data Acquisition System

EU-4.0 - Installation Of Electrical Cables for UP Data Acquisition System

EU-5.0 - Cable Termination for UP Data Acquisition System

EU-6.0 - Installation Of Instruments For UP Data Acquisition System

EU-6.1 - Installation Of Instrument Supports For UP Data Acquisition System

IC-1.0 - Instrument Checkout For UP Data Acquisition

SCM-1.0 - Crack Monitoring Of FW Iso Valve Pits Subcontractor Surveillance

SD-1.0 - Monitoring, Reducing and Reporting UP Inst. Data Subcontractor Surveillance

UP-C-1.004 - Welding And NDE of Q-Material

UP-C-1.008 - Excavation & Lagging of Access Pits, Piers and Drifts For UP

UP-C-1.010 - Field Fabrication Of Steel Sets for UP Of Aux. Building and FIVP.

The above PQCIs relate to the remedial soils program which has been established as a separate project and for which inspections have been performed under the direction of MPQAD since August 1982. Soils work and related documentation have been reviewed by MPQAD for acceptability and corrective measures instituted where required.

2. Reinspection of Expansion Anchors and Rock Bolt Installation.

C-1.51 - Retest Verification of Drop In Expansion Anchors

C-1.52 - Reinspection of Seismic Category I Pipe Support Expansion Anchors.

C-1.56 - Reinspection of Rock Bolt Installation

The above PQCIs relate to reinspections which have been completed and results reported to the NRC.

3. In-Process Activities.

E-3.1 - Electrical System Turnover Activities

E-1.60 - In Process Inspection of Electric Item Installation

R-1.60 - Receiving Area and Storage Facilities Inspection

W-1.60 - Area Inspection Of In Process Activities For Welding Q-listed and ASME III Items

S-1.00 - Storage Area/Facilities Surveillance

P-1.60 - In Process Inspection of Fabrication/Installation Rework of Piping

The above PQCIs relate to in-process activities where affected work would now be completed and any reinspection would be of completed work covered by other PQCIs, e.g., PQCIs E-6.0, W-1.00 and PW-1.00. In the cases of R-1.60 and S-1.00, these are an inspection or surveillance of general facilities maintenance which can be repeated, but not on a basis which would have any meaning relative to conditions existing when the inspections were made. In short, a single inspection can attest to conditions existing today without relation to past conditions.

4. Surveillance of Subcontractor Activities.

SC-1.05 - Material Testing Services

SC-1.11 - Concrete and Unit Masonry Surface Subcontract Surveillance

SC-1.16 - Field Erected Storage Tanks Subcontractor Surveillance

SC-8.00 - Subcontractor Surveillance of Installation of Soil and Crack Monitoring Devices

SE-1.00 - Measuring and Testing Equipment Laboratory Surveillance Inspection

SM-1.03 - HVAC Subcontract Surveillance

SM-1.04 - Field Erected Component Cooling Water Tank Subcontractor Surveillance

SW-1.01 - NDE Subcontractor Surveillance

SM-1.17 - Field Fabricated Incore Installation Tank Subcontractor Surveillance

The above PQCIs all relate to surveillance of subcontractor activities. Where work has not been completed, such surveillance activities can be repeated when safety related work resumes. Otherwise, they can be evaluated only by a review of documentation and a single walk down of affected areas for assessment of current inplace conditions, but not of past activities. In addition, SM-1.03 - HVAC Subcontractor Surveillance, relates to activities outside the scope of this quality verification program. In depth participation by CPCo continues in this work.

5. Hydrostatic and Pneumatic Leak Testing.

T-1.00 - Hydrostatic and Pneumatic Leak Testing

CPCo has already conducted an extensive evaluation of hydrostatic and pneumatic leak testing and corrective actions relative to such evaluation are being conducted separately from this reinspection program.

6. Special "One Time Only"Testing.

C-2.03 - Drawdown Recharge Test.

This is a test required to have been performed once and which demonstrated acceptable results. The remedial soils program which is not within the scope of this verification program would provide any necessary justification for a repeat of such a test.

7. Previously Documented Responses to the NRC.

C-6.00 - Mechanical Splicing of Reinforcing Bars

This PQCI relates to necessary inspections of the "Cadweld" process of mechanically splicing reinforcing steel. The constructor's processes were the subject of extensive investigation by the NRC in 1973 and 1974 which determined that corrective action had been identified and implemented including requalification of personnel, review of work instructions for Class I work, CPCo QA review of work procedures, and audits of Class I work. Affected mechanically spliced rebar is now inaccessible due to concrete placement. CPCo overinspection of any continued use of this process in remaining construction will be a continuing process.

C-7.00 - Erection of Reactor Building Liner Plate

This PQCI relates to the preparation and installation of steel plates which provide the inner surface for the containment building. The liner is now inaccessible, being backed up by reinforced concrete on the outside and nuclear coated on the inside. Extensive review was made by CPCo in 1974 of the accuracy of liner plate records. Controls implemented after NRC investigation were evaluated and found satisfactory. In 1977, a deformation of liner plate occurred due to freezing of an embedded construction water line. This resulted in selected removal and replacement of steel liner plates. Quality of the liner plate installations have been verified through radiography, and extensive CPCo involvement in the installation and repair. The NRC has reviewed actions taken and closed its reports on the installation of steel liner plates.

C-1.11 - Drilling and Grouting of Rebar

This PQCI provides documented instructions for the drilling and grouting of reinforcement steel and in itself is a corrective action for previously cited deficiencies that such a procedure did not exist. Its usage is documented evidence of the implementation of corrective action.

C-5.10 - Shear Connector Installation

This PQCI is used to assure that the proper installation of shear connectors has been accomplished which tie the supporting beams, steel and concrete floor decking into a composite structure. Since the shear

connector serves as concrete reinforcement, it is not visible once the concrete is placed. NRC reviewed corrective actions relative to installation problems with Nelson stud shear connectors and closed reports relative to this problem. PQCI 5.10-IRs document accomplishment of required inspections.

C-8.50 - Inspection of Surface Preparation Application Touch Up and Repair of Coating

This PQCI addresses the preparation of concrete surfaces and the application of a coating to seal the surface to prevent contamination being absorbed into the concrete. Once the coating is applied, the surface preparation cannot be examined. The final coating can be examined for presence but not for the process steps that applied the coating.

C-1.60 - Concrete Drilling and Cutting Reinforcing Steel

This PQCI describes the quality control steps necessary in drilling concrete to minimize cutting of reinforcing steel. Completion of the PQCI-IR identifies whether proper inspections were made and results encountered and documented. Since the holes will have been drilled, and items either mounted in the holes or the holes grouted, it is not possible to physically inspect the concrete or the reinforcement. This is particularly true where expansion anchors have been used which cannot be nondestructively removed.

8. Post Tensioning Requirements.

C-9.00 - Installation-Post Tensioning Components

C-9.10 - Post Tensioning System Stressing

C-9.20 - Containment Building Tension Reinspection

These PQCIs document the re-routing of tendon sheathing, tendon installation and tensioning. CPCo identified a problem to the NRC in 1977 indicating the misplacement of two tendon sheaths and the omission of two sheaths. The misplacement of the two sheaths brought about approved re-routing of the tendons. The omitted sheaths were replaced. The NRC conducted a special investigation of the corrective measures in May 1977 and deemed them acceptable. A final 50.55(e) report was issued by CPCo in August 1977.

9. Concrete Placement Activities.

C-1.30 - Concrete Placement Inspection

C-1.31 - Inspection of Concrete Activities

The PQCIs relate to inspections during placement of concrete. Where concrete has been placed, inspections will be made in accordance with C-1.40 "Concrete Post Placement Inspection." Where concrete has not been placed, a preplacement inspection will be required before placement when construction is resumed.

C-1.80 Installation of Concrete Unit Masonry

C-1.81 Installation of Concrete Unit Masonry

These PQCIs relate to the installation of concrete block walls many of which have been removed as a result of subsequent plant modifications. The remaining walls can be inspected for presence of the wall and visual quality but not for the process controls necessary to properly erect them.

C-4.10 - Batch Plant Inspection

This PQCI was prepared for necessary controls of concrete batch plant activities. The batch plant has now been removed from the site. Concrete necessary for completion of the plant is procured from an offsite supplier. Currently concrete is procured only for the Soils program and for non-Q construction. Reinspection is limited to review of documents of past operations. Adherence to this PQCI will be enforced on procured concrete for balance of plant safety related constructions when construction is resumed.

10. Field Fabrication

C-2.20 - Field Fabrication of Miscellaneous Steel.

This PQCI addresses fabrication of steel which will have been consumed and erected into items which will be inspected if accessible, under other PQCIs.

11. NSSS Receiving Inspection Activities.

R-2.00 - Receiving Inspection for NSSS Equipment

R-2.10 - Receiving Inspection for NSSS Equipment

R-2.20 - Receiving Inspection for NSSS Equipment Documentation

These PQCIs address the constructor's receiving inspection of components and materials used by the NSSS supplier constructor. In general, the items will have been installed by that contractor. Any accessible attributes will have been confirmed by activities of the NSSS constructor.

12. Other.

C-1.70 - Installation of Pressured Concrete Pipe

This PQCI covered the installation of the main water line from the river to the cooling pond. This line is now submerged as the pond is full. Inspection of internal surfaces could be performed through use of divers. Integrity has been demonstrated through use of the system.

E-4.0 - Installation of Electrical Cables

One hundred percent reinspection of installed cables has been completed and reported under a separate program. Documentation has not yet been reviewed.

STATISTICAL SAMPLING PLAN
INDEX OF TOPICS

SAMPLING PLAN FOR CPCo QUALITY VERIFICATION PROGRAM

1. Purpose:

To provide a statistically valid method, under the direction of Consumers Power Company, of confirming the acceptable quality status of safety related procurement and construction activities completed and inspected by the Engineer-Constructor Quality Control personnel prior to December 2, 1982.

2. Scope:

This plan applies to closed Inspection Records (IR's) related to specific Project Quality Control Instructions (PQCI's) where the quantity of closed IR's is in excess of one hundred and for which there are no other ongoing or planned programs to confirm quality.

3. References:

MIL-STD-105D Change Notice 2 (March 1964), Sampling Procedures and Tables for Inspection by Attributes.

US NRC I&E Bulletin 79-02, Reinspection of Anchor Bolts.

MIL-HDBK-53-1A 1 FEB 1982 - Guide for Attribute Lot Sampling and MIL-STD-105.

4. Definitions:

Population: The entire quantity of closed (IR's) relating to a specific PQCI.

Time Centered: The term used to describe the ordering of lots, and items within a lot, based upon the time sequence in which an IR was initiated

Homogeneity: Homogeneity implies that a series of units of product should be alike or similar in nature. Homogeneity under this plan will be achieved by utilizing specific project Quality Control Instruction (PQCI) categories covering like activities and generally within a defined time period.

Acceptance Number (AC): The number of nonconformances permitted to be found in a sample of a lot without rejecting the lot for a specific acceptable quality level.

Rejection Number (Re): The number of nonconformances found in a sample of a lot that requires rejection of the lot for a specific acceptable quality level.

Acceptable Quality Level (AQL): The AQL is the maximum percent of nonconformances that, for the purpose of sampling inspection, can be considered satisfactory as a process average.

Attribute: An attribute is a characteristic or property which is appraised in terms of whether it does or does not comply with a given requirement.

Inspection by Attributes: Inspection for which the item or attribute is classified simply as conforming or nonconforming without regard for the degree of nonconformance.

Limiting Quality (LQ): The term applies to sampling plans that provide not less than a specified percentage of quality protection. Consumers Power Company has selected an LQ of five percent which provides 95% confidence that at least 95% of inspection elements of the lot/population will be acceptable.

Lot: A quantity of items, such as completed inspection records covering the same activity, equal to or less than the total population and representing a subdivision of that population.

Nonconformance: A deficiency in characteristic, documentation or procedure which renders the quality of an item unacceptable or indeterminate.

Pa - Probability of Acceptance: The probability of accepting a lot with a predetermined percent defective, when a given sample plan is used.

Random Sample: A sample taken from a population or lot in which each of the items has an equal chance of being selected, regardless of its quality. If the units in a lot have been arranged without bias as to their quality a sample drawn anywhere in the lot will meet the requirements for randomness [1]. PQCI's are logged in accordance with the date they were opened, totally independent of the

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(1 Mil-Hdbk - 53 -1A Para 12.2)

resulting quality, thus sampling by logged date or other means meets this requirement.

Sampling Plan: A sampling plan indicates for a given lot size the number of items or components from each lot (sample size or a series of sample sizes) which are to be inspected from the lot and the criteria for determining the acceptability of the lot.

5.0 Plan Content

5.1 Detailed Scope: This sampling plan applies to closed Engineer-Constructor IR's related to specific Project Quality Control Instruction (PQCI's) for Balance of Plant safety related materials, components, systems and structures, which are not covered by other ongoing programs to confirm quality. It is applicable to closed IR's where the quantity of closed IRs for a given PQCI is in excess of 100 and where it has been demonstrated by one hundred percent inspection of a significant portion of each population that the accepted quality level of that population has been established. The specific PQCIs and quantities of closed IRs that make up this total population are identified in Appendix A. That appendix also indicates whether both hardware and documentation are planned to be verified or whether documentation alone is planned to be reviewed because of inaccessibility of hardware features.

5.2 Description of Sampling: Sampling inspection is that type of activity in which units of product are selected at random and examined for one or more quality attributes. Sampling inspection is an acceptable way of determining the conformance or nonconformance of items to specified quality requirements. The amount of inspection can be increased where the product quality is deteriorating or reduced where the level of quality is high[2].

(2 Mil-Hdbk - 53-1A)

Statistical sampling methods force one hundred percent verification of quality whenever the required quality level has not been attained. The statistical methods proposed herein are designed to provide 95 percent confidence that the inspectable elements of the entire population are acceptable based upon the acceptability of items or attributes previously 100 percent inspected to provide a satisfactory quality baseline. This is consistent with past NRC recommendations related to reinspections of safety related items[3] and will produce results at least equivalent to those expected from 100% inspection.

The statistical quality control methods proposed are in accordance with MIL-STD-105D Tables I, IIA and VIIA. MIL-STD-105D is probably the most widely used sampling standard in the United States. This Program is a rigorous application of statistical quality control methods to assess the quality of nuclear power plant construction.

(3 NCR I&E Bulletin 79-02, Appendix A)

5.3 Sampling Process: The application of statistically valid sampling plans requires lot sizes to be large enough to permit taking of a sample quantity sufficient to limit the risk of accepting nonconforming items. When quantities are not large enough, one hundred percent reinspection will be performed. Because of the Limiting Quality planned to be used, populations of PQCI items are required to be greater than 50 to be eligible for sampling further; however, CP Co has committed to performing 100 percent inspection of PQCIs having 100 or less IRs. In addition, populations to be sampled must be first qualified by having demonstrated acceptable quality levels through one hundred percent inspection of a quantity of items sufficient to provide adequate confidence the existing quality level is acceptable. When 100% inspections have established this confidence, CPCo will consider that the one hundred percent inspection of a significant portion of each PQCI has established a valid basis for statistical sampling of any remaining quantities.

The statistical sampling plan will be conducted as follows:
Two lots for each PQCI will be sampled at normal sampling levels in accordance with MIL-STD-105D, Tables I, IIA and VIIA to a limiting quality of 5 percent at a 95 percent confidence level. If these two successive lots validate that the required level of quality has been maintained, remaining lots will be sampled to the same criteria, but at reduced sampling levels per MIL-STD-105D, Table IIA.

The Executive Manager may recommend to the NRC discontinuance of further sampling where quality levels have demonstrated that past Engineer-Constructor inspections have provided acceptable control of quality.

5.3.1 Switching: The sampling plan will include switching procedures to provide Consumers Power Company the protection provided by the tightened plan, when evidence that the desired quality level is below prescribed levels and the advantage of the reduced plan, when evidence that the desired quality level has been achieved. Due to the known quantities of specific PQCI's available for sampling (non-continuous production run) the following switching rules will be implemented:

- o Establish acceptable base quality level through 100% reinspection.
- o Single normal plan for two lots.
- o From single normal, switch to single reduced, after acceptance of two consecutive lots. Switch back to single normal after the first rejected lot.
- o From single normal, switch to single tightened, after the first rejected lot for two consecutive lots, then switch back to single normal if both lots are acceptable. If either or both of the single tightened lots are rejected switch to 100% inspection of lots, until two consecutive lots are accepted.

5.4 Sampling Tables: The following tables indicate sampling information for Single Normal, Single Reduced and Single Tightened sampling plans:

SINGLE NORMAL

Population Lot Size N	Sample Size n	Accept Number Ac	Reject Number Re
2-50	ALL	0	1
51-500	50	0	1
501-1200	80	0	1
1201-3200	125	2	3
3201-10,000	200	3	4
10,001-00	315	7	8

SINGLE REDUCED

2-50	ALL to 20	0	1
51-500	20	0	1
501-1200	32	0	1
1201-3200	50	1	2
3201-10,000	80	1	2
10,001-00	125	3	4

SINGLE TIGHTENED

0-80	All	0	1
80-500	80	0	1
500-1200	125	0	1
1201-3200	200	3	4
3201-10,000	315	5	6
10,001-00	500	10	11

The specific PQCIs and total quantities of closed Inspection Records to which these lot and sample sizes apply are included in Appendix A to the Quality Verification Program.

5.5 Determination of Lot Sizes: A reinspection lot is a collection of units of product (closed inspection records of like activities) from which a sample is drawn and inspected to determine conformance with the acceptance criteria and may differ from a collection of units designated as a lot for other purposes such as production or procurement[4]. The size of the lot is one of the factors that determines the sample size to be used in sampling inspection. For this program the formation of each lot is planned to be at least equal to the normal sample size for the entire population; thus for a population of 1000, the minimum lot size would be 80; the optimal lot size would be 281 or greater.

Normally the total quantity of the population will not be a direct multiple of the lot size. After dividing the population quantity

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(4 Mil-Hdbk - 53 Para 6.4.1)

by the lot quantity, any residual quantity may be combined with the last lot, or be treated separately for sampling convenience so long as the sample size is in accordance with MIL-STD-105D. Lots will be time centered. The purpose of this is to further enhance homogeneity for each lot and to identify and isolate conditions which may have occurred in specific time periods during construction of the Midland Plant. This method of stratifying samples and lots, yields more information for corrective action than sampling the entire population. Quantities used for determining lot sizes will exclude inspection records where reinspections have occurred, since this will preclude counting the same item twice. A limited number of PQCI's cover like activities. These will be grouped, where appropriate, to provide a single population. An example of such grouping would be PQCI's E-6.1 and RW-1.00, "Modification of Electrical Equipment."

5.6 Sample Selection: Samples will be selected by dividing the lot size by the sample size indicated by MIL-STD-105D Tables I and IIA for normal sampling. For example, for a lot of 500, the sample size is 50. In this case any of the first 10 IRs and every tenth IR for a specific PQCI would be selected for reverification. This assures randomness, since the manner of filing is totally independent of the quality of the item and of the person selecting the sample, and all IRs have an equal chance of selection. It also provides a cross section as related to time, since the IRs are

logged by the date they were opened. Where there are multiple lots of the same size, the same method may be used, so that each sequential lot is time centered with the preceding lot and each item sampled is time sequenced within the lot.

5.7 Substitution: Where accessibility is found to inhibit inspection of attributes of a specific item intended for sample reinspection, the Executive Manager-MPQAD has sole authority to direct the selection of a substitute random item for reinspection from the same lot, or in the event that no item(s) is accessible for reinspection, a documentation review of the inaccessible item(s). Justification for this substitution will be documented.

5.8 Increased or Reduced Sampling: The Executive Manager-MPQAD has authority to direct 100% reinspection at any point where the ability to conduct a valid sample reinspection is determined to be impractical. Switching to reduced or tightened sampling will require prior approval by the Executive Manager-MPQAD in accordance with criteria described in this plan.

5.9 Treatment of Reinspection Deficiencies in Verification Sampling Program: Deficiencies identified by reinspections will be recorded on a nonconformance report and promptly reported to MPQAD-QA and others for processing per procedure. The party responsible for recommending the initial disposition of the nonconformance will

review the intended disposition with MPQAD-QA prior to further processing of the nonconformance. The purpose of this MPQAD-QA review is to insure proper treatment of the nonconformance in the sampling analysis. Deficiencies determined to be acceptable to "use as is" will be evaluated by Project Engineering to determine whether the design criteria requirement which the attribute failed to meet will be modified to clarify the inspection requirement. If Project Engineering modifies the requirement on a generic basis, the deficiency will be considered "acceptable" for purposes of sample analysis. The final decision as to whether the deficiency constitutes a sample defect will be made by the Executive Manager-MPQAD. This decision and its justification will be documented.

5.10 Deficiencies Found During Reinspection of Documentation for Inaccessible Attributes: The verification process for inaccessible attributes is discussed in Section 6.5 of the Quality Verification Plan. As noted in that section, any documentation deficiencies will be noted on the verification IR, entered on a nonconformance report and cross referenced to the original IR. The treatment of sampled lots containing nonconformances will be determined on a case by case basis and further verification requirements will be determined taking into account the disposition of the nonconforming condition.

6.0 Documentation and Reports

6.1 Documentation of Results: Results of sampling reinspection will be documented on IR's and statused to specifically identify the PQCI, the lot number, the quantity in the lot, the quantity inspected, the quantity found acceptable, the NCR's identifying any deficiencies and the results of the nonconformance disposition, and acceptability of the lot.

6.2 Documentation of Nonconformances: Nonconforming conditions will be reported and dispositioned in accordance with approved procedures. Disposition of the nonconformances will include necessary actions to be taken on the balance of the lot; e.g., screen balance of the lot for the rejected attributes, or 100% inspect the balance of the lot.

6.3 Reports: The results of the sampling plan for each lot related to each PQCI will be included in reports made by the CPCo BOP Quality Control Superintendent and the Quality Assurance General Superintendent QA as described in section 7.3 of the Quality Verification Program.

7.0 Implementation: This plan will be implemented as directed by the Executive Manager MPQAD. The organizational responsibilities are the same as shown in section 8 of the Quality Verification Program. In addition, MPQAD BOP Quality Control shall have the responsibility of selecting the IR's to be sampled from lot sizes predetermined by MPQAD-QA.

NUCLEAR REGULATORY COMMISSION BRIEFING

MIDLAND NUCLEAR PLANT

BY

JAMES G. KEPPLER

JUNE 15, 1983

85

8311300213

NUCLEAR FACILITY INFORMATION

	UNIT 1	UNIT 2
UTILITY	CONSUMERS POWER COMPANY	
CPPR DATE	12/15/72	12/15/72
POWER LEVEL	504 MWe 2452 MWt	852 MWe 2452 MWt
REACTOR TYPE	PWR	PWR
ARCHITECT/ENGINEER	BECHTEL (Ann Arbor)	BECHTEL (Ann Arbor)
NSSS VENDOR	B&W	B&W
CONSTRUCTOR	BECHTEL (Ann Arbor)	BECHTEL (Ann Arbor)
LOCATION	ADJACENT TO SOUTHERN CITY LIMITS OF MIDLAND, MICHICAN DOW CHEMICAL COMPANY (IN CITY LIMITS) ACROSS RIVER FROM NUCLEAR FACILITY 2000 INDUSTRIAL WORKERS WITHIN ONE MILE 51,000 RESIDENTS WITHIN FIVE MILES	

LICENSING SCHEDULE

	UNIT 1	UNIT 2
SSER	8/83 (3RD SUPPLEMENT)	SAME
HEARING	IN PROGRESS (QA, SOILS)	SAME
CONSTRUCTION COMPLETION		
APPLICANT	2/85	10/84
NRC	UNCERTAIN	UNCERTAIN
APPLICANT'S PERCENT CONSTRUCTION COMPLETE	85	85

CURRENT FACILITY STATUS

- REMEDIAL SOILS PROGRAM IN PROGRESS
  - PERFORMED BY QUALIFIED SUBCONTRACTOR
  - A/E BY BECHTEL
  - QA/QC BY CONSUMERS POWER COMPANY (CPC)
  - THIRD PARTY OVERVIEW BY STONE AND WEBSTER
  - NRC CONTROL OF WORK ACTIVITIES (ASLB ORDER)

- OTHER SAFETY RELATED WORK STOPPED BY CPC ON 12/2/82 EXCEPT
  - NSSS WORK
  - HVAC WORK (NOW ALSO STOPPED)
  - POST SYSTEM TURNOVER WORK
  - HANGER AND CABLE REINSPECTION
  - DESIGN ENGINEERING
  - SYSTEM LAYUP

- THIRD PARTY ID/CVP - THREE SYSTEMS
  - AFW SYSTEM (TERA CORP.) (IN PROGRESS)
  - DG STANDBY ELECTRICAL SYSTEM
  - CONTROL ROOM HVAC

- CONSTRUCTION COMPLETION PROGRAM (CCP) BEING DEVELOPED
  - LATEST REVISION SUBMITTED TO NRC 6/3/83
  - MAJOR CCP OBJECTIVES ARE:
    - DETERMINE PRESENT INSTALLATION AND INSPECTION STATUS; BRING INSPECTIONS UP TO DATE
    - VERIFY QUALITY OF COMPLETED WORK
    - COMPLETE REWORK AND NEW WORK IN A QUALITY MANNER
  - INSPECTIONS BY CPC MPQAD
  - A/E AND CONSTRUCTION BY BECHTEL
  - THIRD PARTY OVERVIEW (STONE & WEBSTER PROPOSED)

COMMISSION NOTIFICATIONS

PN	03/79	SETTLEMENT AT DIESEL GENERATOR BUILDING
EN & NRC NEWS RELEASE	12/79	ORDER MODIFYING CONSTRUCTION PERMITS (SETTLEMENT OF DIESEL GENERATOR BUILDING)
EN & PN	01/81	CIVIL PENALTY, HVAC, $38,000
ASLB ORDER	04/82	NRC AUTHORIZATION REQUIRED FOR NEW SOILS WORK
PN	06/82	CONSTRUCTION HALT REQUESTED PENDING NRC INVESTIGATION OF ALLEGATIONS
PN	08/82	STOP WORK ON REMEDIAL SOILS WORK
PN	09/82	STOP WORK ON REMEDIAL SOILS WORK
PN & TELECON TO COMMISSIONERS' ASSISTANTS	12/82	MAJOR REDUCTION IN SAFETY RELATED WORK
PN & EN	02/83	NRC STAFF PROPOSES $120,000 FINE FOR QA VIOLATIONS AT MIDLAND

HISTORY AND HIGHLIGHTS

- SERIES OF QA/QC PROBLEMS - 1972 THRU 1982 RESULTED IN:
  - ESCALATED ENFORCEMENT ACTION
    - HEADQUARTERS NOTICE OF VIOLATION
    - ASLB ORDERS
    - ORDER TO MODIFY CONSTRUCTION PERMITS
    - CIVIL PENALTY
  - EXTENDED SPECIAL INSPECTIONS
  - FREQUENT RIII MEETINGS WITH CPC TOP MANAGEMENT
- QA PROGRAM MODIFICATIONS MADE TO RESOLVE EACH MAJOR PROBLEM
  - NRC/LICENSEE BELIEVED EACH MODIFICATION WOULD RESOLVE DIFFICULTIES
- JOINT INSPECTION BY RIII, RI, AND HQ PERSONNEL OF QA PROGRAM IMPLEMENTATION - 5/77
  - FOUND MIDLAND TYPICAL OF PLANTS IN OTHER REGIONS
- EARLY ASSIGNMENT OF RESIDENT INSPECTOR - 7/78
- EXCESSIVE SETTLEMENT OF SAFETY RELATED BUILDING FOUND BY LICENSEE - 9/78
- RIII INITIATED REVIEW OF MIDLAND STATUS AND RIII ACTIONS BY IE, NRR, ELD - 2/79
  - DETERMINED PROJECT WAS BEING PROPERLY HANDLED
- NRC ORDER ISSUED ON SETTLEMENT OF SAFETY RELATED STRUCTURES - 12//9
  - CPC CONTESTED ORDER AND REQUESTED HEARING
  - CONSTRUCTION CONTINUED PENDING HEARING

HISTORY AND HIGHLIGHTS (CONTINUED)

- SPECIAL NRC QA INSPECTION - 5/81
- ASLB HEARING ON SOIL SETTLEMENT AND QA COMMENCED - 7/81
- REGION III TESTIFIED TO ASLB - 7/81
  - STATED QA PROBLEMS NOT INDICATIVE OF BREAKDOWN OF QA PROGRAM IMPLEMENTATION
- ASLB ORDER REQUIRES CLOSE CONTROL OF REMEDIAL SOILS WORK BY NRC - 4/82
- SALP 2 - REVIEW HIGHLIGHTED ADDITIONAL, SIGNIFICANT QA/QC PROBLEMS, 4/82
- RIII INITIATES REVIEW OF ACTIONS TO DETERMINE CAUSE OF QA PROBLEMS - 4/82
- ASLB NOTIFIED PREVIOUS NRC TESTIMONY ON QA WOULD BE MODIFIED - 5/82
- FULL ACRS COMMITTEE BRIEFED ON MIDLAND QA - 6/82
- RIII CREATES MIDLAND SECTION - 7/82
- RIII/NRR MEET TO DISCUSS MIDLAND QA PROBLEMS - 7/82
- RIII/NRR MEET WITH CPC TOP MANAGEMENT TO DISCUSS QA PROBLEMS - 8/82 AND 9/82
- STONE & WEBSTER BEGINS OVERVIEW OF REMEDIAL SOILS WORK - 9/82
- MIDLAND SECTION DOES EXTENSIVE INSPECTION OF SYSTEMS/COMPONENTS IN DIESEL GENERATOR BUILDING - 10-11/82

HISTORY AND HIGHLIGHTS (CONTINUED)

- LICENSEE STOPS SAFETY RELATED WORK, COMMITS TO CCP AND ID/CVP - 12/82
- LICENSEE SUBMITS PROPOSED CCP - 1/83
- NRC PROPOSES CIVIL PENALTY OF $120,000 FOR QA PROBLEMS - 2/83
- PUBLIC MEETING IN MIDLAND, MICHIGAN TO DISCUSS CCP - 2/83
- RIII APPROVES STONE AND WEBSTER CORPORATION FOR SOILS THIRD PARTY OVERVIEW - 2/83
- NRR APPROVES ID/CVP FOR AFW SYSTEM BY TERA CORPORATION - 5/83

CONCLUSIONS

- MIDLAND HAS EXPERIENCED REPEATED QA PROBLEMS
- NRC/LICENSEE HAVE TAKEN ACTIONS TO RESOLVE THESE QA PROBLEMS AS THEY OCCURRED
- AFTER SOME NECESSARY CHANGES, THE CCP WITH THIRD PARTY OVERVIEW AND NRC INSPECTION SHOULD IDENTIFY QUALITY PROBLEMS IN EXISTING CONSTRUCTION AND PROVIDE QUALITY IN NEW CONSTRUCTION AND ANY NECESSARY REWORK
- REMEDIAL SOILS WORK, AS PRESENTLY CONDUCTED WITH THIRD PARTY OVERVIEW AND APPROPRIATE NRC INSPECTION, SHOULD BE ACCEPTABLE

HISTORICAL PROBLEMS

1973 -- CADWELL'S

1976 -- REBAR

1977 -- TENDON INSTALLATION
BULGE IN CONTAINMENT LINER

1978 -- SOILS SETTLEMENT

1979 -- HVAC
REACTOR ANCHOR STUDS

1981 -- PIPE SUPPORTS AND HANGERS
ELECTRIC CABLE ROUTING

1982 -- QC INSPECTIONS (QC SUPERVISORS INSTRUCTING QC INSPECTORS TO SUSPEND INSPECTIONS IF EXCESSIVE DEFICIENCIES WERE FOUND)

BREAKDOWN IN QA

- DIFFERENCES BETWEEN BRAWINGS AND AS-BUILT CONDITIONS OF PLANT
- DESIGN DOCUMENT CONTROL PROBLEMS
- DESIGN CONTROL PROBLEMS
- CONTROL PANEL TERMINATION PROBLEMS
- ELECTRICAL CABLE SEPARATION PROBLEMS
- CONTROL OF WELDING PREHEAT TEMP
- CONTROL OF NONCONFORMING CONDITIONS

TYPICAL HARDWARE PROBLEMS

FOUNDATION BOLT WASHERS NOT INSTALLED

ELECTRICAL PULL BOXES WRONG SIZE

RACEWAY SUPPORTS WRONG SIZE

DIESEL GENERATOR MUFFLER SUPPORT BOLT SLOTS FLAME CUT

DIESEL GENERATOR MUFFLER JACKING PLATES NOT INSTALLED

GUSSET PLATE THICKNESSES WRONG

GUSSET PLATES WERE WELDED INSTEAD OF BOLTED

BRACING ANGLES WRONG SIZE

BEAM-TO-BEAM CONNECTIONS WERE BOLTED INSTEAD OF WELDED

COLUMN COVER PLATES NOT INSTALLED PROPERLY

RIP-RAP BREAKING APART

ELECTRICAL TERMINATIONS HAD BROKEN STRANDS

ENFORCEMENT NOTIFICATIONS (1980 - 6/83)

JANUARY 2, 1981	EN 80-58	ZACK HVAC	$38,000
FEBRUARY 3, 1983	EN 83-07	QA BREAKDOWN INSPECTIONS	$120,000

PRELIMINARY NOTIFICATIONS (3/80 - 12/82)

MARCH 26, 1980	FIRE IN TRAILER COMPLEX
MAY 2, 1980	FAILED PIPE WHIP RESTRAINT BOLTS
MAY 30, 1980	INCONSISTENCIES IN ENGINEERING DRAWINGS
JANUARY 19, 1981	FAULTY INSTALLATION OF INTERNAL VENT VALVES
MARCH 23, 1981	BOMB THREAT
JUNE 28, 1981	CONSTRUCTION HALT REQUESTED PENDING NRC INVESTIGATION OF ALLEGATIONS
JULY 22, 1982	NEWS MEDIA INTEREST IN HVAC ALLEGATIONS
JULY 30, 1982	ZACK COMPANY DOCUMENTATION PROBLEMS
AUGUST 12, 1982	STOP WORK ON REMEDIAL SOILS WORK
SEPTEMBER 20, 1982	DEFECTIVE RADIATION MONITORING MODULES
SEPTEMBER 27, 1982	STOP WORK ORDER ON REMEDIAL SOILS WORK
OCTOBER 29, 1982	IMPROPER ELECTRICAL CABLE SUBSTITUTIONS
DECEMBER 1, 1982	INADEQUATE HVAC WELDER CERTIFICATION AND PROCEDURE QUALIFICATION
DECEMBER 3, 1982	MAJOR REDUCTION IN SAFETY-RELATED WORK

PRESS RELEASES (8/82 - 6/83)

AUGUST 3, 1982	NRC PREHEARING CONFERENCE FOR MIDLAND
AUGUST 10, 1982	NRC ISSUES FINAL ENVIRONMENTAL STATEMENT ON MIDLAND
OCTOBER 26, 1982	NOTE TO EDITORS AND NEWS DIRECTORS: ASLB HEARING RESUMED
JANUARY 29, 1983	NOTE TO EDITORS AND NEWS DIRECTORS: MEETING IN MIDLAND (ENFORCEMENT)
FEBRUARY 8, 1983	NRC STAFF PROPOSES $120,000 FINE FOR QA VIOLATIONS AT MIDLAND
APRIL 5, 1983	NOTE TO EDITORS: HEARING RESCHEDULED

BOARD NOTIFICATIONS (9/82 - 6/83)

SEPTEMBER 1, 1982	RECOMMENDATION FOR NOTIFICATION OF LICENSING BOARD REGARDING A POTENTIAL PART 21 REPORT FROM THE ZACK COMPANY
SEPTEMBER 28, 1982	BOARD NOTIFICATION (82-98) REGARDING QC RECERTIFICATION PROGRAM
SEPTEMBER 28, 1982	BOARD NOTIFICATION (82-90) REGARDING WELDS IN THE MAIN CONTROL PANEL
NOVEMBER 1, 1982	RECOMMENDATION FOR NOTIFICATION OF LICENSING BOARD REGARDING THE INSTALLATION OF UNDERSIZED CABLES
NOVEMBER 24, 1982	BOARD NOTIFICATION (82-105) REGARDING AN ALLEGED DESIGN DEFICIENCY IN ASME CODE CLASS 1 PIPING
DECEMBER 1, 1982	RECOMMENDATION FOR NOTIFICATION OF LICENSING BOARD REGARDING HVAC WELDER QUALIFICATIONS AND PROCEDURES
DECEMBER 3, 1982	RECOMMENDATION FOR NOTIFICATION OF LICENSING BOARD REGARDING THE REDUCTION IN THE AMOUNT OF SAFETY RELATED WORK DUE TO DIESEL GENERATOR BUILDING INSPECTION
DECEMBER 3, 1982	BOARD NOTIFICATION (82-125) REGARDING THE ACRS EVALUATION OF PWR FLOW BLOCKAGE
DECEMBER 7, 1982	BOARD NOTIFICATION (82-126) REGARDING WORK STOPPAGE OF HVAC WELDING AND REDUCTION IN OTHER SAFETY RELATED WORK
DECEMBER 30, 1982	BOARD NOTIFICATION (82-122) REGARDING THE USGS POSITION ON THE CHARLESTON EARTHQUAKE

JANUARY 7, 1983	BOARD NOTIFICATION (83-02) REGARDING APPARENT DEFICIENCIES IN CLASS 1E CABLE TRAY AND CONDUIT SUPPORT MATERIAL
JANUARY 11, 1983	BOARD NOTIFICATION (82-123) REGARDING USGS OPEN FILE REPORT ON "PROBABILISTIC ESTIMATE OF MAXIMUM ACCELERATION AND VELOCITY IN ROCK IN THE U.S."
FEBRUARY 17, 1983	BOARD NOTIFICATION (83-13) REGARDING EG&G DRAFT REPORT
FEBRUARY 18, 1983	FOLLOWUP INFORMATION ON APPARENT DEFICIENCIES IN CABLE TRAY AND CONDUIT SUPPORT MATERIAL
FEBRUARY 18, 1983	BOARD NOTIFICATION (83-16) REGARDING THE NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY
FEBRUARY 18, 1983	BOARD NOTIFICATION (83-21) REGARDING THE EFFECTIVENESS OF AUXILIARY FEEDWATER PIPING
MARCH 18, 1983	RECOMMENDATION FOR NOTIFICATION OF LICENSING BOARD REGARDING THE MAC REPORT
MARCH 23, 1983	BOARD NOTIFICATION (83-39) REGARDING THE MAC REPORT
APRIL 4, 1983	BOARD NOTIFICATION (83-44) REGARDING UNRESOLVED SAFETY ISSUE A-17
MAY 3, 1983	BOARD NOTIFICATION (83-57) REGARDING DIFFERING PROFESSIONAL OPINION CONCERNING SYSTEMS INTERACTION AND SAFETY CLASSIFICATION
MAY 13, 1983	RECOMMENDATION FOR NOTIFICATION OF LICENSING BOARD REGARDING REMEDIAL SOILS CONCERNS

MAY 24, 1983	RECOMMENDATION FOR NOTIFICATION OF LICENSING BOARD REGARDING REMEDIAL SOILS CONCERNS
MAY 24, 1983	FOLLOWUP EVALUATION AND RESOLUTION TO BOARD NOTIFICATION (83-21)
MAY 24, 1983	BOARD NOTIFICATION (83-70) REGARDING THE VIOLATION OF HOLD TAGS DURING REMEDIAL SOILS WORK
JUNE 1, 1983	FOLLOWUP INFORMATION ON ZACK PART 21 REPORT REGARDING WELDER RECORD DISCREPANCIES

DAILY REPORTS (6/82 - 6/83)

JUNE 4, 1982	NON-CLASS 1E TRANSMITTERS MOUNTED ON NON-SEISMIC BRACKETS WHICH HAVE IMPULSE LINES CONNECTED TO PRIMARY COOLANT SYSTEM
AUGUST 5, 1982	PUBLIC SALP MEETING
AUGUST 10, 1982	ENFORCEMENT CONFERENCE TO DISCUSS THE APPARENT BOARD ORDER VIOLATION
AUGUST 11, 1982	MEETING REGARDING THE APPARENT BOARD ORDER VIOLATION
AUGUST 26, 1982	MEETING REGARDING THE MIDLAND QA PROGRAM
SEPTEMBER 2, 1982	MEETING TO DISCUSS THE LICENSEE'S REGULATORY IMPROVEMENT PROGRAM
SEPTEMBER 8, 1982	MEETING IN HEADQUARTERS TO DISCUSS SOILS ISSUES
SEPTEMBER 15, 1982	MEETING TO DISCUSS SOILS ISSUES
SEPTEMBER 20, 1982	50.55(E) REPORT REGARDING THE VICTOREEN RADIATION MONITORING SYSTEM
SEPTEMBER 27, 1982	LICENSEE ISSUED A REMEDIAL SOILS STOP WORK
SEPTEMBER 29, 1982	MANAGEMENT MEETING TO DISCUSS MIDLAND QC AND ORGANIZATION
OCTOBER 13, 1982	DIESEL GENERATOR BUILDING INSPECTION ANNOUNCEMENT
OCTOBER 25, 1982	MEETING TO DISCUSS THIRD PARTY REVIEW
OCTOBER 29, 1982	50.55(E) REPORT REGARDING UNAUTHORIZED SUBSTITUTION OF CLASS 1E ELECTRICAL CABLES

NOVEMBER 8, 1982	50.55(E) REPORT REGARDING A NONCONSERVATIVE DESIGN UTILIZING SHEAR LUGS
NOVEMBER 17, 1982	50.55(E) REPORT REGARDING FRAZZLE ICE IN THE SERVICE WATER POND
NOVEMBER 17, 1982	50.55(E) REPORT REGARDING THE POTENTIAL OVERPRESSURIZATION OF AFW SUCTION PIPING
DECEMBER 2, 1982	50.55(E) REPORT REGARDING HVAC QA INADEQUACIES
DECEMBER 3, 1982	REDUCTION IN THE AMOUNT OF WORK ON SITE
DECEMBER 6, 1982	50.55(E) REPORT REGARDING VENDOR SUPPLIED ELECTRICAL EQUIPMENT
DECEMBER 13, 1982	SIX SECURITY GUARDS SUSPENDED OR DISMISSED DUE TO DRUG USE
DECEMBER 13, 1982	PIER 12 SOILS WORK AUTHORIZED
JANUARY 5, 1983	50.55(E) REPORT REGARDING TINNERMAN SPEED NUTS
JANUARY 12, 1983	INDETERMINATE MATERIAL FOR AFW HEADER
JANUARY 13, 1983	50.55(E) REPORT REGARDING THE SEISMIC QUALIFICATION FOR ELECTRICAL CABINETS IN THE CONTROL ROOM
JANUARY 17, 1983	50.55(E) REPORT REGARDING OPERATIONS WAREHOUSE FACILITIES
APRIL 8, 1983	DRUG USE IN PARKING LOT
APRIL 12, 1983	TOOLS CONFISCATED FROM EMPLOYEE'S RESIDENCE
APRIL 12, 1983	LAYOFF OF ZACK WORKERS DUE TO LACK OF WORK
APRIL 13, 1983	MEETING TO DISCUSS THE TERA PROPOSAL

APRIL 19, 1983	CASELOAD FORECAST PANEL MEETING
APRIL 20, 1983	50.55(E) REPORT REGARDING UPPER CORE BARREL SUPPORT BOLTING
MAY 16, 1983	SUSPENSION OF REMEDIAL SOILS WORK DUE TO HOLD TAG VIOLATION
MAY 18, 1983	STATEMENT BY EMPLOYEE REGARDING BOMB IN BRIEFCASE

HISTORY OF THE MIDLAND PROCEEDING PRIOR TO
THE 12-6-79 ORDER MODIFYING CONSTRUCTION PERMITS

1/13/69 - application for construction permits.

6/21/71 - 7/23/71 - C.P. safety hearing.

5/17/72 - 6/15/72 - C.P. environmental hearing.

12/14/72 - C.P. Initial Decision - 5 AEC 214.

12/15/72 - construction permits issued.

3/26/73 - the Appeal Board issued ALAB-106, 6 AEC 182, commenting adversely on QA at Midland and imposing reporting QA requirements.

5/18/73 - ALAB-123, 6 AEC 331 - decision on the merits of the construction permit proceeding.

5/23/73 - construction permits amended with respect to QA reporting requirements.

7/16/74 - 7/18/74 - Show Cause proceeding - QA and cadwelding

9/25/74 - Initial Decision in the show cause proceeding. There is reasonable assurance that QA will be in compliance with the Commission requirements. LBP-74-71, 8 AEC 584.

7/21/76 - Aeschliman v. NRC, 547 F.2d 622. Intervenor's appeal of the December 14, 1972 Licensing Board Initial Decision authorizing the issuance of construction permits. For a variety of reasons, the Aeschliman court remanded the case to the NRC.

11/30/76 - 5/13/77 - the "suspension proceeding" which was held to determine whether to continue, modify or suspend the construction permits pending the outcome of the "remand proceeding" ordered in Aeschliman. The "remand proceeding" was to address the merits of the issues remanded in Aeschliman.

9/23/77 - LBP 77-57, 6 NRC 482, the licensing board decision related to

the "suspension proceeding" - no suspension was ordered "pending the outcome of the remand proceeding." In this decision the Licensing Board referred to evidence that the licensee had considered conducting its share of the suspension proceeding in such a way as to not disclose important facts to the Board.

2/14/78 - ALAB-458, 7 NRC 155, affirmed LBP-77-57. The Appeal Board stated its "expectation" that the matters referred to by the Licensing Board in LBP-77-57 would be "fully aired and resolved."

4/3/78 - Vermont Yankee v. NRDC, 435 U.S. 519, reversed and remanded the July 1976 Aeschliman decision but had no impact on the "expectation" expressed by the Appeal Board in ALAB-458.

July 1978 - soil settlement problem discovered by Consumers Power Company.

August 1978 - NRC was advised by CPC of the settlement problem.

7/2/79 - 7/31/79 - the "remand proceeding" which "aired" the matter referred to by the Appeal Board (ALAB-458) involving possible license misconduct.

12/6/79 - Order Modifying Construction Permits.

9/9/82 - ALAB-691 affirmed Licensing Board decision not to impose sanctions.

SIGNIFICANT EVENTS DURING THE MIDLAND OL-OM EVIDENTIARY PROCEEDING

December 6, 1979	Order Modifying Construction Permits (This is the Order that started this Proceeding)
October 24, 1980	Prehearing Conference Order ruling on contentions and on consolidation of proceedings. OM/OL proceedings are consolidated. Stamiris admitted to OM proceeding. Sharon Warren also admitted into OM proceeding with three contentions. (She later withdrew from proceeding.) Mr. Marshall's admission in OM proceeding denied but as a party to the OL proceeding was permitted to participate in OM proceeding to the extent the two proceedings were consolidated.
February 27, 1981	Prehearing Conference Memorandum (conference held January 28-29, 1981). Sets schedules for discovery, motions for summary dispositions and hearings.
May 5, 1981	Prehearing Conference Order (conference held April 27, 1981). Ruled on Applicant's motion to defer consideration of seismic issues until the OL, Recognized Sharon Warren's withdrawal as an intervenor.
June 12, 1981	Memorandum and Order resolving discovery disputes between Applicant and Ms. Stamiris and establishing deadline for filing TMI-related contentions.
July 7-17, 1981	Evidentiary hearing on Intervenor contentions.
August 4-13, 1981	Evidentiary hearing on Intervenor contentions.
October 13-16, 1981	Evidentiary hearing on Midland site specific response spectra, stability of cooling pond dikes slopes.
October 27, 1981	Licensing Board memorandum and order granting Applicant's request that hearing scheduled for November 16-24, be postponed until 1982.
December 1-3, 1981	Evidentiary hearing involving remedial measures for the auxiliary building and feedwater isolation valve pits.
Dec. 14-17, 1981	Evidentiary hearing involving the dynamic and static models for Category I structures founded on fill material. Testimony on the SALP program and testimony on QA program.

February 2, 1982	A one day session limited to addressing the recent reorganization of the Midland project quality assurance department.
Feb. 16-19, 1982	Evidentiary hearing involving remedial measures for the borated water storage tanks (BWST); static and dynamic bearing capacity of the footings of the borated water storage tanks; long term settlement of the tanks under design load; evaluation of borated water storage tanks for stresses incurred under uneven support with conditions resulting from soils settlement and consequent distortion of the ring walls that support the BWSTs; the present condition of the underground seismic Category I piping at the Midland plant regarding the ability of the piping to withstand postulated design conditions, including design basis SSE and regarding the ability to monitor the piping over the life of the plant.
April 30, 1982	Memorandum and Order resulting in construction permits being amended to require that the permit holder obtain explicit prior approval from the NRC Staff before proceeding with certain soils-related activities and that these activities shall be controlled by a staff-approved quality assurance plan.
June 29, 1982	NRC Staff counsel's letter to the Licensing Board advising that it was Region III's opinion that the Staff's QA testimony of the summer of 1981 must be supplemented.
July 7, 1982	Memorandum and Order reopening the record on QA matters and establishing schedule for prehearing conference and discovery with respect to either newly proposed OL contentions or contentions to be rewritten after discovery.
August 14, 1982	Prehearing Conference Order ruling on new contentions.
Nov. 15-23, 1982	Evidentiary hearing involving the bearing capacity, seismic shakedown of the DGB, piping (corrosion) the service water pump structure, liquifaction and dewatering.
Dec. 6-10, 1982	Evidentiary hearing involving the adequacy of the diesel generator building.
December 30, 1982	Memorandum and Order ruling on rewritten contentions of Mary Sinclair. (Originally submitted in the OL proceeding and considered by the Board in its

February 23, 1979 OL prehearing conference order).

Feb. 14-18, 1983	Evidentiary hearing involving Judge Harbour's questions concerning quality assurance in the underpinning; drilling incidents; loose sands; seismic shakedown of auxiliary building; and seismic Category I analysis of duct banks.
March 8-11, 1983	Evidentiary hearing involving 2 OL issues: 1) cooling pond thermal performance and the effects of fogging and icing, and 2) water hammer.
March 28 - April 1, 1983	Evidentiary hearing involving 2 OL issues: 1) severe accident evaluation, and 2) steam tube integrity.
April 27 - May 6, 1983	Evidentiary hearing involving supplemental testimony of Cook, Gardner, Landsman and Shafer with respect to quality assurance and the testimony of James G. Keppler with respect to quality assurance (this is the testimony that the Staff filed on October 28, 1982 and supplemented again on March 25, 1983 with respect to the reopened quality assurance hearings).
June 1-10, 1983	Evidentiary hearing involving the continuation of the testimony of Landsman, Cook, Gardner and Shafer. Also, the testimoy of Gilray, Landsman and Shafer with respect to MPQP 1 and MPQP 2 QA program, specifically with respect to remedial soils. On June 4, 1983 CPC testimony concerning MPQP 1 and MPQ P 2 and the testimony of James Mooney to describe third party overview of QA and to bring up to date the current status of soils construction. On Wednesday, June 8, 1983 NRC began testimony with respect to the cable pulling or instrumentation and whether or not the NRC was mislead by the statements of Bechtel employee Boos.

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ANALYSIS

of

CONSUMERS POWER COMPANY'S

PROPOSED CONSTRUCTION COMPLETION PLAN

By the

GOVERNMENT ACCOUNTABILITY PROJECT

CITIZENS CLINIC

On behalf of the

LONE TREE COUNCIL

Presented to the

NUCLEAR REGULATORY COMMISSION

AT MIDLAND, MICHIGAN

February 8, 1983

Prepared by:

Billie Pirner Garde, Director, Citizens Clinic
Thomas Devine, Legal Director
Marya C. Young, Investigative Staff

Government Accountability Project of the
Institute for Policy Studies
1901 Que Street, N. W.
Washington, D. C. 20009

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

In March 1982, GAP's Citizens Clinic became actively involved with the Midland Nuclear Power Plant. The Lone Tree Council asked GAP to pursue allegations from workers of major problems at the Midland plant. After our preliminary investigation, we compiled six affidavits which we filed with the NRC on June 29, 1982. Since then we have filed four additional affidavits resulting from the heating/ventilation/air conditioning (HVAC) system's quality assurance breakdown revelations. We are also preparing an expanded affidavit from one of our original witnesses, Mr. E. Earl Kent, who has alleged serious welding construction problems at the Midland site. Other alarming allegations, ranging from security system breakdowns to worker safety problems, have come to our attention recently. As a result, we have expanded our investigation of the Midland plant.

In October and November 1982, GAP participated in two other public meetings at NRC offices in Bethesda, Maryland. These meetings dealt with Consumers' proposals to the NRC Staff on a soils remedial construction implementation audit and an independent review program that was to assure the Staff of construction quality and the "as-built" condition of the facility. GAP submitted its analysis of the September 17 and October 5 proposals in October 27 and November 11 letters, respectively. The GAP comments revealed substantial weaknesses in the programs, inadequate information to judge program adequacy, and basic lack of independence of the proposed main independent review contractors.

Following those meetings, the NRC Staff-- (1) rejected the Management Analysis Corporation (MAC) due to lack of independence; (2) requested that the Terra Corporation review a second safety system in its "vertical slice" plan; (3) requested expansion of the review of the "as-built" condition of the plant; and (4) failed to take a position on the Stone & Webster audit of soil underpinning work.

correct!

In late November the NRC Region III Special Section on the Midland plant completed an extensive inspection of the hardware and materials in the nuclear plant's diesel generator building. According to NRC public statements, this inspection revealed major

problems related to the quality assurance of the plant and included an extensive backlog of quality assurance/quality control documentation, inability to provide materials traceability, unqualified and/or uncertified welders, and other serious problems.

Yet, in spite of the major revelations of inadequate construction practices, in late December the NRC Staff permitted soils remedial work to begin. It is GAP's position, well known to the Staff, that this premature approval violates the June 1982 request of the Advisory Committee on Reactor Safeguards (ACRS) to NRC Chairman Nunzio Palladino. The June 8 letter further states that ACRS would defer its own "recommendation regarding operation at full power until we have had the opportunity to review the plan for an audit of plant quality...." This assessment, according to the letter, should include "...Midland's design adequacy and construction quality with emphasis on installed electrical, control, and mechanical equipment as well as piping and foundation...design and construction problems, their disposition, and the overall effectiveness of the effort to assure appropriate quality."

Finally, in the past two months GAP has continued its attempt to determine the seriousness of the situation and the adequacy of proposed solutions for the Midland plant. Our efforts at working with the Office of Inspection and Enforcement (IE) and Office of Investigation (OI) staffs have been frustrating. For example, although NRC letters and public presentations responding to GAP's October 22 and November 11 requests were informative, they failed to provide the key methodology necessary to assess the adequacy of the program. When GAP investigators attempted to pursue the questions at the public meeting, they were told "to allow the NRC time to ask for those documents." (NRC Public Meeting, Bethesda, Maryland, November 5, 1982.) Subsequently, GAP repeated the request in its November 11 letter. Over two-and-one-half months after the original request, GAP finally received the NRC's response: "You may wish to request access to the documents from Consumers Power." (December 14, 1982 letter from James G. Keppler to Billie Garde.)

It is clear that the NRC Staff plans to evade or ignore public requests for the minimum information necessary to complete a responsible review of the proposed independent audit.

Our experiences at the William H. Zimmer plant in Ohio and at the LaSalle plant in Illinois have led us to be extremely skeptical of the NRC Staff's conclusions about the safety of nuclear power plants. In those cases the Staff either deliberately covered up or

missed major QA violations at plants 97% and 100% complete, respectively. To illustrate, after the Staff virtually ignored GAP analysis and granted approval for full power operations at LaSalle, the plant was able to operate for less than 24 hours before being shutdown due to a hardware breakdown. At Zimmer, the Staff-approved Quality Confirmation Plan was so ineffective that on November 12, 1982 the Commission suspended all safety-related construction.

As a result, there is no basis for confidence in an NRC-approved CCP on faith. The basis for this extraordinary remedy must be full disclosed, as well as the methodology for an independent review. In order to accomplish this goal, the Regional Administrator should be suspending all construction until the above recommendations (infra, at 1) are incorporated into the Construction Permit.

II. GROUNDS FOR SUSPENSION OF A CONSTRUCTION PERMIT

A. Legal Requirements

The law gives the Commission broad discretion to revoke, suspend or modify the construction permit of an NRC licensee. 42 U.S.C. §2236 states that:

> A license or construction permit may be revoked, suspended or modified in whole or in part, for any material false statement in the application for license or in the supplemental or other statement of fact required by the applicant; or because of conditions revealed by the application for license or statement of fact or any report, record, inspection, or other means which would warrant the Commission to refuse to grant a license on an original application; or for failure to construct or operate a facility in accordance with the terms of the construction permit or license or the technical specifications in the application; or for the violation of or failure to observe any of the terms and provisions of this chapter or of any regulation of the Commission.

Part 50.100 of Title 10 of the Code of Federal Regulations states the same criteria for the revocation, suspension or modification of a construction permit.

The NRChhas a mandatory duty to exercise this authority when necessary. According to the decision in Natural Resources Defense Council v. U.S. Nuclear Regulatory Commission, 582 F.2d 166 (2nd Cir. 1978), under the Atomic Energy Act of 1954, the NRC is required to determine that there will be adequate protection of the health and safety of the public. The issue of safety must be resolved before the Commission issues a construction permit. (Porter Cty. Ch. of Izaak Walton League v. Atomic Energy Commission, 515 F.2d

513, 524 (7th Cir. 1975).)

B. Criteria to Exercise Discretion

According to 10 C.F.R. §2.202, the NRC "may institute a proceeding to modify, suspend, or revoke a license or for such other action as may be proper by serving on the licensee an order to show cause which will: (1) allege the violations with which the licensee is charged, or the potentially hazardous conditions or other facts deemed to be sufficient ground for the proposed action." As interpreted by the Proposed General Statement of Policy and Procedure for Enforcement Actions, published in the Federal Register, 44 Fed. Reg. 66754, Oct. 7, 1980 (10 C.F.R.§§2.202, 2.204), suspending orders can be used to remove a threat to the public health and safety, the common defense and security or the environment. More specifically, suspension orders can be issued to stop facility construction when further work would preclude or significantly hinder the identification and correction of an improperly constructed safety-related system or component; or if the licensee's quality assurance program implementation is not adequate and effective to provide confidence that construction activities are being properly carried out. Moreover, orders can be issued when the licensee has not responded adequately to other enforcement action or when the licensee interferes with the conduct of an inspection or investigation or for any reason not mentioned above for which license revocation is legally authorized. In order to help determine the significance of violations within this list, the Commission established "severity categories" ranging from the most fundamental structural flaws (Severity I), to minor technicalities (Severity VI). 44 Fed.Reg. at 66758-59.

Region III's enforcement criteria are consistent with these guidelines. For example, in a February 26, 1981 meeting on the Zimmer plant, Regional Administrator Keppler explained that if there is faulty construction and the program to control the problem is inadequate, there is no choice but to stop the project. This criterion was illustrated through the example of an across-the-board breakdown in a quality assurance program. (February 26, 1981 Transcript of Taped Meeting Between Members of the Region III Staff and Representative of the Government Accountability Project and Mr. Thomas Applegate, at 127, 129.)

C. Specific Bases for Suspension

The Region III Staff has characterized the problems at Midland as both extremely serious and directly relating to a quality assurance breakdown. (Detroit Free Press,

December 5, 1982.)

In light of two previous amendments to Mr. Keppler's testimony before the Atomic Safety and Licensing Board and a pending third revision, it is apparent that the only course of action available to the NRC is to modify the construction permit now, before construction resumes.

1. Safety-related defects

GAP's review of inspection reports, interviews with nuclear workers, and review of the ASLB hearing testimony reveals an historical pattern of increasingly significant safety-related problems at Midland, including failures to comply with the law and NRC regulations, as well as to correct past non-compliances.

Although the GAP investigation and analysis of NRC records is far from complete, significant threats to the safety of the Midland plant include the following:

a. Welder qualification

10 C.F.R. 50, Appendix B, Criterion IX requires--

> Measures shall be established to assure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

At Midland welder qualification problems are well known to the public. On December 2, 1982 Consumers laid off all of the welders of the Zack Company. They were trained by a vendor, Photon Testing, that was not NRC-approved. Althougn Consumers has publicly characterized this as "only a paper work problem" (Norman Saari to local NBC Channel 5 television, January 1982), it remains a serious unanswered question about the Midland plant. Until the public knows the extent of "uncertified/unqualified welders, it is virtually impossible to determine the adequacy of any plan -- short of a 100% reinspection of all unqualified welds performed by welders whose qualifications have not been verified.

2. Documentation and care of welding equipment

As seen above, Criterion IX requires careful verified maintenance of welding equipment. For example, portable ovens, or "caddies," must be plugged in at all times, except during transport to and from the rod shack. Affidavits submitted by GAP in June reveal serious problems with welding equipment, welding rods, and a failure to comply

with either professional codes or NRC requirements.

In fact, the NRC's own report into the initial Zack allegations confirmed that the welding rods had not been adequately controlled by attendants. Attendants did not even know that the weld rods were to be heated. At least one caddy was slightly warm and another "relatively cold." The ovens apparently had been unplugged for "quite a while." The QC inspector also found welding equipment that was uncalibrated.*/

3. Inadequate corrective action for welding violations

Of course, once violations are identified, the utility is legally obligated to correct them. 10 C.F.R. 50, Appendix B, Criterion XVI, requires, in part--

> Measures shall be established to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

It is all too clear that Consumers did not take seriously the $88,000 fine for identified Zack deficiencies or the order to ensure compliance with the law. The December 1982 Zack welder lay-off may be prophetic of what the public can expect if Consumers is put in charge of the plant's completion.

4. Electrical cables

10 C.F.R. 50, Appendix B, Criterion XV requires--

> Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items shall be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures.

GAP witnesses revealed widespread inaccuracies in the use of electrical cables critical to safe operation of the plant, and shutdown in case of an accident. In September 1982 the NRC ordered 100% reinspection of all cables on site. Currently, the public has no idea how many nonconforming cables are being found on site. Witnesses inside the plant have reported to GAP that only a small percentage of those discovered are being

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*/ NRC Region III investigation into allegations of Mr. Dean Darty, March 1979.

reported. In one affidavit, a witnessereported that others have been replaced without documentation.

The violations summarized above provide only a few examples of the suspect safety components at Midland. Other whistleblowing disclosures to Region III referred to welding standards below ASME specifications; undersized welds; anchor bolts improperly installed; excessive weight on electrical conduits; hollow walls; corrosion in the small bore piping; unapproved design modifications; and other safety defects.

Even if management systems and security measures were sound, the physical deficiencies already documented at Midland justify a suspension of construction. Before permitting work to continue, the Commission should thoroughly assess the damage through independent tests; monitor the results of a comprehensive, independent audits; and modify the construction permit to include the changes.

D. Quality Assurance

A licensee's quality assurance program is its internal structure of checks and balances to guarantee safe operations. Every applicant for a construction permit is required by the provisions of 10 C.F.R. §50.34 to include in its preliminary safety analysis report a description of the quality assurance program to be applied to the design, fabrication, construction and testing of the structures, systems and components of the facility. Quality assurance comprises all those planned and systematic actions necessary to provide adequate confidence that a structure, system or component will perform satisfactorily in service. Each structure, system or component must be documented, inspected and periodically audited to verify compliance with all aspects of the quality assurance program.

The cause of the safety defects described above is an inadequate quality assurance program, which has been in shambles for a decade. In fact, in 1973 the original Midland licensing appeal board members felt so strongly about QA violations that the Director of Regulations pointed out that even though the Appeals Board could not take action on the IE findings--

> [H]ad the construction permit proceeding still been before our Board at the time that the results of the November 6-8 inspection were announced, it is a virtual certainty that we would have ordered forthwith a cessation of all construction activities....

(November 26, 1973 Letter from L. Manning Muntzing, Director of Regulations, re: Quality Assurance Deficiencies Encountered at Midland Facility, p. 2.)

The 1973 warning should have served as notice to both Bechtel and Consumers Power to resolve their QA problems. Quite the contrary, however, they ignored the notice. So did the NRC Staff! The QA problems at Midland continued unabated.

Both the 1979 and 1980 Systematic Assessment of Licensee Performance (SALP) reports give notice of further and expanded problems at Midland. The problems identified then (lack of qualifications of QC inspectors, continuation of work prior to corrective action) are similar to those cited as causes in the recent stop-work order. The reports also included acknowledgements of excessive QA backlogs and lack of timeliness. (SALP Report 1980.) Consumers' failure to learn from its mistakes passed the stage of accidental oversight long ago.

The lack of quality assurance at Midland has been a continuous concern to Region III. In the spring of 1982 at the release of the 1981 SALP rating, Mr. Keppler publicly reported that it was necessary to change previous testimony before the ASLB which had provided a "reasonable assurance" that the plant would be constructed in accordance with nuclear construction regulations. The revised testimony was submitted October 27, 1982. Although the original testimony was not modified substantially, it is clear that QA problems at Midland are unresolved.

Unfortunately, the Region III Staff seems satisfied with the basis upon which the Construction Completion Plan is developed: put Consumers in charge of the program.

The public already has had an opportunity to preview the results of Consumers' internal policy with the Zack debacle over the past three years. Its performance has been disappointing, at most.

Although the NRC fined Consumers $38,000 for Zack's non-compliance with federal regulations and forced a major QA reorganization, further actions by the utility revealed a determination to hide problems -- regardless of the consequences. In fact, a December 22, 1982 NRC report about the revelations of a quality assurance breakdown at Zack headquarters acknowledges the role that Consumers played in the response to the 1979 citation:

> On September 2, 1981, the services of a Senior Quality Assurance Engineer from Project Assistance Corporation (consultants) were retained by Consumers Power Company for assignment at Zack for the purposes of establishing a formal document control system and performing an indepth review of the conditions described by Zack in their September letter (Zack notified Consumers of [a] 10 CFR 50.55(e) on August 28, 1981).

Consumers Power Company, unlike the two other utilities receiving materials from Zack, did not notify the NRC about the major problems in QA documentations. Those problems included falsified and altered documentation.

This example of the utility's response to the discovery of any major problems completely undermines the assumption upon which the Construction Completion Plan is based -- voluntary disclosure of QA violations. This assumption is both historically inaccurate and structurally flawed.

D. Maximizing Human Errors

"Human error" recently has been recognized as the Achilles Heel of even the most well-constructed plants. At Midland the phrase "comedy of human errors" would be more appropriate if the potential consequences were not so disastrous.

A key cause of human error is intoxication, which the NRC recognized last summer in proposed fitness-for-duty regulations. Our disclosures have reported widespread drunkenness on the job. Witness after witness has confirmed the routine of red-eyed employees who did their work under the handicap of an alcoholic stupor. Witnesses have also confirmed the frequent use of marijuana and stronger drugs. Intoxication weakens the capacity to install safety components, just as it debilitates the ability to drive or to engage in almost any other activity. At a minimum, the widespread use of drugs and liquor on-the-job increases the significance of a superficial quality control program. There are likely to be more defects! A nuclear plant constructed by drunken employees is likely to stagger into an accident.

III. RESTRUCTURE THE MULTIPLE AUDIT/THIRD-PARTY REVIEWS INTO ONE COMPREHENSIVE, INDEPENDENT REVIEW

In October and November 1982, two meetings were held to review Consumers proposed resolution for major quality assurance problems. These proposals and subsequent comments provided by GAP were made prior to completion of the major NRC inspection in November. Presumably, the audit suggested in the Construction Completion Plan (see CCP, at 16 and Figure 1.1) will incorporate those audits already discussed last fall. However, the CCP as proposed fails to resolve basic third-party review questions.

The CCP states: "This section describes third party evaluations that have been performed and are planned to assess the effectiveness of design and construction activity implementation." Yet, closer scrutiny of the proposal shows that it fails to include even the most basic information about the promised third-party review. In fact, although the CCP states that an INPO evaluation has been completed, there is no indication of what that report revealed.

Most significant, the entire CCP is premature until all the third parties eventually chosen have completed their evaluations. The point of the third-party reviews is to define the QA violations and deficiencies at Midland. By rushing into the CCP before that process has begun in some areas, the utility is putting the cart before the horse. In effect, the utility's CCP is competing with the third-party program. At best, the two "reforms" will be operating simultaneously, stumbling over each other. Depending on the results of the outside reviews, CCP work may have to be redone -- consistent with the costly tradition at Midland of doing the same work over and over.

A. The INPO Construction Evaluation

This evaluation is limited by definition. It is only a "self-initiated evaluation." Neither the NRC nor GAP found the Management Analysis Corporation (MAC) adequately independent to provide a truly independent review of the problems at Midland. In fact, they have been involved in at least two other major audits of the plant -- neither of which turned up any of the significant construction deficiencies now facing Consumers.

A December 14, 1982 Region III letter to GAP underscored the NRC position on MAC:

> The INPO and biennial QA audit are not an acceptable substitute for the third party review. ...Questions were raised concerning whether Management Analysis Company was sufficiently independent to assume lead responsibility for the independent review.

Although the MAC analysis may have provided a tool for Consumers to judge the quality of the plant, it simply is not an independent third-party evaluation. Instead, it was a test of INPO's ability to assess the "as-built" condition of the plant. Its adequacy is completely unknown, because the public does not even know if the INPO evaluation discovered the same flaws that the NRC found in its inspection.

B. The Independent Construction Overview

This is the "meat" of the third-party review plan, yet it remains an ambiguous promise from Consumers to the NRC. Although the schedule (CCP, at 18) indicates that the scope has been defined and the consultant selected, this information has not yet been shared with the public. Until and unless the scope of the third-party review has been defined and the audit contractor selected, it is premature to make any judgments on the role and adequacy of the third-party review. Further, it is clearly inappropriate to indicate that a legitimate third-party review has been in place from the beginning of this reform effort, as Figure 1-1 suggests.

At Diablo Canyon the Commission set out very clear criteria by which an independent auditor would be chosen. */ At Zimmer GAP and the NRC are currently embroiled in a debate over the application of these guidelines in the selection of Bechtel for that role.

At Midland we again request that the NRC reestablish the fading legitimacy of the Commission's third-party reform efforts by requiring Consumers to provide the details of the selection process, the identification of the third party and the methodology by which it will accomplish its review.

We are alarmed that even in the sketchy details provided in the CCP, the proposed third-party review is only to be conducted for six months, "top management" will determine "what modifications, if any, should be made to the consultant's scope of work." At a minimum, the NRC sshould recognize that any Construction Completion Plan must be based on the results of completed third-party findings, as well as an ongoing commitment for the duration of the project. The third-party review program must provide a comprehensive view of the as-built condition of the plant, and an independent assessment of all future construction. Nothing less will provide the public with any assurance that the Midland plant can operate safely.

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*/ In a letter of February 1, 1982, Chairman Palladino explained to Congressmen Dingell and Ottinger the criteria according to which an independent auditor would be chosen at Diablo Canyon:

(1) Competence: Competence must be based on knowledge of and experience with the matters under review.

(2) Independence: "Independence means that the individuals or companies selected must be able to provide an objective, dispassionate technical judgment, provided solely on the basis of technical merit. Independence also means that the design verification program must be conducted by companies or individuals not previously involved with the activities...they will now be reviewing."

(3) Integrity: "Their integrity must be such that they are regarded as respectable companies or individuals."

C. The Independent Design Verification (IDV)

The Tera Corporation already is conducting the "vertical slice" of the project. Because the auxiliary feedwater system selected by Tera has already been the subject of numerous audits, GAP suggested that it is not representative of potential problems at Midland. The NRC agreed and required Tera to review a second system.

Although that system has not yet been selected, we understand that Consumers has nominated three systems for review, of which one will be chosen by the NRC. Since October 22, GAP has recommended that the second system should be a safety system with a history of QA violations. Specifically GAP suggested the HVAC system. Certainly if the CCP's third-party review is to determine the plant's safety, it should be able to account for the most troubled systems.

In Mr. Keppler's October 12, 1982 letter to Billie Garde, he agreed with that position:

> My decision regarding the independent audit of Zack work at Midland will be based on findings of [NRC inspections] and the licensee's third party independent assessments.

* * * * *

The fragmented and overlapping approach of the NRC, the utility and the "independent" auditors is self-defeating. It must stop, if Midland is to progress from a theoretical design to an operating plant. A truly independent, objective review must first be completed. Only then can a CCP begin to operate legitimately, with ongoing oversight from the outside auditors and the NRC.

IV. REJECT CONSUMERS' CONSTRUCTION COMPLETION PLAN

On April 8, 1981 Region III management overruled its investigative staff's recommendations to suspend construction at the William H. Zimmer Nuclear Power Station near Cincinnati, Ohio. Instead, the NRC issued an Immediate Action Letter which, inter alia, required the Cincinnati Gas & Electric Company to develop a Quality Confirmation Program (QCP). On November 12, 1982 the utter failure of the QCP forced the Commissioners to suspend all safety-related construction at Zimmer. Unfortunately, the Construction

Completion Plan proposed for Midland bears a striking resemblance to the key flaws that doomed the QCP. In some cases, the CCP exacerbates the painful mistakes of Zimmer.

More specifically, the Construction Completion Plan--(a) is permeated by an inherent conflict-of-interest; (b) institutionalizes a lack of organizational freedom for the quality assurance department; (c) fails to specify inspection procedures and evaluation criteria; and (d) is not comprehensive.

A. Inherent Conflict of Interest

The foundation of the CCP is to complete "integration of the Bechtel QC function into the Midland Project Quality Assurance Department (MPQAD) under Consumers Power Company management...." (CCP Executive Summary, at 3.)

Since Consumers has always played a significant role in the MPQAD, in effect the "reform" calls for the utility to second-guess its own previous decisions. This is the equivalent of the fox offering to do a better job of guarding the henhouse. If anything, the CCP intensifies the conflicts of interest in the QCP. At Zimmer the utility only imposed quality assurance violations clandestinely; at Midland the utility has openly participated in decisions to break the law.

B. Lack of Organizational Freedom for the Quality Assurance Department

The organizational premise of the CCP is a "team" concept that integrates construction, engineering and quality assurance personnel. The "team members will be physically located together to the extent practicable...." Although the proposal does not specify the identity of Team Supervisors, there is only one MPQAD representative among six specified in the plan. (CCP, at 8.)

The CCP supposedly is the reform to compensate for a quality assurance breakdown. Unfortunately, the plan would violate the criteria of 10 C.F.R. 50, Appendix B, Criterion I even for a healthy nuclear construction organization. The regulations require organizational freedom for QA functions. The QA department is required by law to serve as an independent check and balance on the construction program. The CCP turns that premise on its head by reducing QA representatives to a token minority on construction-dominated "teams."

C. Failure to Specify Inspection Procedures and Evaluation Criteria

The proposal promises to develop and revise the procedures that will be used to conduct the reinspections. (CCP, at 8-9, 12.) Neither the procedures nor the evaluation criteria for the inspections are specified, beyond vague references to professional codes. This issue is the heart of the quality verification program. Unfortunately, at present the methodology of the program is a mystery. As a result, it is impossible to judge whether the CCP will represent a thorough reinspection or a superficial skimming. Further, the necessity to establish new QC procedures casts a shadow over all the current inspection procedures.

D. Lack of Comprehensiveness

CCP reinspections will only cover "accessible" completed construction, an undefined term. "Inaccessible" items will be handled by paperwork reviews. (CCP, at 10.) Further, the proposal defines-out from coverage "[t]hose activities that have demonstrated effectiveness in the Quality Program implementation...." (Id., at 20.) Included in this latter category are activities such as "HVAC Installation work being performed by Zack Company," and "[r]emedial [s]oils work which is proceeding as authorized by NRC."

This piecemeal approach effectively surrenders any pretentions that the CCP will provide a definitive answer to the Midland QA problems, even if the program were otherwise legitimate. To illustrate, the necessity for the reinspections in the first place is the inaccuracy of current quality records. Paperwork reviews will not contribute anything new.

The list of systems that have "demonstrated" quality effectiveness suggests the utility has completely lost touch with reality, or expects that the NRC Staff and the public have taken leave of their senses. Both the Zack HVAC and soils remedial work have been among the most scandal-ridden embarrassments of the Midland project. The crude deficiencies and violations have led to fines, multiple criminal investigations, and public humiliation for Consumers. The utility has only been able to continue soils remedial work by manipulating the public hearing process to circumvent NRC Staff enforcement orders. The list of "proven" systems proves only that Consumers is determined to impose the same nightmare on Midland that the Quality Confirmation Program represented at Zimmer. Hopefully, the NRC Staff will not be fooled again.

D. Flaws in the CCP Program Implementation and Quality Program Review

By their terms, Section 5 (Program Implementation) and Section 6 (Quality Program Review) indicate that the CCP simply reflects the "status quo" attitude of Midland's management that propelled Consumers into this particular construction/regulation nightmare in the first place.

Although the CCP proposal is premature, inadequate, and fatally flawed, the language of the proposal reveals that management believes the Midland plant's QA program is "basically sound" (CCP, at 15), even in the face of deliberations by legal and advisory bodies on Consumers' ability to adequately implement any QA plan, no matter how sound.

The amount of management influence and interference has already been a subject of NRC concern. (See NRC Memorandum from C. E. Norelius and R. L. Spessard to James E. Keppler, June 21, 1982.) Yet, the CCP proposes as an answer to increase management involvement at every step of the implementation process (CCP, at 13-15). Further, the implementation fails to refer to how the inevitable conflicts between management officials watching the calendar and conscientious QA officials trying to do their jobs will be resolved.

The only clue that GAP has as to how Consumers plans to change the mindset of its demoralized workers is the Quality Improvement Plan (QIP) mentioned extensively in the fall proposals. This plan, referred to as the catalyst for ensuring new commitment and compliance to quality standards on the Midland site, is, according to the NRC officials familiar with it, an incentive-bonus concept for construction workers who "do the job right the first time." (NRC-GAP Telephone Conversation, January 27, 1983.) Like the Bechtel cost-plus contract, the Quality Improvement Plant is a series of rewards for doing the same job a worker was hired to do right in the first place. A quality improvement plan that bases critical construction adequacy on "prizes" given to its workers reveals a serious misunderstanding on the part of Consumers about the ultimate value of its work.

V. IMMEDIATELY HALT THE ONGOING SOILS WORK UNTIL THE QUALITY ASSURANCE IMPLEMENTATION AUDITOR IS APPROVED

Two significant milestones in the soils work have now been approved to proceed underneath the turbine building. This Staff approval is entirely inappropriate given the legal and advisory controversy over this operation. It is inexcusable to allow work to

proceed without the independent audit upon which Mr. Keppler based his "reasonable assurance" testimony (October 27, 1982 Testimony to the Midland ASLB), and upon which the ACRS is depending to complete their own technical assessment before granting a full power license. Further, in light of administrative hearings which cover the adequacy of the soils quality assurance implementation (OM Proceedings), the NRC Staff approval is an insult to the court and to the citizen intervenors struggling to achieve a measure of fairness in the proceeding.

GAP's view on Stone & Webster, the proposed third-party for QA implementation audit, is documented in our October 22, 1982 letter. As an update and summary we believe that Stone & Webster meets only one of the three criteria for a legitimate third party. Yes, Stone & Webster has demonstrated economic independence from Consumers, disclosing other minor construction contracts with Consumers as well as their financial independence. But, Stone & Webster has not demonstrated its competence. Its long history of nuclear plant construction includes massive cost overruns, major Quality Control problems, significant design errors and poor construction management. Further, Stone & Webster's corporate integrity remains the subject of much skepticism, particularly in light of its six-month involvement on the Midland site without NRC approval of their work.

However, if the NRC is going to approve Stone & Webster -- as seems obvious -- and hold it responsible under 10 C.F.R. Part 21 for reporting violations or QA failures, then the Region should so so. Someone other than Consumers must watch the QA implementation of critical soils work.

VI. ENCOURAGE CONSUMERS TO RELEASE THE NEW COST ESTIMATE AND PROJECTED COMPLETION DATE INFORMATION

Although neither cost nor scheduling is an NRC concern, both are critical concerns of the residents of Central Michigan who must constantly balance the risks and costs of this nuclear plant. If public confidence is ever to be restored in the Midland facility, it will come after Consumers demonstrates candor and openness with the public. It would benefit everyone to have the yoke of the December 1984 "on-line target date" removed as

soon as possible from the necks of the nuclear workers.

Likewise, the new cost projection is unknown by local residents. GAP sources indicate a $4-billion-plus price tag, but that was an estimate which did not include the major stop-work order in December of last year.

If the plant is ever going to be included in the Michigan rate base, Consumers should begin today to adopt a new and candid approach to all of its problems. Public trust simply cannot be restored on anything less than honest admissions.

VII. CONCLUSION

There are too many questions about the Midland Nuclear Power Plant left unanswered at this time. These questions are forming the basis for growing public skepticism about the NRC's ability or willingness to regulate nuclear power. In Central Michigan this uneasiness and distrust have led previously inactive citizens and local government bodies to become involved in their own protection. The citizens' desire to be informed about the ultimate safety of the Midland plant led them to request assistance from the Citizens Clinic of the Government Accountability Project. Our investigation into worker allegations and analysis of the situation confirms the needs for a comprehensive answer.

Midland needs a verification program implemented by a truly independent company with no stake in the outcome of its audit. This independent third party is not serving a client's requirements, but rather the public interest in ensuring the quality of construction at the plant. That third party must be accountable only to the NRC and the public.

* * * * *

CIVIL PENALTY

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

FEB 8 1983

Docket No. 50-329
Docket No. 50-330
EA 83-3

Consumers Power Company
ATTN: Mr. John D. Selby
President
212 West Michigan Avenue
Jackson, MI 49201

Gentlemen:

This letter refers to the special inspection conducted by the Office of Special Cases, Midland Section, of this office on October 12 - November 25, 1982, and on January 19-21, 1983 of activities at the Midland Nuclear Power Plant, Units 1 and 2, authorized by NRC Construction Permits No. CPPR-81 and No. CPPR-82. The results of the inspection were discussed with you on November 10 and 23, 1982, on January 21, 1983 at the conclusion of the inspection and on January 18, 1983 in the Region III office during an enforcement conference between you and others of your staff and me and others of the NRC staff.

The inspection was primarily a physical inspection of installed equipment to verify conformance to approved drawings and specifications. The results of the inspection indicate a breakdown in the implementation of your quality assurance program as evidenced by numerous examples of noncompliance with nine of the eighteen different criteria as set forth in 10 CFR 50, Appendix B. The breakdown was caused by personnel who failed to follow procedures, drawings, and specifications; by first line supervisors and field engineers who failed to identify and correct unacceptable work; by construction management who failed to call for quality control inspections in a timely manner, allowing a backlog of almost 16,000 inspections to develop; and by quality assurance personnel who failed to identify the problems and ensure that corrective actions were taken. As a result, you failed to fulfill your primary responsibility under Criterion 1 of Appendix B to 10 CFR 50 to assure the execution of a quality assurance program. In addition, of particular concern to the NRC is the fact that quality control (QC) supervisors instructed QC inspectors to suspend inspections if excessive deficiencies were found during the performance of inspections. Consequently, not all observed deficiencies were reported, and complete inspections were not performed by all QC inspectors after the reported deficiencies were corrected.

I understand that, because of our findings, you have inspected other areas of the plant and found similar deficiencies. As a result of our findings, your findings, and your assessment of the overall project, you halted certain safety-related work at the Midland site, reduced the work force by approximately 1100

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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people, committed to building cleanup and system layup, committed to organize teams of construction and engineering personnel responsible for the completion of one or more plant systems, and committed to reinspect safety-related systems. I expect that you will also conduct an inspection to determine the extent to which QC supervisors at the Midland site have been instructing QC inspectors to limit findings of deficiencies and the extent to which QC inspectors have been conducting reinspections based only on reported deficiencies.

To emphasize the need for CPCo management to ensure implementation of an effective quality assurance program that identifies and corrects construction deficiencies, we propose to impose civil penalties for the items set forth in the Notice of Violation that is enclosed with this letter. The violations in the Notice have been categorized as Severity Level III violations in accordance with the General Statement of Policy and Procedure for Enforcement Actions, Appendix C of 10 CFR 2. The base value for a Severity Level III violation is $40,000. However, as a result of your past enforcement history involving quality assurance and the multiple examples of QC deficiencies for the areas inspected, the base civil penalty for each violation is being increased by fifty percent.

After consultation with the Director of the Office of Inspection and Enforcement, I have been authorized to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalties in the cumulative amount of One Hundred Twenty Thousand Dollars ($120,000).

You are required to respond to this letter and should follow the instructions in the Notice when preparing your response. In your response you should describe the results of your inspections to determine the extent to which QC supervisors instructed QC inspectors to limit findings of deficiencies, the systems affected, and your corrective actions to ensure that all affected systems are adequately reinspected. Your reply to this letter and the results of future inspections will be considered in determining whether further enforcement action is appropriate.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosures will be placed in the NRC Public Document Room.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

Sincerely,

James G. Keppler

James G. Keppler
Regional Administrator

Enclosure:
Notice of Violation and
Proposed Imposition of Civil Penalties

NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTIES

Consumers Power Company
Midland Nuclear Power Plant
Units 1 and 2

Docket Nos. 50-329
50-330
Permit Nos. CPPR-81
CPPR-82
EA 83-3

As a result of the inspections conducted at the Midland Nuclear Plant on October 12 - November 25, 1982 and January 19 - 21, 1983, the violations of 10 CFR 50, Appendix B listed below were identified. These violations demonstrate that you failed to exercise adequate oversight and control of your principal contractor, to whom you had delegated the work of executing the quality assurance program. Your failure manifested itself in a breakdown in the implementation of your quality assurance program and, at least in part, caused Consumers Power Company to halt some safety-related work and take other significant actions to provide assurance that safety-related structures and systems are constructed as designed.

As described in item A, QC supervisors instructed QC inspectors to suspend an inspection if an excessive number of deficiencies was observed. Consequently, there was no assurance that a complete inspection was being performed after the reported deficiencies were corrected and we have found several instances in which final QC inspections were based on only the limited deficiencies reported during the initial inspection. In addition, this failure to report all identified deficiencies resulted in incorrect data being fed into your Trend Analysis Program, inhibiting your ability to determine the root cause of deficiencies and prevent their recurrence.

As illustrated in the numerous examples set forth in Item B, personnel failed to follow procedures, drawings, and specifications; first line supervisors and field engineers failed to identify and correct unacceptable work; construction management failed to call for quality control inspections in a timely manner, allowing a backlog of almost 16,000 inspections to develop; and quality assurance personnel failed to identify the problems and ensure that corrective actions were taken.

In order to emphasize the need for improvements in your control of your quality assurance program, we propose to impose civil penalties in the cumulative amount of One Hundred Twenty Thousand Dollars ($120,000).

In accordance with the NRC Enforcement Policy (10 CFR Part 2, Appendix C) 47 FR 9987 (March 9, 1982), and pursuant to Section 234 of the Atomic Energy Act of 1954, as amended ("Act"), 42 U.S.C. 2282, PL 96-295, and 10 CFR 2.205, the particular violations and the associated civil penalties are set forth below:

APP

CIVIL PENALTY VIOLATIONS

A. 10 CFR 50, Appendix B, Criterion X requires, in part, "A program for inspection of activities affecting quality shall be established and executed...to verify conformance with the documented instructions, procedures and drawings for accomplishing the activity."

10 CFR 50, Appendix B, Criterion XV requires, in part, "Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation."

Consumers Power Quality Assurance Program Policy No. 15, Revision 12, Paragraph 1.0, requires, in part, "Items, services or activities which are deficient in characteristic, documentation or procedure which renders the quality unacceptable or indeterminate and which is considered significant to safety are identified as nonconformances. Nonconforming items... are identified by marking, tagging, segregating or by documentation. Nonconforming items are controlled to prevent their inadvertent installation or use. Nonconforming items and activities are recorded and are considered for corrective action to prevent recurrence...."

Contrary to the above, during the inspection conducted between October 12 - November 25, 1982 and January 19-21, 1983, NRC inspectors determined that quality control inspectors were not documenting as nonconformances all of the deficiencies which they observed during their inspections. Inspections were suspended by the QC inspector if too many nonconformances were observed. In-process inspection notices (IPINs) associated with suspended inspections, identified as nonconformances only a portion of the observed deficiencies. Supervisory QC personnel stated that they directed QC inspectors to limit the number of nonconformances documented during an inspection. This directive was verified by discussions with QC inspectors. Several QC inspectors interviewed, confirmed that inspections were closed after reviewing only the deficiencies documented on the IPIN. As a result, measures were not established to prevent the continued installation and use of these nonconforming items. In addition, corrective actions were not implemented to prevent recurrence of these nonconformances.

This is a Severity Level III violation (Supplement II)
(Civil Penalty - $60,000)

B. 10 CFR 50, Appendix B, Criterion II requires holders of construction permits for nuclear power plants to document, by written policies, procedures, or instructions, a quality assurance program which complies with the requirements of Appendix B for all activities affecting the quality of safety-related structures, systems, and components and to implement that program in accordance with those documents.

Contrary to the above, Consumers Power Company and its contractor did not adequately implement a quality assurance program to comply with the requirements of Appendix B as evidenced by the following examples:

1. 10 CFR 50, Appendix B, Criterion V requires, in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

   Consumers Power Quality Assurance Program Policy No. 5, Revision 12, Paragraph 1.0 states, in part, "Instructions for controlling and performing activities affecting quality of equipment or activities such as...construction, installation...are documented in instructions, procedures...and other forms of documents."

   Contrary to the above, the following instances of failure to accomplish activities affecting quality in accordance with instructions, procedures, specifications, or drawing requirements were identified:

   a. Installation of diesel generator engine control panels 1C111, 1C112, 2C111, and 2C112 was not in accordance with the requirements delineated on foundation Drawing 7220-M18-250 in that the foundation bolt washers required by the subject drawing were not installed.

   b. Unscheduled pull box associated with conduits 2BN006, 2BN007, and 2BDA002 was not sized in accordance with the requirements delineated on Sheet 42 of Drawing E-42 in that the 12" x 12" x 6" as-built dimensions of the subject pull box did not conform to the 13½" x 12" x 6" dimension requirements delineated on Sheet 42 of Drawing E-42.

   c. The 1'-10" wall to support dimension required by raceway support Drawing E-796(Q), Sheet 2 of 2, Revision 5, for hanger No. 86 was not correctly translated into the as-built installation of the subject hanger in that the as-built wall to support dimension was 2'-1½" in lieu of the required 1'-10".

   d. The 6'-6" wall to support dimension required by raceway support Drawing E-796(Q) Sheet 1 of 2, Revision 11 for hanger No. 14 was not correctly translated into the as-built installation of the subject hanger in that the as-built wall to support dimension was 5'-5" in lieu of the required 6'-6".

e. The inspectors identified high strength steel plate placed in the laydown area which was not marked with the material type and grade as required by Field Instruction FIG-9.600, Revision 1.

f. The inspectors identified various stock steel shapes in the "Q" area with yellow-colored paint on the ends (indicating the material was non "Q") and various steel stock shapes in the non "Q" area without painted ends (indicating "Q" material), contrary to the requirements of Field Instruction FIG-9.600, Revision 1.

g. The slots in the muffler support plates were not machined but were determined to be irregular and flame cut, leaving rough slot edges not in conformance with design Drawing M18-425(5)-1.

h. Jacking plates were not installed beneath the center support plates of Bay 1 diesel generator muffler as required by Drawing M18-250-6.

i. Procedure FID-2.100, "Outstanding FCR/FCN Retirement," Revision 2 was inadequate in that the design drawings were not changed when an FCR/FCN had been retired and no further reference to the FCR existed on the revised drawing. As a result, the retired FCR C-2103 relating to HVAC structural steel was lost and could not be traced to the design drawing to ensure a complete quality record.

j. Field Sketch CY-1035 which illustrated the bottom gusset plates for HVAC fan supports was not identified as "Q", nor was there a reference to the affected drawing on the sketch as required by Procedure FPD-5.000, "Preparation of Field Sketches."

k. Procedure FPD-5.000, "Preparation of Field Sketches," Revision 1 did not require design drawings to reference appropriate field sketches to ensure a complete quality record.

l. The eight bracing top gusset plates identified on Drawing C-1004, Revision 10, as 5/16" thick were measured by the inspectors to be 1/4" thick in all four diesel generator bays. This change was neither reviewed nor properly authorized.

m. The as-built gusset plate connections in Bay 1 were not built as identified on Detail 3 of Drawing C-1004. The angle braces were welded together as opposed to having separate welds for each brace. This change was neither reviewed nor properly authorized.

n. None of the sixteen ½" bracing angles identified on Drawing C-1004 were constructed utilizing ½" material. This change was neither reviewed nor properly authorized.

o. Drawing C-1004, Detail 2, required the W10 beam-to-beam connection to be welded. In Bay No. 3, a bolted connection was constructed in lieu of the required welded connection, without review nor proper authorization.

p. The column cover plate identified on FCR-C4401 was not constructed in Bay No. 3 as required. The plate was slotted instead of solid as required. This change was neither reviewed nor properly authorized.

q. A section (approximately 18 x 10 x 4 inches deep) of the primary containment wall in Containment Purge Room 702 was removed (by chipping) without obtaining approval as required by FIG-1-111, Revision 4, Concrete Drilling Permit.

2. 10 CFR 50, Appendix B, Criterion III requires, in part, "Measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Measures shall also be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems, and components. Design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design and be approved by the organization that performed the original design unless the applicant designates another responsible organization."

Consumers Power Company Quality Assurance Program Policy No. 3, Revision 12, Paragraphs 3.3 and 3.5 state, in part, "Each group or organization performing detailed design translates the applicable regulatory requirements, design bases, codes, standards, and design criteria into design documents, such as...drawings.... Changes to the design require the same review and approval as the original design by the group or organization delegated lead design responsibility."

Contrary to the above:

a. Measures were not established for the selection and review for suitability of application of "Q" materials associated with the diesel generator exhaust muffler in that design drawings and specifications did not indicate the material identity of the installed muffler saddle supports and plates.

b. Design Drawing C-147 required bolted bracing connections for the diesel generator building HVAC bracing gusset plates. Field Sketch CY-1035 was used to change the design to welded connections in lieu of the specified bolted connections. This design change was neither properly reviewed nor approved.

c. Design Drawings C-1004 and C-147 did not specify the sizes of the diesel generator building HVAC fan gusset plates. A "combo" shop work order request was used to design the gusset plates without appropriate review and approval.

d. The licensee failed to analyze the four diesel generator building monorails as seismic Category I as described in their commitment to Regulatory Guide 1.29, in Appendix 3A of the FSAR.

e. The licensee designed and constructed thirty-two diesel generator building exhaust system hangers without ensuring that the applicable requirements for "Q" components were included in the design documents.

f. The licensee purchased armor stone for a "Q" portion of the perimeter dike without translating the applicable regulatory requirements into appropriate specifications and design documents.

3. 10 CFR 50, Appendix B, Criterion VII requires, in part, "Measures shall be established to assure that purchased...equipment...conforms to the procurement documents. These measures shall include provisions, as appropriate, for...inspection at the contractor or subcontractor source, and examination of products upon delivery."

Consumers Power Quality Assurance Program Policy No. 7, Revision 12, Paragraphs 1.0 and 3.4, state, in part, "The Midland Project Office and the Midland Project Quality Assurance Department verify that procurement requirements are met. This is accomplished through... source evaluation and inspection...receipt inspections are made to verify that the items...conform to procurement requirements not verified by source surveillance or inspection...."

Contrary to the above, source inspections at the panel supplier facility and receipt inspections at the Midland site failed to ensure conformance of the internal wiring within diesel generator engine control panels 1C111, 1C112, 2C111, and 2C112 to Procurement Specification 7220-G-5, Revision 1. Paragraph 6.0 of Specification 7220-G-5 states, "All electrical wiring...within the board enclosure shall conform to the highest industrial standards of design and

workmanship." An NRC inspection on October 15, 1982 identified the following examples of defective terminations of internal wiring within the subject panels.

a. The output lead on the Relay Tach device had numerous broken strands at the termination lug.

b. The K1 lead on the Relay Tach device had two broken strands resulting in a potential short circuit between the K1 lead and an adjacent conductor.

c. The 1- lead on the CB-1 device did not have all strands inserted into the compression lug.

4. 10 CFR 50, Appendix B, Criterion X requires, in part, "A program for inspection of activities affecting quality shall be established and executed...to verify conformance with the documented...drawings for accomplishing the activity."

Consumers Power Company Quality Assurance Program Policy No. 10, Revision 12, Section 1.0 states, in part, "Inspection and surveillance are performed to assure that activities affecting quality comply with documented...design documents...inspection and surveillance are performed according to written instructions."

Contrary to the above:

a. An inspection program was not established to ensure segregation of cables installed in horizontal trays which used metal dividers to segregate control and instrumentation cables in accordance with design requirements.

b. Quality Control (QC) inspections failed to ensure that activities affecting quality conformed to design documents in that QC inspections performed on July 1, 1981 and documented on QCIR C210-172 failed to detect and identify nonconformances B.1.(1) through (o) of this Notice of Violation. These nonconformances were associated with installation of the diesel generator building HVAC fan support steel.

5. 10 CFR 50, Appendix B, Criterion XIII requires, in part, "Measures shall be established to control the...cleaning and preservation of material and equipment in accordance with work and inspection instructions to prevent damage or deterioration. When necessary for particular products, special protective environments...shall be specified."

Consumers Power Company Quality Assurance Program Policy No. 13, Revision 12, Paragraph 3.3, states, in part, "Suppliers provide plans...maintain and control items upon arrival at the site."

Contrary to the above, the licensee did not implement a maintenance program to prevent five of sixteen installed diesel generator slide bearing muffler plates from accumulating dirt and dust as required by the vendor's manual.

6. 10 CFR 50, Appendix B, Criterion IX requires, in part, "Measures shall be established to assure that special processes, including welding, heat-treating, and nondestructive testing, are controlled...."

Consumers Power Company Quality Assurance Program Policy No. 9, Revision 12, Paragraph 1.0 states, in part, "Where the required level of quality cannot be measured by inspection only of the item...accomplish these processes under controlled conditions in accordance with applicable codes, standards and specifications using qualified procedures, equipment and personnel." Paragraph 3.3 states, in part, "...Personnel performing special processes maintain records to verify that the required activities were accomplished in accordance with qualified procedures by qualified personnel."

Contrary to the above, during welding of the diesel generator building exhaust piping hanger support steel, the licensee did not verify preheat of existing safety-related structural steel to a temperature of 70°F as required by site specifications and the AWS 1974 Code.

7. 10 CFR 50, Appendix B, Criterion VI requires in part, that "Measures shall be established to control the issuance of documents, such as instructions, procedures, and drawings including changes thereto, which prescribe all activities affecting quality...."

The Consumers Power Company Quality Assurance Program Policy No. 6, Revision 12, Paragraph 1.0 states, in part, "Measures are included to assure that documents, including changes,...are distributed according to a controlled distribution to the user functions."

Contrary to the above, measures were not established to control the distribution of changes (red lines) to hanger isometric drawings in that changes to Drawing 1-652-2-25(Q) were not controlled utilizing the Site Document Control Center.

8. 10 CFR 50, Appendix B, Criterion XV requires in part, "Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation."

Consumers Power Quality Assurance Program Policy No. 15, Revision 12, Paragraph 1.0, states, in part, "Items, services or activities which are deficient in characteristic, documentation or procedure which renders the quality unacceptable or indeterminate and which is considered significant to safety are identified as nonconformances. Nonconforming items...are identified by marking, tagging, segregating or by documentation. Nonconforming items are controlled to prevent their inadvertent installation or use. Nonconforming items and activities are recorded and are considered for corrective action to prevent recurrence...."

Contrary to the above:

a. Measures were not established or implemented to determine if materials ultimately restricted (per Nonconformance Report No. 3266) from installation or use in ASME Class I systems were actually installed or used in Class I systems.

b. As of November 10, 1982, two nonconforming conditions identified by the NRC on October 12, 1982, and confirmed by the licensee on October 19 and 25, respectively, had not been documented on a nonconformance report, a quality assurance report, or other appropriate report. The two nonconforming conditions were:

(1) The diesel generator exhaust hangers were not classified, designed, or built as "Q" as committed to in the FSAR. (See item 2.c.)

(2) The design of the diesel generator monorail was not analyzed to seismic Category I design requirements as committed to in the FSAR. (See item 2.d.)

This is a Severity Level III violation (Supplement II).
(Civil Penalty - $60,000)

Pursuant to the provisions of 10 CFR 2.201, Consumers Power Company is hereby required to submit to the Director, Office of Inspection and Enforcement, U. S. Nuclear Regulatory Commission, Washington, DC 20555 and a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III, 799 Roosevelt Road, Glen Ellyn, Illinois 60137, within 30 days of the date of this Notice a written statement or explanation, including for each alleged violation: (1) admission or denial of the alleged violation; (2) the reasons

4/13/83

PRINCIPAL STAFF			
A		ENF	
D/RA		ECS	
A/D/A		P&O	
DPRP		SLO	
DRMA		RC	
DRMSP			
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ML			
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF RESPONSE TO INTERROGATORIES SUBMITTED BY BARBARA STAMIRIS WITH RESPECT TO HER CONTENTION 3 (AS RENUMBERED BY BOARD ORDER DATED DECEMBER 30, 1982)

I. INTRODUCTION

On August 30, 1982, Intervenor Barbara Stamiris filed "Stamiris Interrogatories and Document Requests to Nuclear Regulatory Commission." On November 3, 1982 and January 14, 1983, the Staff provided partial responses. We now provide responses to those interrogatories which pertain to Ms. Stamiris' Contention 3 (as renumbered by Board Order dated December 30, 1982). Except for responses to interrogatories which pertain to Stamiris Contention 2 (as renumbered), this completes the Staff's responses to the interrogatories contained in Ms. Stamiris' August 30, 1982 submittal. The remaining responses will be filed at a later date. Also, "Intervenor Barbara Stamiris' Request for Production of Documents to the Nuclear Regulatory Commission Staff," dated April 7, 1983, will be addressed by a separate filing.

APR 25 1983

DESIGNATED ORIGINAL

Certified By Connie Meyers

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II. RESPONSES TO INTERROGATORIES

Question 1

Does the NRC Staff have the authority to require that the independent design and construction audit sought by the ACRS be performed by a firm of their choosing - and according to their criteria? If yes, are there any such intentions?

Response

Yes. The NRC, however, will not choose the firm that does the work, but will determine its acceptability. The criteria for selecting a third party independent assessment are described in the response to interrogatory 3. The criteria by which the work will be assessed will be the same criteria (the regulatory rules, codes, and standards) that were imposed on the construction work. As for the second part of this question, there will be a third party independent design and construction assessment.

Question 2

Explain the method by which the NRC intends to assure itself of the necessary independence, objectivity, and thoroughness of the audit.

Response

The independence of the audit will be assessed by Staff review of the Applicant's proposed program for the audit. As discussed in the response to question 3, the Staff will use the guidelines described by Chairman Palladino in his letter to the Honorable John D. Dingell.

Also, as part of its review of the Applicant's recommendations for third parties to perform the audit, the Staff has held pubilc meetings (October 25 and November 5, 1982) to discuss the Applicant's recommendations. Because of information provided at

those meetings, we rejected the Applicant's first choice for the third party audit.

Another public meeting was held on February 8, 1983 to discuss the integration of the third party independent assessment effort with the Applicant's Construction Completion Program. The NRC will develop a position on the Construction Completion Program at a later date.

With respect to assessing the objectivity and thoroughness of the work, several checks and balances are in place. Region III inspections will continue and these findings should assist in evaluating the third party effort. Similarly, all of reports done by the third party, including the documentation of nonconformances, will be sent directly to the NRC, with copies to the Applicant.

Question 3

Explain the criteria by which the NRC will evaluate the choice of the firm to conduct the audit, the scope and depth of the audit, and the methodology to be employed.

Response

The NRC has no specific criteria for evaluating the choice of the firm to conduct the audit. We are however, using as guidance the criteria described by Chairman Palladino in his letter to The Honorable John D. Dingell, dated February 1, 1982, attached to "Supplemental Testimony of James G. Keppler with respect to Quality Assurance," dated March 25, 1983.

Question 4

To what extent will CPCo be involved in the setting up of the audit, its scope, depth, and methodology and selecting the firm for the job?

Response

CPCo will propose the firm to do the audit. However, as previously discussed, the NRC will approve the firm. The scope, methodology and depth of the audit will be proposed by the firm that will do the audit. However, the NRC will approve the proposals..

Question 5

Provide any documents or correspondence on the subject of this audit (beyond the Tedesco July 9, 1982 letter) initiated or received by the NRC.

Response

This request is encompassed in "Intervenor Barbara Stamiris' Request for Production of Documents to the Nuclear Regulatory Commission Staff," dated April 7, 1983, and will be addressed in our response to that document request.

Question 6

What is the NRC reaction to my suggestion that this independent audit be performed by Brown and Root (who was replaced by Bechtel under similar, but reversed circumstances at South Texas) to obtain the optimum effort in this audit?

Response

CPC has not suggested Brown and Root to conduct the independent audit. As discussed in the response to Question 1, CPC chooses the firm and the Staff determines its acceptability.

Question 7

Explain in detail how the NRC intends to review and evaluate these audit results.

Response

As stated in the response to Question 2 above, the NRC inspection effort will continue as the third party assessment progresses. The findings from these NRC inspections will provide some insight regarding the quality of performance. These findings will be compared to the third party assessment findings. Any difference will be carefully evaluated.

Question 8

Who would be responsible for making a judgement [sic] about plant operation licensing if this audit should reveal significant design and construction errors?

Response

The NRC Staff has that responsibility.

Question 9

Does the NRC envision a followup on the resolution of 50.55(e) reports involving construction and design errors as a part of this independent audit?

Response

The third party independent assessment team may address specific 50.55(e) reports appropriate to the effort. However, followup of 50.55(e) reports is the responsibility of the NRC Staff. These reports are being tracked and will be appropriately addressed prior to the issuance of an operating license.

Respectfully submitted,

Michael N. Wilcove
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 13th day of April 1983

Attachment D
(K-4)

August 18, 1982

MEMORANDUM FOR: James G. Keppler, Regional Administrator

FROM: Robert F. Warnick, Acting Director, Office of Special Cases

SUBJECT: CONSUMERS POWER-MIDLAND (DN 50-329; 50-330)

When you created the Office of Special Cases and a special Midland Section staffed ith individuals assigned solely to that project, you indicated your concern with the Midland Project. You did this in spite of the favorable findings of the special team inspection conducted in May, 1981, and the favorable testimony you gave before the Atomic Safety and Licensing Board on July 13, 1981. You indicated your concern was based on the Systematic Assessment of Licensee Performance (SALP) report for the period July 1, 1980 to June 30, 1981, the inspection findings since those dates, and the memo of June 21, 1982, by C. E. Norelius and R. L. Spessard suggesting certain changes be made at the Midland Project (copy attached as Enclosure 1).

At my request R. J. Cook prepared a summary of indicators of questionable license performance at Midland. A copy of Cook's memo dated July 23, 1982 is attached as Enclosure 2.

Because of your expressed concerns, you and I met with representatives from NRR on J ly 26, 1982 to discuss Midland and Consumers Power Company (CPCo) performance. That meeting also resulted in recommended actions. A summary of the meeting is attached as Enclosure 3.

Following the meeting with NRR, I discussed the recommendations of that meeting with our Senior Resident Inspector, other members of the new Midland Section, and former Section and Branch Chiefs who are intimately familiar with Midland.

Later that week (July 30) I spent a day at the Midland site. I attended the exit meeting following Landsman's and Gardner's inspection, met with CPCo and Bechtel management to get acquainted with them, and toured the plant site.

On July 31, 1982, I expressed my opposition to the recommendations we had come up with in the NRR meeting. My opposition was based on (1) opinions expressed by the Senior Resident Inspector, a Region III Branch Chief formerly responsible for the NRC inspection of Midland, and a Construction Section Chief who has been intimately associated with inspections of Midland regarding the proposed actions; (2) my visit to the site; and (3) the inability of Region III to articulate the problem(s) at Midland which the above referenced recommendations were supposed to solve. I indicated that we needed to better identify our concerns and the prescribe actions that would resolve these concerns.

OFFICE	RIII	RIII	RIII	RIII
SURNAME	Gardner	Landsman	Shafer/cg	Warnick
DATE	8/17/82	8/17/82	8/18/82	8/18/82

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On August 3, 1982, members of the Midland Section met with you to discuss my opposition to the recommendations coming from the meeting with NRR. The pros and cons of the recommendations together with other alternatives were discussed. The meeting concluded with you agreeing to give the Section until August 11 to determine a better proposed course of action to resolve NRC concerns about Midland.

To this end the Midland Section met together on August 4 and again on August 5 following our public meeting with CPCo on the SALP II report. Several alternatives were discussed including stopping all work on one unit, have an independent third party monitor all past and current construction work, stopping work in selected areas, performing a construction appraisal team inspection, placing all site QC work under CPCo, and establishing an augmented NRC inspection effort.

Although some members of the Midland Section thought that stronger actions should be taken, all members of the Section agreed they could support an augmented NRC inspection effort coupled with other actions to strengthen the licensee's QC/QA organization and management. These recommended actions are attached as Enclosure 4.

It is recommended the proposed actions to improve the licensee's performance be discussed with NRR and then the licensee.

Robert F. Warnick, Acting Director
Office of Special Cases

Attachments: As stated

OFFICE ▶							
SURNAME ▶							
DATE ▶							

NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY

Encl 1

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

June 21, 1982

MEMORANDUM FOR: James G. Keppler, Regional Administrator

FROM: C. E. Norelius, Director, Division of Engineering and Technical Programs
R. L. Spessard, Director, Division of Project and Resident Programs

SUBJECT: SUGGESTED CHANGES FOR THE MIDLAND PROJECT

Historically, the Midland Project has had periods of questionable quality assurance as related to construction activities and has had commensurate regulatory attention in the form of special inspections, special meetings, and orders. These problems have been given higher public visibility than most other construction sites in Region III. As questions arise regarding the adequacy of construction or the assurance of adequate construction, we are faced with determining what regulatory action we should take. We are again faced with such a situation.

Current Problem

The current problem was caused by a major breakdown in the adequacy of soils work during the late 1970's. Because of the increased regulatory attention given the site, we expect that exceptional attention would be given to this activity and that licensee performance would be better than other sites or areas which have not had such significant problems and therefore have not attracted this level of regulatory attention. However, that does not appear to be the case and Midland seems to continually have more than its share of regulatory problems. The following are some of the specific items which are troublesome to the staff.

Technical Issues

1. In the remedial soils area, the licensee has conducted safety related activities in an inadequate manner in several instances - removal of dirt around safety related structures, pulling of electrical cable, drilling into safety related utilities.

2. In the electrical area, in trying to resolve a problem of the adequacy of selected QC inspectors' work conducted in 1980, the licensee completed only part of the reinspection even when problems were identified, and appears inclined to accept that 5% of electrical cables may be misrouted (their characterization of "misrouting" may imply greater significance than we would attach to similar findings).

3. In the pipe support area, in trying to resolve a problem of the adequacy of QC inspections conducted in 1980, the licensee has portrayed only a small percentage of defects of "characteristics" identified and has not addressed the findings in terms of a large percentage of snubbers which may be defective because of the characteristics within each snubber that may be defective (e.g., if only one characteristic was defective out of 50 reviewed on a single hanger, the percentage is small; but if the one defective characteristic makes the hanger defective the result would have a much greater significance level). The licensee had done a detailed statistical analysis in an attempt to show that the small percentage of characteristics were found rather than broadly approaching the problem with significant reinspections to determine whether or not construction was adequate.

Communications

Multiple misunderstandings, meetings, discussions, and communications seem to result in dealing with the Midland Project. Some examples are:

1. NRC staff attending a meeting in Washington on March 10, 1982, heard the Consumers Power Company staff say that electrical cable pulling related to soils remedial work was completed. It was determined to be ongoing the next day at the site.

2. When Region III attempted to issue a Confirmatory Action Letter, J. Cook informed W. Little of his understanding that both J. Keppler and H. Denton had agreed that the subject of the CAL was not a safety related item subject to NRC regulatory jurisdiction. Such agreements had not in fact occurred and following a meeting, Consumers Power Company issued their commitments in a letter to Region III.

3. In reviewing a licensee May 10, 1982 letter, responding to the Board Order, the NRR staff had an unsigned letter and Region III had a signed copy both dated the same date but differing in content.

4. Recently a Region III inspector in closing out and exiting from his inspection described the exit meeting as being the most hostile he had ever anticipated in.

5. The responses to any Region III enforcement letters issued to Midland are more lengthy and ~~are~~ argumentative than are any other responses from any other licensee in Region III. This point was made in the SALP response provided by Midland, and the SALP response in itself from Midland is an example of the type of response which we commonly receive from the site. The length of the response is at least as long as the initial SALP report.

6. Multiple requests for briefing meetings and other statements by the utility to the effect that we should review procedures in developmental stages imply that Midland wants the NRC to be a part of their construction program rather than having us perform our normal regulatory function.

Staff Observations

1. With regard to corrective actions of identified noncompliances, the Midland response seems to lean towards doing a partial job and then writing up a detailed study to explain why what they have done is sufficient rather than doing a more complete job and assuring 100% corrective action has occurred. In the detailed writeups that are prepared, it is the staff's view that the licensee does not always represent the significance properly, and the analyses and studies often raise more questions than they solve; thus time appears to have been wasted in writing an analysis rather than in fixing the problem.

2. Midland site appears to be overly conscious with regard to whether or not something is an item of noncompliance and spends a lot of effort on defending whether or not something should be noncompliance as opposed to focussing on the issue being identified and taking corrective action. This appears in part to be due to their sensitivity of what appears in the public record as official items of noncompliance. This sensitivity may have resulted from the extended public visibility which has attended construction of the facility. The staff's view is that the Midland site would look better from the public standpoint and be more defendable from NRC's standpoint, if they concentrated on fixing identified problems rather than arguing as to the validity of citations. This type of view was expressed by the utility during a recent effort to clarify in detail that certain construction items on the soils remedial work should not be subject to NRC's regulatory action.

3. The Midland project is one of the most complex and complicated ever undertaken within Region III. The reason is that they are building two units of the site simultaneously and additionally have an underpinning construction effort which in itself is probably the equivalent of building a third reactor site. The massive construction effort and the various stages of construction activity which are involved make the site extremely complicated to manage. This activity appears to cause a lot of pressure on the licensee management.

4. Mr. J. Cook, the Vice President responsible for the Midland site is an extremely capable and dynamic individual. However, these characteristics in conjunction with the complexity and immenseness of operation as set forth in 3, above, may actually be contributing to some of the confusion which seems to exist. The staff views that (1) he is too much involved in detail of plant operations and there are times when the working level staff appears to agree and be ready to take action where Mr. Cook may argue details as to the necessity for such action or may argue as to the specific meaning of detailed work procedures, (2) this kind of push may lead to such things as letters both signed and unsigned appearing in NRR and causing confusion, (3) this push may lead to some animosity at the licensee's staff level if NRC activities are looked on as slowing progress of construction at the site.

Recommendations

It appears essential that some action be taken by NRC to improve the regulatory performance of the Midland facility. The following specific suggestions are made.

1. The company must be made aware and have emphasized to them again that their focus should be on correcting identified problems in a complete and timely manner.

2. We should question whether or not it is possible to adequately manage a construction program which is as complex and diverse as that which currently exists at Midland. We would suggest specifically that the following activities be considered:

   a. That the licensee cut back work and dedicate their efforts to getting one of the units on line in conjunction with doing the soils remedial work.

   b. That they have a separate management group all the way to a possible new Vice President level, one of which would manage the construction of the reactor to get it operational and the second to look solely after the remedial soils and underpinning activities.

3. Consumers Power Company should develop a design and construction verification program by an independent contractor. This would provide an important additional measure of credibility to the design and construction adequacy of the Midland facility.

We would be happy to discuss this with you.

C. E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Programs

R. L. Spessard

R. L. Spessard, Director
Division of Project and
Resident Programs

Encl. 2

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

July 23, 1982

MEMORANDUM FOR: R. F. Warnick, Director, Enforcement and Investigations Staff

FROM: R. J. Cook, Senior Resident Inspector, Midland Site

SUBJECT: INDICATORS OF QUESTIONABLE LICENSEE PERFORMANCE - MIDLAND SITE

As per our conversation of July 21, 1982, the following is a list of those items that various inspectors consider to be indicative of questionable licensee performance:

1. One of the leading items is the over-inspection performed on electrical QC inspectors which was done in response to NRC concerns identified in the May 1981 team inspection. The licensee found weaknesses in the inspections performed by some electrical QC inspectors pertaining to not identifying the mis-routing of cables. This item culminated in an item of noncompliance. The licensee did not expand the overview activity to a degree necessary for an acceptable resolution to the identified weakness - even after a meeting in RIII. This item has not been resolved to the satisfaction of the NRC although our position has been clearly defined.

   As a partial response to the team inspection concern, the licensee presented the NRC with an audit report which would demonstrate a response to our concern of questionable electrical QC inspections. However, the audit report stated that it (the audit report) did not address the NRC concerns.

2. During the dialogue for the underpinning and remedial soils work, a large amount of emphasis has been placed on the settling data for the structures involved. During a meeting in HQ on March 10, 1982, the need for QC requirements on remedial soils instrumentation were explicitly delineated. However, one week later, the NRC inspectors found soils work instrumentation installation was started the day after the March 10, 1982 meeting without a QC/QA umbrella; that the licensee's QA Auditor and QA Engineering personnel were not approached pertaining to the need for QA coverage for this soils settlement instrumentation; that there were strong indications that the licensee had mislead the NRC in relating that the work was essentially complete when indeed it was not; and presently, the licensee management informs our inspector that items are ready for his review when in actuality they are not. Our conversations with licensee personnel - other than management - confirm that the items are not ready for review.

3. Historically, one of the NRC questions has been, "Who is running the job - Bechtel or Consumers?" The following example would allow one to believe it is Bechtel: As a part of the resolution to our findings in the soils settlement instrumentation installation, the NRC insisted that the licensee generate a Coordination/Installation Form to cover interface between different evolutions of instrumentation installation. The licensee would call our inspector for his concurrance on the adequacy of the form - the inspector would approve Consumers Power Company's form, but then would find out that Bechtel did not want to work to Consumer's form - the form that was generated to resolve regulatory concerns. This event has occurred twice and was considered as a deviation during a more recent inspection. The opinion of the staff is that if Consumers generates a form that will aid them in not incurring regulatory difficulty, and which has had NRC input, the licensee should demand that the contractor comply with these policies instead of the contractor dictating the regulatory environment under which they will work.

4. Deficiencies in material storage conditions has continually been a concern to the NRC and has resulted in items of noncompliance. To the inspectors, the ability to maintain quality storage is indicative of how rigorous or slipshod the constructor's attitude is towards construction. The licensee has attemted to entice the constructor to do better in maintaining the material storage conditions, but still the licensee's auditors and the NRC have negative findings in material storage conditions and negative discussions with the contractor about the validity of the finding.

5. At periodic intervals, the support of cables, particularly in the control room area, which are awaiting further routing or termination, has met with the disapproval of the NRC inspectors. These discrepancies also include cables without covered ends being on the floor in walk areas that are in a partially installed status. This is also another indicator of slipshod workmanship which has been brought to the constructor's attention at various times, but was last noted during a recent inspection.

6 In the area of instrumentation impulse line installation and marking, the licensee has had separability violations which has required removal of all installed impulse lines. Also, the NRC, because of this and significant adverse operational conditions, insisted that the installed impulse lines be identified. Although the licensee plans to mark the impulse lines, there was an inordinate amount of resistance to marking the lines - even though there had been instances of mis-matched channels because of identification confusion.

7. An example of reluctance in placing the responsibility for quality workmanship at the foreman and/or worker level has recently been identified. The NRC inspectors noted that some drop-in anchors were improperly installed and obviously did not adhere to the installation procedures. The licensee's attitude indicated this was not a valid finding because QC had not inspected the item. The NRC inspectors treat this as indicative that slipshod workmanship is tolerated in the hopes that QC will find the mistakes.

8. Late in 1981, the licensee decided to move the QA Site Superintendent into another position and cover this site function by sharing the site time between the QA Director and the QA Manager. After a January 1982 meeting with the NRC at RIII, the licensee opted to fill the QA Superintendent spot with another person. In the spring of the year, the NRC inspectors were following up on welding allegations and approached the QA Superintendent. The QA Superintendent was familiar with the alleged poor welding and had established what the NRC inspectors determined to be a responsive plan to resolve the questionable QC welding inspections. At the Exit Interview, the QA Director did not appear to back the QA Site Superintendent's proposed plan which had tacit NRC approval. The NRC inspector classified in writing and with just cause that the Exit Interview was the most hostile exit interview he had ever encountered.

9. During a recent inspection, it was noted by the NRC inspector that fill dirt was piled and being covered with a mud mat at a nominal 1:1½ horizontal to vertical slope when the specification called for a 1½:1 horizontal to vertical slope. A constructor Field Engineer witnessed the wrong slope being installed and justified and defended the slope after being informed of the specification requirement. This is another example of the constructor having an attitude which precludes quality workmanship.

10. At different times, NRC inspectors have experienced difficulty in getting information which is controlled by the contractor, such as supporting calculations and qualifying information to justify a given installation. A recent example is: the NRC inspector informed the licensee and the contractor he wanted to see resumes of persons involved in the remedial soils work. There is an obligation to the NRC to supply a precise number of "qualified" persons on the soils work. The inspector was informed he could not get these records as they were personal. The inspector ultimately did get the information after bringing it to the attention of licensee upper management. However, this indicates an implied unwillingness of the constructor to share information with the NRC and sometimes with the licensee.

11. The licensee oftentimes does not demonstrate a "heads up" approach to their activities. The following are examples of the licensee operating in an environment using tunnel vision - "blinders".

    a) During a recent NRC inspection, the inspector challenged the ability to maintain the proper mix ratio on high pressure grout. This was done after the inspector noted that the operator could never maintain the proper mix ratio without continual manual control - which was not available when the grout is applied. The licensee's apathetic attitude did not allow them to stop the grout application until the next day when this became an issue at the exit interview.

    b) At one point in time, the company doing drilling on site for the remedial soils work cut into a safety related duct bank between the diesel generator building and the service water building. The Consumers Power Site Manager's Office (the production people) stopped work because - from a quality standpoint conditions were so deplorable. However, the Site Manager's Office did not have responsibility in this area - the Midland Project QA Department had this responsibility and did not invoke their authority to prevent the drilling work from getting out of control - or to bring it back into control.

    c) The NRC inspector recently witnessed the licensee setting up to drill a well hole in safety related dirt using a technique which was not authorized. If the inspector had not brought this to the licensee's attention, the licensee would have violated an Order addressing remedial soils work and also the Construction Permit. When the licensee was queried as to the availability of the QC/QA personnel who would prevent such activity from happening, the NRC inspector was informed that this was (another) misunderstanding.

    The NRC inspectors have been informed by our contacts on site that there are memoes written to the effect that "peripheral vision" should be curtailed and communication with the NRC stiffled. The NRC has not read these memoes yet - but plans to in the near future, provided they really exist and infer what we have been informed.

12. The licensee seems to possess the unique ability to search all factions of the NRC until they have found one that is sympathetic to their point of view - irregardless of the impact on plant integrity. Some examples of this are:

    a) The NRC soils inspector informs the licensee that soils stabilization grout comes under the Q program. The licensee is not particularly happy with this position. Unknown to the inspector, the licensee argues his point with NRR to have the grout non-Q - using only those arguments which support his (the licensee's) position. The licensee

has the advantage of the NRC inspector's technical and regulatory basis for supporting his (the inspector's) position, and therefore avoids mention of this during the discussions with NRR. However, the licensee's QA program, which has already been approved by NRR, states that all the remedial soils work is Q unless RIII approves a relaxation on a case by case basis. It appears the licensee does not wish to acknowledge the prior agreements with the NRC.

b) Since the failure of auxiliary feedwater headers in B&W steam generators, discussions have transpired between the NRC inspectors and the site personnel. These discussions have indicated that the licensee was maintaining a conservative approach and were entertaining the concerns expressed by the NRC which were stimulated primarily by gross mistakes in attempting the modification at operating B&W plants. The licensee's corporate personnel were annoyed that the NRC inspectors would not give approval to start the modification until all the preparatory work had been accomplished as this would tend to impact the schedule and the modification to the steam generators could become a scheduling nuisance. The licensee corporate personnel contacted the NRC inspectors involved to "reason with them". However, the corporate personnel, (including a representative from B&W) were unable to answer the concerns of the NRC inspectors but did mention that the NRR Operational Project Manager indicated that it was alright to proceed with the modification. The licensee corporate personnel could not state what the position of the NRR Construction Project Manager was on this issue - only that they had found some form of approval from someone in the NRC.

c) At times, when Immediate Action Letters or other forms of escalated enforcement become imminent, the licensee attempts to "appeal" their case with individuals in the regional management who are removed from the particulars of the tentative enforcement action. The licensee attempts to get these persons to agree to specific portions of the issue which would indicate that the licensee is "really not all that bad". However, the "real" issues, as identified by the NRC inspectors are being masked.

d) During inspections of the remedial soils work, the NRC inspector has been informed by the licensee that certain findings and areas of inspection were not within the purview of his (the inspector's) inspection program because they were in essence considered non-Q and that by virtue of prior agreement with the Regional Administrator were excluded from enforcement action. However, the NRC inspectors would subsequently find that there was no such agreement between the Regional Administrator and the licensee - only a philosophical discussion as to what, in general terms, constituted an item of noncompliance.

The above indicators support the reputation the licensee has for being argumentative. Their apparent inability to accept an NRC position without diligently searching to find a "softened" position results in numerous hours of frustrated conversations between all parties involved to resubstantiate (usually the original position) a position based on technical and regulatory prudency.

13. The licensee has been classified publicly by the NRC as being argumentative. The licensee continues to exhibit this trend, as evidenced by the following examples:

    a) Essentially every item of noncompliance receives an argumentative answer which addresses only the specificity of the item of noncompliance and selectively avoids any concept which would support the essence for the item of noncompliance. For example - in the instance of the improperly installed drop-in anchor mentioned above, it was the fact that QC had not inspected the installation of the bolt which was important to the licensee. However, the real enforcement issue was that components were being improperly installed.

    b) The Cycle II SALP made critical evaluations of the licensee's performance in several areas. The licensee's response to this SALP report was argumentative over specific details and did not seem to acknowledge that the consensus of opinion of the NRC inspection staff was that there were areas where the licensee's performance was weak. The licensee's argumentative position is in the form of "we really are not all that bad" when the records, findings and observations of the NRC inspectors support just the opposite position.

    c) The "Q-ness" of the remedial soils work has continually been an argumentative topic of discussion which ultimately resulted in a HQ meeting on March 10, 1982. At this meeting, the "Q-ness" of the remedial soils work was specified and later documented with the meeting minutes. However, the licensee did not wish to abide by this position and a subsequent meeting was held in RIII to further clarify the NRC position. Still, the topic of "Q-ness" is being argued by the licensee, even though the ASLB has issued an Order further defining the "Q-ness" of the soils work. It might be noted that a hearing is in process over this soils issue and the NRC's position on "Q-ness" has been expressed during these testimonies.

14. During a recent episode, the licensee wanted to continue excavation of soils in proximity to the Feedwater Isolation Valve Pit (FIVP). However, the licensee wanted to perform this evolution without determining that the temporary supports of the FIVP were adequate. Making this determination would have an impact on scheduling, as stated by the licensee. The FIVP supports were installed without a Q umbrella and subsequent inspections did reveal several discrepancies in the installation of the support structure.

15. During the limited remedial soils work which has transpired, the licensee has managed to penetrate Q-electrical duct banks, a condenser header drain line, an abandoned sewer line, a non-Q electrical duct bank and a 72-inch circulating water line. All of these occurances have happened because of a lack of control and attention to details. Whenever approached by the NRC as to the adequacy of review prior to attempting to drill, the NRC receives responses which strongly suggest that the time was not taken to perform these reviews - perhaps taking this time would impact on the schedule.

16. By virtue of an earlier ALAB Order, the licensee is required to perform trend analyses for nonconforming conditions. These trend analyses have, in the past, masked the data such that obvious trends are not obvious and has resulted in negative findings by the NRC. This was addressed in one of the earlier SALP meetings. Recently, while performing a review of hanger welding data, the NRC inspector found that the statistical data had been diluted to the point that the number of unsatisfactory hangers could not be determined from the trend analyses or the type and degree of non-conforming conditions which were being identified pertinent to the hanger fabrication.

17. The licensee continually would use the NRC staff as consultants and classifies a regulatory and enforcement position as counter productive. This is reflected by the licensee not wishing to perform Q-work without obtaining NRC prior approval and then addressing only those areas where the NRC has voiced a regulatory concern - provided it is convenient to the licensee. This attitude has particularly prevailed in the remedial soils issue and to a lesser degree in the electrical installation areas. The preferred NRC inspector mode would be for the licensee to generate his program to establish quality and then the NRC would approve or disapprove. However, the licensee requires consultation with the NRC to establish his level of quality requirements.

The above is not intended to be a complete list of all discrepancies which indicate questionable licensee performance as this would require a more extensive review of the records and inspection personnel involved than time permits. Also, there has been no attempt to systematically document the enforcement and unresolved items list as these are contained in other information sources. However, the listing is rather comprehensive of the types of situations and attitudes which prevail at the Midland Site as observed by the NRC inspector staff.

When considering the above listing of questionable licensee performance attributes, the most damning concept is the fact that the NRC inspection effort at Midland has been purely reactive in nature for approximately the last year, and that these indicators are what have been observed in approximately the last six months. If

these are the types of items that have become an NRC nuisance under a reactive inspection program, one can only wonder at what would be disclosed under a rigorous routine inspection and audit program.

Sincerely,

R. J. Cook

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