J. Keppler 2 of 2

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

July 11, 1983

MEMORANDUM FOR: Commissioner Gilinsky

FROM: Cameron Kammerer, Director
Office of Congressional Affairs

SUBJECT: TRANSCRIPT FOR EDITING: JUNE 16, 1983
QUALITY ASSURANCE AT THE MIDLAND PLANT

A transcript of the NRC testimony, before the House Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs on June 16, 1983, is attached. We request your coments be edited and returned with all required inserts to OCA by close-of-business Thursday, July 21, 1983.

By copy of this memorandum EDO is asked to coordinate staff edits of this transcript and return to OCA by the above date.

CONTACT: F. Combs, x41443

Attachment: As stated

cc: Chairman Palladino
Commissioner Roberts
Commissioner Asselstine
EDO
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REGION III (Keppler)

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JUL 13 1983

STATEMENTS OF HONORABLE VICTOR GILINSKY, COMMISSIONER, NUCLEAR REGULATORY COMMISSION; ACCOMPANIED BY JAMES KEPPLER, ADMINISTRATOR, REGION III; RONALD COOK, NRC MIDLAND INSPECTOR; ROSS LANDSMAN, NRC MIDLAND INSPECTOR; R.M. GARDNER, NRC MIDLAND INSPECTOR; AND DANIEL EISENHUT, OFFICE OF NUCLEAR REACTOR REGULATION

Mr. SEIBERLING. All right gentlemen, Mr. Gilinsky?

Commissioner GILINSKY. Mr. Chairman, thank you for the opportunity to participate. I should say at the outset that I'm testifying in an individual capacity. The agency's testimony will be delivered by the head of our Region III office, Mr. Keppler.

I visited the plant about a week ago in the company of many of the witnesses that appeared today. I visited inspectors, regional inspectors, various Intervenors, Chairman Selby of Consumer Power and members of his organization. I came away with a number of impressions and I would like to share some of them with you. After the previous testimony I don't think I need to recite the history of this plant. I do want to say that in reviewing the troubled history of the plant I am distressed, as it is clear that you are, that our systems for assuring safety, by

the utilities and NRC's, turn up serious problems so late in the construction process and that the solutions are slow in coming.

There has got to be a better way of spotting problems earlier, in dealing with them more promptly.

I would like to say a few words about NRC's role, and about our process.

After the discovery of the soils problem that you have beer hearing about, the NRC staff issued an order in 1979, which modified the construction permit and required the halting of construction in certain areas.

Unfortunately, the view of our lawyers in those days was that construction problems did not justify immediate enforcement action, and this meant the licensee could prevent the order from becoming effective and thus continue in construction by requesting a hearing. This the company did, the planned continued construction and it has been in hearing ever since. It is incidentally a useful reminder that it isn't just Intervenors that take advantage of hearings. I should mention that the NRC Staff's formal participation in the current hearing does not fall into the usual pattern which I criticized recently before this committee. Our staff cannot be accused of lining up with the utility. At the same time, I also think that the involvement of the staff in a formal adjudication greatly complicates

Commission staff communication on the important issues. I think this argues, then, for ending the NRC staff role as a formal party in such hearings.

In 1982 the Licensing Board took an unusually active step, adopted an unusually active role, and issued its own order which put the plant's construction under the step by step control of the NRC staff. The order was not taken up by the Commission.

It is unfortunate, to my mind, that the Commission itself has had so little to do with NRC's action in this trouble-plagued project. So far as I can tell, the Commission has never had a meeting on safety problems, or had never had a meeting on safety problems at Midland. Not in recent years, anyway. And until yesterday, the last meeting of any kind in Midland was in 1978, and that was on a personal dispute between the staff and Intervenor lawyers. Upon my return from Midland last week I recommended to the chairman, our chairman, that the Commission address itself to the safety problems at that site.

We had the first meeting on the subject yesterday. Mr. Keppler made a presentation. I thought it was a very helpful meeting. And it shows, by the way, that the prospect of a committee hearing is a very useful way of concentrating Commission attention.

Mr. SEIBERLING. Like an election for an elected officials.

Commissioner GILINSKY. My own feeling is that given the scale of the problems, enormous sums involved, sums which will ultimately be paid for by consumers--that's with a small C--the complex interaction of the project with the NRC through a Licensing Board and headquarters and regional staffs, it is essential that the Commission itself be confident that the agency is dealing properly with Midland. We need to be sure that the company is complying with our regulations and that we are assured such compliance in a sensible manner. That is all I have to say at the moment except to introduce Mr. Keppler our administrator.

I have one other point. I have prepared a large foldout describing the procedural history of Midland. I haven't quite got it ready for distribution, but I would like to submit it for the record. I think it is instructive.

Mr. SEIBERLING. Without objection, we will include that.

[The complete statement follows.]

Commissioner GILINSKY. Thank you, Mr. Chairman.

Mr. SEIBERLING. Mr. Keppler?

Mr. KEPPLER. Good morning, Mr. Chairman. My name is James Keppler and I'm the regional administrator of the NRC Region III Chicago office. With me today I have Mr. Ronald Cook, Mr. Ross Landsman, and Mr. Ron Gardner, three of my inspectors who have been very heavily involved in the Midland work. They are here at the request of the committee.

I'll summarize my testimony if that's all right with you, recognizing

Mr. SEIBERLING. Without objection, your entire testimony will be included.

Mr. KEPPLER. Thank you.

I think I'd start out by emphasizing that Midland has experienced repeated problems since the start of construction in 1972. The NRC and the licensee have taken actions to address these QA problems as they occur, and I might contrast that to, when I sat before this committee last summer, in the Zimmer case, where, really, the NRC staff did not recognize the full significance of the QA problems as they unfolded.

The NRC staff has been aware of the Midland problems and has been attempting to deal with them as they were identified.

In 1981 I provided testimony to the NRC's Atomic Safety

and Licensing Board, presiding over the hearing on remedial soils issues at Midland plant.

I testified at that time on the more significant QA problems that had been experienced in connection with Midland and the corrective actions taken by Consumers Power Company and its contractors.

I stated that while many significant quality assurance deficiencies had been identified, it was the NRC Staff's conclusion that the problems experienced were not indicative of a breakdown in the implementation of the overall quality assurance program.

I also noted that while deficiencies had occurred which should have been identified earlier, Consumers Power Company's QA program had been generally effective in the ultimate identification and subsequent correction of these deficiencies. Furthermore, at that hearing I discussed the results of a special QA inspection that I had conducted in May, 1981. A team of nine of my best inspectors that I sent up to the site, which I had initiated to determine whether modifications made to Consumers' QA program in 1980 were effective.

The results reflected favorably on the Midland plant quality assurance department formed in August 1980 to improve QA performance. The thrust of my testimony at that time was that I had confidence in the Consumers Power

Company's QA program both for the remedial soils work and the remainder of the construction. Now, in April, 1982, I was made aware that additional significant quality assurance problems were being encountered. This concerned me in view of my 1981 testimony to the Atomic Safety and Licensing Board.

As a result, I notified the Atomic Safety and Licensing Board that my previous testimony would have to be modified; directed staff evaluation to assess the cause and correction of the problems; and I created a special section within the Region III office, solely to handle the Midland project and reviewing the facility's status and history. Meetings were held with Consumers Power Company to discuss the NRC's concerns, and to inform them that additional measures were required to assure the quality of the plant.

In addition, the Midland section recommended and then conducted the comprehensive inspection of systems and components with the diesel generator building, which ultimately led to the major ''stop work'' action in December, 1982.

The--where we stand today, Mr. Chairman, is that Consumers Power Company has proposed a number of changes which the staff is reviewing, that will consist of a backwards look at the completed construction to date; will consist of a program to complete the plant and complete any necessary

rework that may be done--all of this overviewed by a third-party organization in addition to the NRC.

We believe these programs, when we complete our review of them and approval of them--we hope that these will provide confidence that the project will be completed satisfactorily.

In any event, we want to assure this committee that the NRC will not issue a license for this facility until we are satisfied the construction has been completed properly.

With that, Mr. Chairman, we are prepared to answer any questions you may have.

Mr. SEIBERLING. All right. There are no prepared statements of the inspectors? All right. Thank you very much.

Mr. Keppler, can you tell me, or maybe Mr. Gilinsky or someone can, what assurances NRC requires as to site suitability prior to approval of the site? Was the site originally approved by NRC? In 1969?

Commissioner GILINSKY. It would have to have been approved as part of the construction permit proceeding. I guess you'd have to supply for the record exactly what was done at that time.

Mr. SEIBERLING. Mr. Keppler, can you answer that?

Mr. KEPPLER. I can't answer anything to that, Mr. Seiberling.

Mr. SEIBERLING. If a new plant were being submitted for approval today, before any work had been done, what would NRC require in terms of such things as soil borings, foundation plans, and so forth? How deeply do they go into that sort of thing? How deeply would you?

Mr. KEPPLER. Mr. Eisenhut, our Office of Nuclear Reactor Regulation might be able to provide that answer.

Mr. SEIBERLING. All right.

Mr. EISENHUT. Let me try to help you somewhat. When we go through the licensing process, early in the process one of the first considerations to look at is the site. You look at it from a number of considerations.

You look at it from its basic soil characteristics; you look at it from the location of nearby facilities. One of the keys you look at is population.

The only area that I'm aware of that, today, if you relooked at the Midland site, that would be a much closer call than it was at the time, would be the population issue.

We have not gone back and relooked at the population density criteria that we use today, to see whether the site would in fact have passed that test. But I do know in the time frame of the late '60s and early '70s, we didn't have such criteria. It was done in a much different framework where we didn't have a specific criteria per square mile where we looked at number of people.

The one step we have taken recently on high population density sites, as we have called them, the higher population density sites of plants that are presently under construction, for example the Seabrook site, we have in fact required a probabilistic risk assessment to be done by the utility.

We are doing that in recognition of the fact that these sites have grown to the point where the surrounding population is higher than we previously thought. It does not at this time, I believe, include the Midland site. It is somewhat below that--did not trip our threshold of asking--requiring a PRA, although one is being done for the Midland site.

So it is certainly not in the league of the Indian Points, the Zions, the Limericks or the Seabrooks, which are in fact the sites on the very high end of the population density scale.

Mr. SEIBERLING. If you knew in 1969 what you know now about soil conditions, would you have doubts about whether this was a suitable site?

Mr. EISENHUT. From the basic framework, as far as a suitable site, I don't believe we would have the doubt.

You see, you've got to remember that the basic underlying glacial till is a satisfactory soil. The problem that came about in connection with the Midland project was that on

certain pieces of the structure they had to put in compacted soil. That is a perfectly acceptable process. However, the implementation of that is what broke down at the Midland site.

That is, there is a satisfactory engineering solution from a design standpoint. But it was inadequately carried out at the site.

Mr. SEIBERLING. Thank you.

All right. I don't know that I have time to go into all of the questions raised by the testimony of the Intervenors. However, they have certainly raised some very major questions. And the siting is one of them, of course. But let me just go through a couple of them here and then I'll yield to my colleagues and maybe we can get back to it after they have their time.

Mrs. Sinclair, on page 1 of her testimony, says that: ''Subsequent inspection reports after construction was resumed in April 1973 showed that these promises were ignored by Consumers Power Company--'' those are promises about the quality control, apparently. And, she says, ''Region III did not act on these reports of violations, but the attorney for the citizen intervenors, Myron Cherry, read the inspection reports and brought them to the attention of the Appeals Board, pointing out that Consumers Power Company did not honor its promises for improved quality control.''

Then she quoted from the Appeals Board, after the hearing in November--in the report, or letter, rather, that they wrote in November of 1973 to Mr. Muntzing, who was then director of licensing. Here's what they said:

''What we have here is a pattern of repeated, flagrant and significant quality assurance violations of a non-routine character, coupled with an unredeemed promise of reformation.'' Then says, ''the staff subsequently issued an order to suspend construction until Consumers Power Company could demonstrate why their license shouldn't be suspended. In a short time the order to halt construction was lifted because of political pressure. After an uncontested hearing, approval of the license was renewed.''

Mr. Keppler, can you comment on this?

Mr. KEPPLER. In late 1973 there was a problem that was identified by the NRC involving cad welding operations at the site. This is the splicing of reenforcement steel in the concrete. We found that the cad welding work was really not being controlled properly and some of the cad welds were not being completed properly.

As a result of that action the NRC, at that time the AEC, required the utility to stop work in that area, and subsequently the Atomic Safety and Licensing Appeals Board did write a letter to the director of regulation at that time, urging that a formal stop-work be issued in the form

of an order. And an order was issued that required immediate stopping of the cad welding operation, which had already been stopped, but it also required a show cause--the licensee to show cause, why all construction activities should not be stopped, a matter that was dealt with in a formal hearing in the summer of 1974.

The cad welding operations were permitted by the NRC to resume after the NRC was satisfied that the procedures for controlling the work and the quality assurance activities were proper. There was no pressure on the NRC staff to permit the resumption of operations that I'm aware of. And I certainly felt no pressure in releasing that work.

Mr. SEIBERLING. Apparently, going to the soil problem, someone wrote a memorandum in 1980 of a conversation with you. This is a memorandum that was apparently attached to a--summary was attached to a memorandum from Thomas Gibbon to Samuel Choate with a copy to you, subject, possible ex parte contact in the Midland proceedings.

It's a conversation and here is the summary of one of your statements. ''Midland is continuing to work today to make resolution of the settlement problem much more difficult. Keppler said the staff had not yet made up their minds on whether the fix proposed by Midland was acceptable; therefore, the project continues to be built and the problem gets worse. He wanted the work stopped until the problem is

solved.'' Is that a correct summary, according to your best recollection?

Mr. KEPPLER. Yes, it is. Could I give you a little background on that?

Mr. SEIBERLING. Yes.

Mr. KEPPLER. Mr. Gibbon was the technical assistant to Commissioner Bradford, when he was with the agency. And he made a visit to our regional office, and during the course of that visit we talked about a number of matters in which they were soliciting input from the field as to what matters the Commission might be able to focus attention on. One of the issues that was discussed was the question of problems occurring in construction and whether or not work should stop--there should ever be a stop-work issued by the NRC.

The view that I was expressing at that time was when you have a problem and you don't know what the fix is going to be, that I questioned the merits of letting that project proceed, recognizing that it is being done at the utility's own risk. I questioned the merits of letting that type of activity proceed until it was determined that a technical fix was achieveable. And so I raised that question as really a philosophy question with Mr. Gibbon, to bring back to Commissioner Bradford.

Commissioner GILINSKY. If I may interject a comment, Mr. Seiberling?

Mr. SEIBERLING. Yes.

Commissioner GILINSKY. I think over the years, until really recently there was a feeling, which I mentioned in the testimony, particularly in our lawyers, that construction problems did not constitute immediate health and safety problems and therefore did not justify immediate enforcement action. And the agency was--did not easily step in and stop projects, even when there were problems that were fairly serious.

I think--well, for example, there were also very seldom--I think perhaps for many years--no civil penalties in the construction area. That has changed to some extent and I think--

Mr. SEIBERLING. Well, I think that's a very important observation.

Mr. KEPPLER. Could I add one other point?

Mr. SEIBERLING. Yes.

Mr. KEPPLER. I make the point, I think the only times we exercised our authority to stop work in a formalized way was when the continuation of construction might cover up work, so that you couldn't then inspect the completed work. Like, perhaps during pouring of concrete.

Mr. SEIBERLING. What was the result of your recommendation? Was the work stopped or was it not?

Mr. KEPPLER. No. But it wasn't a recommendation in that

sense. It was a--again, we were focusing on the philosophical argument about whether or not enforcement action should be taken in the formal way of stopping work during plants under construction. It was brought up in that context.

But when Mr. Gibbon realized that the matter could involve an ex parte violation, he felt it necessary to summarize that conversation, which was one small part of a much bigger conversation.

Commissioner GILINSKY. Also, Mr. Chairman, the view was if there were any problems the utility was proceeding at its own risk and then these would be dealt with at the operating license stage. I think we have since learned that you have to deal with these problems at an earlier stage.

Mr. SEIBERLING. That's another question I was going to get into. Is it still the policy of NRC to--

Commissioner GILINSKY. We have--

Mr. SEIBERLING. To allow the facility to proceed at their own risk?

Commissioner GILINSKY. In some sense they proceed at their own risk. But the fact of the matter is, in the real world when things get built, that weighs pretty heavily on the decisionmakers; and I think we have decided, and I think I can speak for all the Commission on this, one has to bow a great deal firmer in the construction phase.

Mr. KEPPLER. I might add, in the case of the Marble Hill

project in southern Indiana the NRC took formal actions to stop that project because of a deficient quality assurance program, as well as the concern that completed work might not be able to be inspected by continuing work; and that project was shut down for 16 months as a result of our action.

Mr. SEIBERLING. Mrs. Sinclair cited another example where, in July 1981, Joseph Kane, NRC's chief geotechnical engineer, in answering a question as to whether in retrospect removal and replacement of the diesel generator building would have been a better option, he said: Well, ''when you are considering it from the standpoint of safety alone, it is my opinion that the removal and replacement is a better solution. If you are considering the other facets, that is the cost and impact on schedule, these are facets that engineers must address, then it may not be the superior option.''

Of course, everything has to require a balancing, but apparently in this case the costs under consideration are deemed to be more important than the safety problem. Do you want to comment on that?

Mr. KEPPLER. Yes, I would. I think this committee should be aware that the staff evaluations--

Mr. SEIBERLING. All right. Go ahead.

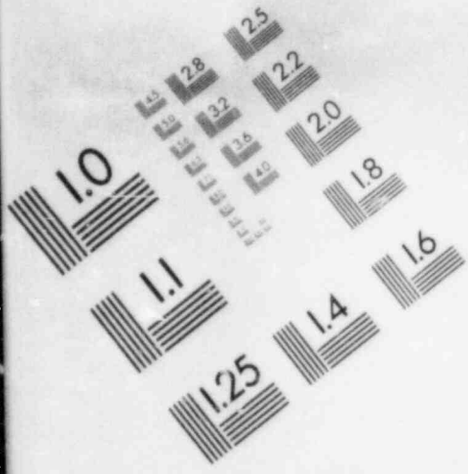
Mr. KEPPLER. That the staff assessment of this project, of

this remedial soils effort, included quality assurance people, hydraulic engineers, mechanical engineers, geotechnical engineers, structural engineers within the staff; and included consultants from, Technology Engineering Center, U.S. Army Corps of Engineers, U.S. Naval Surface Weapons Center; Brookhaven National Laboratory; Science Applications Incorporated; Geotechnical Engineers Incorporated; Crimm and Samuels and Associates, Incorporated. There were a lot of people used by the agency in formulating the Staff's position, and I think it is a little bit unfair to assess that as an expedient type of decision.

Mr. SEIBERLING. In other words, you do review all of the agencies, and try to come to a decision in which safety is not slighted in any serious way? Is that what you are saying?

Mr. KEPPLER. I think the staff would say that safety was the foremost consideration. Mr. Eisenhut would like to make a comment.

Mr. EISENHUT. Mr. Kane is, in fact, one of our senior soils reviewers on the staff. I think I'd probably concur with him, that the best solution would be to remove the building and start over. We don't require the best solution. We require an acceptable solution and in this case there was an engineering solution that came up in the problem. Mr.



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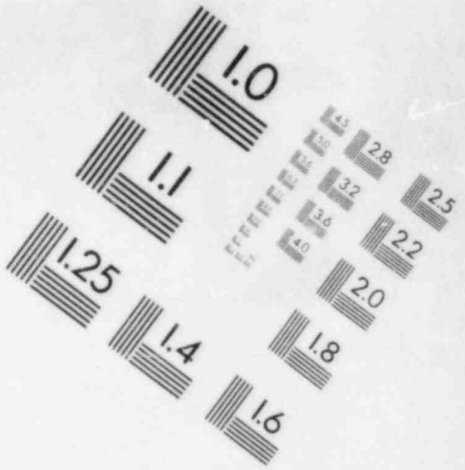

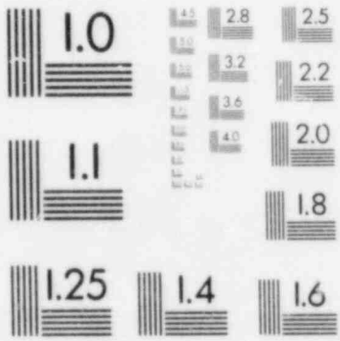

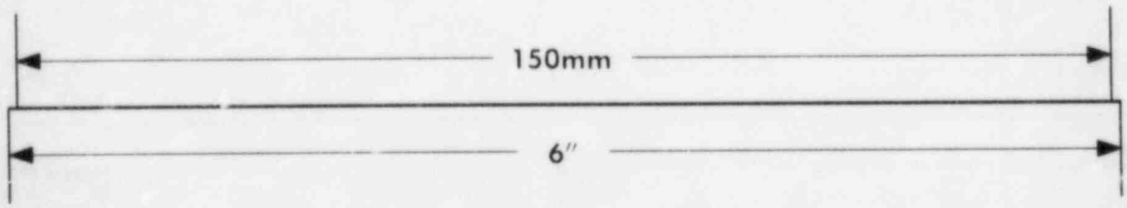

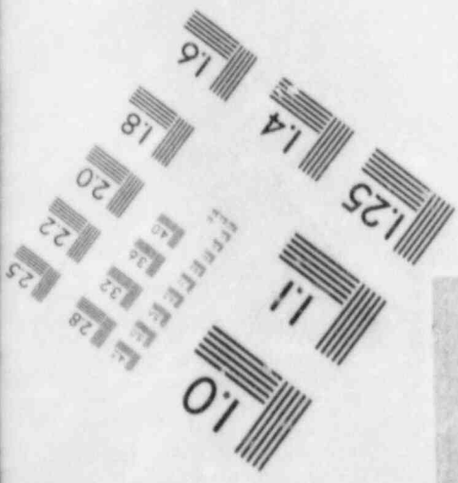

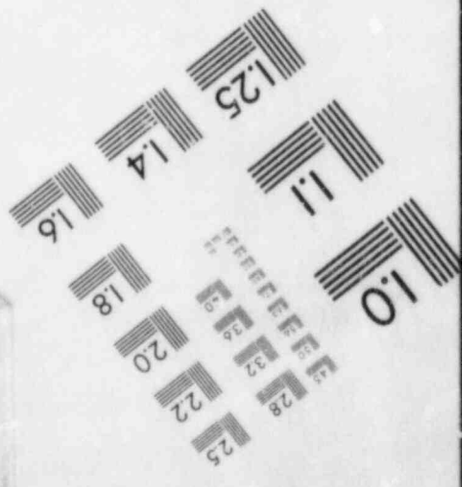

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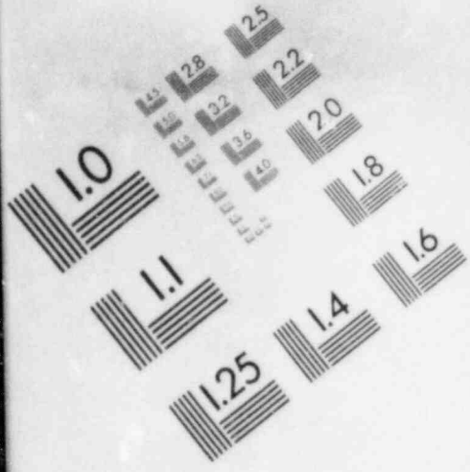

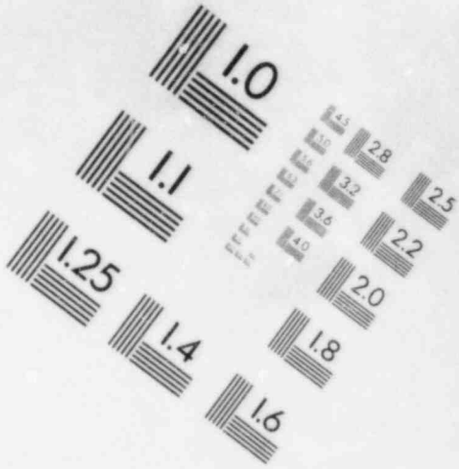

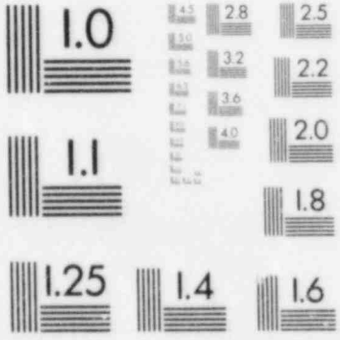

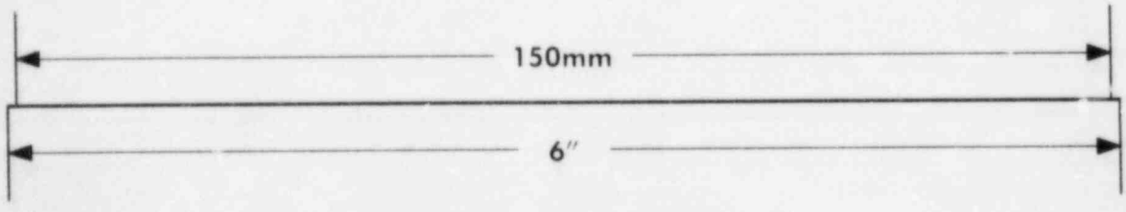

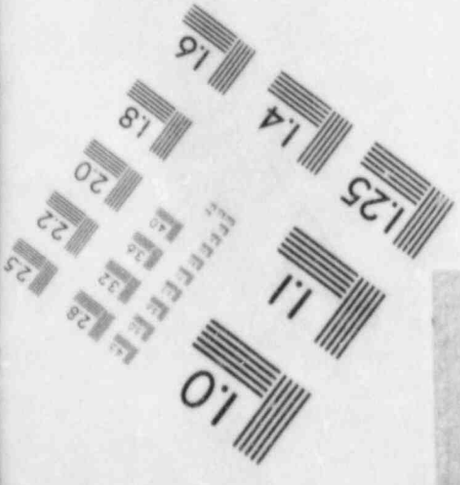

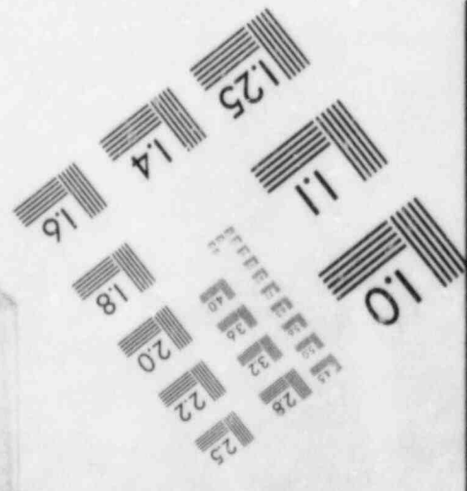

Kane was, in fact, a geotechnical engineer who was the principle geotechnical engineer who, in fact, did the final review and concurred in our overall position.

So I think what you have seen is, there is clearly a spectrum of views in this area. Any time you get a highly technical problem, you'll get--we went to the best resources we knew in the agency. Mr. Keppler mentioned some outside organizations: The Corps of Engineers, the Naval Surface Weapons Center--a number of organizations. But the end result was, in fact, that we think we came up with an acceptable conclusion to the problem. It is a solution that is certainly not the best. It is certainly not the cleanest.

As I said, the cleanest would be to remove the building and start over. But we feel it was a satisfactory solution to go forward. It carries the final conclusion of all of these people, including Mr. Kane.

Mr. SEIBERLING. Thank you, Mr. Lujan.

Mr. LUJAN. The final line is that the building is not less safe because of the method used than if you had razed it completely down and started all over again; do I gather that?

Commissioner GILINSKY. I think what Mr. Eisenhut said--it was acceptable, he said.

Mr. LUJAN. Is it any more dangerous because of the fact it was not torn down?

Mr. EISENHUT. No, we believe not. When I said acceptable, it passes the test, the acceptable level of safety test. I was just reminded of a comment that each of the various different specialists in the various different groups supported each of the different aspects. It covers quality assurance, geotechnical, hydraulic engineering, mechanical engineering, structural engineering, it covered a very thorough process and each of those different disciplines feel that there was an acceptable level of safety in the final product.

Mr. MOODY. Will the gentlemen yield?

Mr. LUJAN. Yes.

Mr. MOODY. If we could follow up on that, when you say acceptable, that is not the same thing as saying not at all less safe. You are talking about a threshold level. It still meets the threshold criteria, that high or above in terms of safety? Which isn't to say that, had you torn it down and started over it wouldn't be at still a higher level?

Mr. EISENHUT. That's right.

Mr. MOODY. It's a series of probabilities. Different things happen. And the probabilities of different things going wrong are not identical to a decimal point as they would be if you tore it down as a result and started later. I think the answer to the gentleman's question is less safe had you torn it down and started over.

Mr. EISENHUT. I'm not sure it is less safe. Because if this mission is adequately carried out, and put that big proviso on it, you may end up with the same end product. Because you have to remember what is being done. In effect in the limit, the worst case, call it the biggest facility modification of the worst case here, they are actually now going in and removing all of the soil that is in question. They are then putting a structure in place that should have been there in the first place.

Mr. MOODY. Should have?

Mr. EISENHUT. Should have, because of this. Either you should have compacted the soil adequately in the first place or put an adequate concrete foundation in. Now they are going back in the worst situation we are talking here and they are removing many, many, many cubic yards of soil and they are actually now putting a concrete structure in place, all the way down to the acceptable glacial till which we would have found in the first place. So it is not clear that one is less safe than the other.

It's a distinction you really can't make.

Mr. MOODY. The probabilities of an accident or something untoward happening are no greater now than they would have been had you started from the beginning and done it jusy the way you wanted it?

Mr. EISENHUT. I would say I certainly can't distinguish

between the two in terms of the probabilities.

Mr. SEIBERLING. The committee will recess for ten minutes and resume.

[Recess.]

Mr. SEIBERLING. Let's continue, gentlemen. Mr. Keppler, I understand that at some point you informed the Midland Licensing Board, ''We believe that we simply cannot rely on Consumers Power Company's quality assurance program by itself.'' You suggested it would be necessary to supplement it by third-party overview. Does this indicate that NRC does not have confidence that the licensee is capable of conducting a quality assurance program in conformance with the Commission's requirements?

Mr. KEPPLER. Let me answer this way. Over the years, as problems have been identified with Consumers Power Company's quality assurance program, changes had to be made to improve that program. And each time these changes were made, they appeared to be reasonable. But when it came to the actual implementation of these changes, the problems continued to occur.

They have made change as recently as this year. And, again, these type of changes look good. But my reaction is that because of the history of the problems at this site, that realistically I cannot take the position that we can be satisfied with Consumers Power Company's QA program by

itself. I think a period of sustained proven good performance has to be shown before I can do that. And so, this was the situation that, as I said in my testimony, in April 1982, I decided that we were going to have to have further verifications of this plant to have the needed confidence in it to conclude that it had been built properly. And we decided that a program was going to have to be done to look at past work, and I mean an extensive program, and a program that was going to have to be done to oversee Consumers' QA efforts for future ongoing work.

I'm not about to back off that position until I can see that confidence is warranted in Consumers' QA program.

Now, let me go back. I really evaded your question, and let me go back and tell you why I think this approach is reasonable.

I had problems with the Palisades plant over the years. And in 1981 I was prepared to shut that plant down for safety concerns. And the company came forth with a program of some rather stiff oversights of what was going on, and a program to improve its regulatory performance.

The company has demonstrated to my satisfaction that they have been able to lick that problem; and they took a plant which was the worst plant in my region at that time, and they improved the regulatory performance at that facility to a level that I am really comfortable with right now.

In the case of Midland, they have not been able to lick this problem and we are not certain why, actually. And so I felt that it was prudent to have this type of third-party overview on this plant until we can have some confidence that the company can implement the QA program properly. And I'm prepared to let this thing run this way, with third-party overview, to the completion of this project, if that's what it takes.

Mr. SEIBERLING. Well, has there been an independent third-party quality assurance program set up? Overview program?

Mr. KEPPLER. There is a program of overview for the soils work, which is proceeding at a very limited rate based upon a Board order by the Atomic Safety and Licensing--that's being done by Stone and Webster. And Stone and Webster has been proposed by the company to do the third-party overview for the balance of construction work and that is under review right now.

Mr. SEIBERLING. Do you--go ahead.

Mr. KEPPLER. We have not made a decision on that point yet.

Commissioner GILINSKY. If I may add a comment, Mr. Chairman?

Mr. SEIBERLING. Yes.

Commissioner GILINSKY. I agree with Mr. Keppler's remarks

about the Palisades project. I joined him one day at an enforcement meeting there.

The thing that disturbs me, it disturbed me at the time, was that while the company had responded--in fact I was impressed with the way they had, to our--to the actions we were taking, they had let the plant deteriorate very badly. Both in terms of the human complement and the plant itself. Particularly with regard to procedures. And it really took the most severe action, the threat of even severer action on the part of Mr. Keppler, to get them to turn around.

Now, they did respond and I think that's all to the good.

Mr. SEIBERLING. Well, the Intervenors press the view that, first of all, that they didn't have any confidence in Stone and Webster. And secondly, they felt it should be someone who was clearly independent and was representing the consumer point of view; and thirdly, that there should have been consumer participation in the selection of Stone and Webster, at least having a public hearing. Have you any comments on that?

Mr. KEPPLER. Well, let me say that, from our point of view, Stone and Webster is one of the major architect/engineering firms in this country. And we consider them to be competent technically to do the work.

The Intervenors have expressed concern that some of the projects that Stone and Webster have been on, have not been

handled too well from a quality assurance standpoint. And that's a valid comment. But that's true about most of the big firms.

There have been problems with Bechtel plants, as Midland 1. There have been good Bechtel plants. There have been good Stone and Webster plants. But as a company they certainly are more--are qualified to provide that kind of service.

Now, what we did in the case of our assessment of Stone and Webster, was we made sure that the individuals who were to be doing the work at Midland had had a good track record at other projects. We called and did reference collection on these people to satisfy ourselves that we really had the first team in there.

As far as the independence concern goes, what we try to do is to make certain that both the company and the individuals involved are free from any significant financial types of responsibility with the licensee. And Stone and Webster had done really only a very small amount of work with Consumers Power Company. And we were satisfied that they were not deriving a significant amount of their income from Consumers Power Company.

So we felt the independence concern from a company standpoint was adequate, and what we did was to require the individuals, as well, to provide sworn statements that they were not involved in any way with Consumers Power Company.

Mr. SEIBERLING. Does it comply with the guidelines set up for the Diablo Canyon?

Mr. KEPPLER. I think it does. That's my view.

Mr. SEIBERLING. Thank you.

Mr. KEPPLER. Let me add one other comment. You made the point about citizen participation. I feel we have, and I guess it comes down to a question of how much. We had--all of the information by the utilities have been provided to the citizens. We had a public meeting up in Midland in February of this year--an all-day--and a meeting into the evening, to discuss the programs that were going to be put in place, being proposed by Consumers Power Company.

We had written input from the--from members of the public and the Intervenors, and a meeting was even held back in Washington at which the Intervenors were allowed to attend, where further discussion were going on.

I feel we have tried to be responsible in this way. And we intend to hold further meetings up at--in the vicinity of the plant during the course of the ongoing work.

Mr. SEIBERLING. Their point was they thought there should be citizen participation in the selection of the third-party oversight.

Mr. KEPPLER. You know, you get down to the point--and I'm going to say it this way--there's a question of: Somebody ultimately has to make a decision. There can't be a

handholding, shared decisionmaking process in this business.

Mr. SEIBERLING. I see. I agree. It's a question of how far you should get the public into the operation.

Mr. KEPPLER. I think we are genuinely trying to make sure we are aware of public concerns and I think we made several modifications to the programs as a result of these concerns.

Mr. SEIBERLING. Well, I guess it's a question of judgment. They feel there should be more.

Mr. Moody?

Mr. MOODY. I have two questions. First, Mr. Keppler, you referred earlier to $120,000 civil penalty that the NRC proposed against Midland. What were the reasons for that?

Mr. KEPPLER. The reasons were for two major violations that occurred in connection with an inspection of the diesel generator building, that we conducted.

One was for multiple items of noncompliance with the quality assurance program. And one was for the procedures of handling--identifying problems, where they weren't recording all of these problems. We felt that that was defeating the purpose of trending problem areas in the plant.

Mr. MOODY. You consider these serious violations?

Mr. KEPPLER. Absolutely. I wouldn't have issued the fine if I didn't consider they were serious.

Mr. MOODY. Any similar situations or occurrences take place?

Mr. KEPPLER. I'm sorry?

Mr. MOODY. Has anything else of that nature taken place? Subsequent to those fines? Are you satisfied with their performance subsequent to this?

Mr. KEPPLER. You do realize that the majority of the job is stopped right now. The soils work that is going on is a very piecemeal effort that we are authorizing. And I would have to say that, if you ask, are we satisfied? I would have to say not totally. We are still encountering some problems. The inspectors still feel that that the attention to detail is not there yet. We are just going to have to be very--to dog this thing in a very painstaking manner to make sure that we get the kind of attention to detail that we want. We are not about to turn this thing loose until we are satisfied that the work will proceed properly.

Mr. MOODY. I have a second question--

Mr. SEIBERLING. We have about one minute before the vote.

Mr. MOODY. We have probably a minute or hardly any more and then we have to go. I would like to follow my question earlier to Mr. Eisenhut. You said there was no loss of security--of safety. What buildings were you referring to, sir?

Mr. EISENHUT. Principally the example I used was the auxiliary building portion, that I mentioned, where they are putting a foundation completely down to the glacial till

underneath. Where I said, in the limit--that is certainly the limiting case in terms of the repair.

It varies somewhat when you go to other facilities. It could be argued when you look at some facilities that perhaps might have cracking in those facilities, one could argue that even though it is acceptable, once you go down to the lower probability numbers, there clearly is a degradation in terms of the difference in numbers.

Mr. MOODY. What would you say about the diesel generating housing structure?

Mr. EISENHUT. Certainly it still meets the threshold of acceptability. But certainly any facility that had--it depends on the degree of crack. If you had extensive cracking such as there is cracking in the diesel building, certainly the probability of a failure of the building would be higher than a brand new building, completely rebuilt.

Mr. MOODY. So your statement to the committee could not be made with respect to the diesel building?

Mr. EISENHUT. It is a degradation. Certainly as I used the limiting case example before it certainly would be, but it would vary as you go to the diesel building and then the other buildings would be in between. There is, in fact, all of those buildings, though, by our evaluation, end up still acceptable from an overall point of view.

Mr. MOODY. I guess my point was, you gave us a threshold

concept, but below the threshold there are varying probabilities of something going wrong; and you did not agree with that statement. You said indistinguishable probabilities differs, so it was--but when you get to the diesels, I think you would probably stand by what I was basically driving at?

Mr. EISENHUT. That's right. On the limiting case if you carefully repair it, it is back to the original.

Mr. SEIBERLING. I'm sorry, we'll have to recess for another 10 minutes.

[Recess.]

Mr. SEIBERLING..The subcommittee will resume its hearing. Mr. Moody is still recognized.

Mr. MOODY. Mr. Eisenhut--is he still available? Mr. Eisenhut, we'll continue if that's all right with you. We had to kind of break off for the vote.

Mr. EISENHUT. Sure.

Mr. MOODY. The point I was trying to make earlier, we are only talking about relative probabilities and I think you did not agree with me, and I did not make the distinction, building by building. But I was--apparently you in your mind were making that distinction. Because you feel indeed there is a relative probability issue when you get to some of the buildings.

Could we just pick up where we were talking? Go ahead.

Mr. EISENHUT. I believe the relative probability argument would certainly vary with whom you ask. It is not a hard and fast science you can put your hand on, and I think it varies considerably with the set of experts you ask.

Clearly, it is some kind of spectrum, as you go to a building that has more and more damage, the probabilities of that building surviving, for example, an earthquake event or any other different phenomena, certainly is going to change. That's patently from basic understanding.

To quantify it is a whole other matter, and we certainly didn't make any effort in our evaluation to quantify it.

We went to the family of consultants that we use and asked them, basically: Do you believe that these fixes, the solutions to the different buildings, would in fact ensure that in fact they are adequately safe, using the NRC's regulations as a standard of what's adequately safe?

In the limit, as I said, if you replace the foundation you are back to basically an original structure if they did it right. As you get more and more damage, you would get to a building that just patently, from basic logic, has to be somewhat less capable of withstanding an event.

Mr. MOODY. That's why you surprised me with your answer to Mr. Lujan's question when he asked you, are they any less safe; and you said, no: I followed up later because I said it must be.

Mr. EISENHUT. The record will indicate what I said, but I think I said the numbers would be indistinguishable if you went down and looked at those kind of low numbers. That's what I meant by it.

Mr. MOODY. Does what you are saying apply to all buildings or only certain buildings?

Mr. EISENHUT. I said it would be a variation. They are all going to be low numbers. So, when it gets down to such a low aspect, I don't think you can distinguish any of the numbers. And, again, it would vary considerably, with which experts you ask. And that's why, you know, we were really in a hard-pressed situation to evaluate these substructure solutions to a problem.

It is a somewhat controversial fix that was imposed on a number of the facilities. It certainly is the first time it was undertaken in a nuclear project. So the staff felt that we really had to go and collect a group of the experts, such as the Corps of Engineers and the Naval Surface Weapons Center and Brookhaven National Lab and another half-dozen or certainly another three or four independent consultant firms, and brought them together to try to reach a collegial judgment. With the different experts in that area, do you agree that this plant can go forth? That this is an acceptable restoration of the margins of safety? And that's what our evaluation basically concludes. That evaluation was

issued last Fall; that evaluation went to our Advisory Committee on Reactor Safeguards as another level of review of the overall adequacy of the evaluation. They concurred in that overall evaluation and of course that evaluation is, now, the subject of the publications that are going on on the Midland project, and undoubtedly they are being tested in that forum.

It is a--you need to look at it in an overall framework. The utility brought in a number of experts. The Intervenors are cross-examining on a number of aspects and the staff brought forth another group of aspects.

Mr. MOODY. You are going far beyond what I was asking, which is fine. I'm trying to narrow down this issue of acceptable versus distinguishable probabilities. And acceptable is a threshhold. And the other is something else. And you say that you can't quantify it. But don't you have to quantify them to decide that they are over the threshold? Doesn't that require a quantification of probabilities?

Mr. EISENHUT. You probably do, implicitly. You probably don't, explicitly. But get down to what you are really talking is a difference in numbers. Your question really related to, is there a change from the fix over and opposed--over and above what you would have had originally in the correct manner?

Mr. MOODY. And your answer was no for the buildings you

had in mind; but you admit or agree in the case of the diesel generator that that indicates--

Mr. ~~Moody~~ EISENHUT. But I can't quantify them because I think they are very small numbers.

Mr. MOODY. But you feel the diesel structure in any event, exceeds the threshhold minimum?

Mr. EISENHUT. No. It is acceptable with the modifications, if the modifications are adequately put in place.

Mr. MOODY. But in design terms it is adequate, above the threshold?

Mr. EISENHUT. That is correct. And I should caveat that everything I'm looking at, in fact, the office of NRR looks at it from a design basis. We look at it from the basic design. Putting it in place in the construction and seeing that it is adequately carried out is principally in the region, and I really can't address that end of it.

Mr. MOODY. Thank you, Mr. Eisenhut. Could I ask the other gentlemen at the table if they have any comments on that series of questions?

Mr. KEPPLER. I don't.

Commissioner GILINSKY. If you want my view, Mr. Moody, it's obviously better to have a building without a crack than a building with a crack. The question comes down to whether it meets, in the end, our requirements. As I say, I don't have a personal view on that.

Mr. MOODY. Mr. Cook?

Mr. RONALD COOK. I don't have any comment.

Mr. MOODY. Mr. Cook, you heard the discussion?

Mr. RONALD COOK. Yes. I don't have any comments with regard to the adequacy of the building at this time.

Mr. MOODY. Mr. Landsman?

Mr. LANDSMAN. I agree with Mr. Eisenhut that the underpinning design is acceptable to the NRC staff. However, the diesel generator building is not one of the structures that is going to be underpinned. It was that 20 feet of surcharge that we heard about earlier this morning that we are using to make the building adequate.

As Mr. Keppler said, there's some members of the staff that do not think the diesel generator building is structurally sound.

Mr. MOODY. They do not?

Mr. LANDSMAN. That's right.

Mr. MOODY. Because of the fact it merely has a surcharge rather than an underpinning?

Mr. LANDSMAN. More structural integrity. The building is highly cracked. There's no way to really analyze a cracked concrete structure. So it is more the opinion of everybody--if it was acceptable--

Mr. MOODY. This is indeed a revelation that we have a building here, that, as I gather, essential to the safety of

the whole operation in case of power failure, you need these diesel systems in order to keep the pumps functioning--is that correct?

Mr. LANDSMAN. You need it for a loss of off-site power. They are there to generate power to control the plant, to safely shut it down.

Mr. MOODY. If you had a loss of outside power, which you might have in a natural capacity, if it was an earthquake, it would be essential that these diesel generators function. And if the same earthquake threatened the structural integrity of that building, you might have the same natural event knock out both the failsafe and the backup? In other words, you'd be knocking out--might well knock out the backup itself as well as the primary system which is the very thing you want to prevent? It is not really, given that structural efficiency, you don't really have the joint probability. Two things happening because the same event could trigger both the failures; is that correct?

Mr. LANDSMAN. If you are getting into--

Mr. MOODY. They are not independent probabilities.

Mr. LANDSMAN. If you are getting into probabilities, I think the probabilities that we have been previously discussing--the building is right now standing. I think the low probability that people are talking about is, if you hit it with an earthquake. And I agree that there is a low

probability that you'll get a certain magnitude earthquake there to hurt the structural integrity of the building. But there is that probability, and you have to design for it.

Mr. MOODY. I'm making a generic statement. One of the characteristics of backup systems is that they have an independent probability attached to them about their failure. So that if you have a joint failure you have the multiplication of two probabilities which becomes a very small number indeed very rapidly. However, if the same event can trigger the failure of both the primary and backup system, you no longer have independent probabilities. One of the ways you lose independent probabilities is to have a structural threatened system, such as the one we have just described, where the same natural event, an earthquake, could trigger failures simultaneously in both the primary and backup system. I guess maybe I'm in the wrong--

Mr. LANDSMAN. You have the wrong person.

Mr. MOODY. I'm talking with the wrong person. It's a generic yardstick of failure systems that you want an independent probability attached to their failure as to the primary system they are failsafing, otherwise it is not a failsafe system. Mr. Eisenhut knows. Am I right?

Mr. EISENHUT. Partially. You certainly are right. When you look at two systems, if you have the system that's the operational system, you want a backup system that's

2870 independent. So that the two systems don't interact.
2871 Mr. MOODY. The probability of their both failing becomes
2872 the product of the probabilities, becomes a vary, very tiny
2873 number.
2874 Mr. EISENHUT. That's correct. However, from the earthquake
2875 standpoint, that doesn't apply, because if the earthquake
2876 shakes the site, the entire site, everything in the site is
2877 going to shake. In fact, both of the redundant systems.
2878 Mr. MOODY. It depends on the nature.
2879 Mr. EISENHUT. If you have an earthquake, the site is going
2880 to shake. It is a matter of degree of shaking, in fact, that
2881 is going to vary as the magnitude of the earthquake varies.
2882 So, as Dr. Landsman said, it is really not a question in
2883 terms of the soils at this point. It is a question--there are
2884 existing cracks in the diesel generator building. What you
2885 have to look at is, what is the probability of an earthquake
2886 of sufficiently high magnitude, such that it will, A, cause
2887 an accident, and, B, an accident which has a loss of
2888 off-site power associated with it; and also fail the diesel
2889 generator building to such a magnitude that it will in fact
2890 disable the emergency power system. So, that sequence of
2891 events is a probability of an earthquake is what you start
2892 with, as Dr. Landsman said. That's a low probability.
2893 Mr. MOODY. Of that magnitude.
2894 Mr. EISENHUT. It has to be big enough to fail the diesel

building in such a way to disable the AC power.

Mr. MOODY. That's a very different number than it would be if you did not have the cracks in the building.

Mr. EISENHUT. It is a different number and that's why you have to go to--

Mr. MOODY. Significantly different number?

Mr. EISENHUT. I won't necessarily agree with that. But I will--let me put it this way. This is now not a soils question. It is a structural question of concrete, steel-reinforced structure. So what we had to do then was go to the structural experts and ask them for their judgment. Because there really is not a hard and fast formula for analyzing it.

You go to their judgment and their judgment would be that the probability of it is still low enough. But it certainly is higher, from basic logical sense, the probability of that structure failing has got to be higher for a given earthquake than it was before.

Mr. MOODY Low enough, was what we are talking about. And that's why I tried to make the distinction between--you know, on the one hand we don't--there are indistinguishable numbers and yet low enough--it's almost a contradiction to say you have enough certified about a number to say it is low enough, but not enough to quantify it. I don't want to drag this out any further. Thank you, Mr. Chairman.

Mr. SEIBERLING. Thank you.

Mr. Landsman, the testimony of Mrs. Sinclair contained several problems which she highlighted. One is, she says the concerns and recommendations of field inspectors are overruled by NRC management. NRC management performance is too often place ahead of public health and safety.

I would like to ask Mr. Landsman, Mr. Cook or Mr. Gardner, do you agree with that statement? Mr. Cook?

Mr. RONALD COOK. No, I do not completely agree with that statement. I think that Ms. Sinclair is making reference to an issue that we discussed at the hearings referred to. The staff that was on an inspection wished to issue a confirmatory action letter to the licensee; our conversations with our regional office indicated that that would be forthcoming. However, the next following week we were informed that it would be this--we termed it a reverse confirmatory action letter, in which the licensee spells out the items that we would have put into our letter, except it comes out under their letterhead.

The inspection staff was, as Mrs. Sinclair, I think, indicated in her statement, were somewhat disappointed by this. Or embarrassed, whatever the term might be. However, our desires were that the work would be stopped. And, as a net result, that ultimate result did transpire in the electric area and brought under control.

Mr. SEIBERLING. Is this something that happens frequently? This so-called reverse confirmatory action letter?

Mr. RONALD COOK. Of course, we don't have that many confirmatory action letters to start with. We have had, in the last, oh, I'd say 20 months or so--maybe 18 months, that there were two confirmatory action letters and this reverse confirmatory action letter. So, the ratio there would be one-third to two-thirds.

Mr. SEIBERLING. When you say reverse confirmatory action, instead of NRC writing a letter to the licensee, asking him if he's doing certain things, you can merely give the opportunity to write a letter first and say it? Is that what you are saying?

Mr. RONALD COOK. Yes, sir. My understanding is our present policy is that we write all confirmatory action letters at this time.

Mr. SEIBERLING. All right. Do you want to comment on that, Mr. Landsman?

Mr. LANDSMAN. The only comment I want to make, in the Midland special section that we are in, we get to voice our concerns to our management all the time. It is up to the management to make the decisions of what to do with our concerns.

I think we have set it in the hearing stand on the ASLB. If we really felt very strongly about something there is a

way--ways to voice our concern. We have a dissenting opinion or whatever.

Mr. SEIBERLING. Mr. Gardner, do you have anything to add?

Mr. GARDNER. No, I agree with Dr. Landsman and Mr. Cook.

Mr. MOODY. I would just want to return to what you said, Dr. Landsman. You say that certain of the staff do not feel that the diesel structure, given its practice, does meet the sufficiency standard; am I characterizing what you have said about ten minutes ago correctly?

Mr. LANDSMAN. I think I said some of us think it is structurally unsound because of the crack.

Mr. MOODY. Because of the crack. Do you think it should be rebuilt?

Mr. LANDSMAN. I never looked into how you could fix it. You could build a new wall around it and fasten it together. We really never got into how to fix it. It is just some of us, because it is very difficult, almost impossible to analyze, as I was trying to say, a crack.

Mr. MOODY. But your statement is a strong one, as I understand it. It is not--would you say it again how you said it before?

Mr. LANDSMAN. Some of the members of the staff--or I'll speak for myself, I guess--think it is structurally unsound. There are a lot of cracks in it.

Mr. MOODY. Mr. Chairman, that's a pretty strong,

compelling statement.

Mr. SEIBERLING. Well, it is. I'm still unclear how important the diesel generating--the diesel structure is from a safety standpoint as compared to the auxiliary structure.

Mr. LANDSMAN. It is as important a structure as you have on-site.

Mr. SEIBERLING. I see. Then they are taking steps with respect to the auxiliary power structure but not the diesel structure?

Mr. LANDSMAN. No. We are--they are underpinning the auxiliary building, that's bringing the foundation down to the hard material; the surface water pump structure, we are bringing the foundation down to the hard material; they are rebedding and replacing a great majority of the essential surface water piping on-site; they are rebuilding the foundation on the water storage tanks, which are also important, if those crack.

The diesel generator building, early in the game in 1978 or '79, their consultants have decided to surcharge the building, piling the stand on it, trying to get all the settlements out. In the course of getting all the settlement out of the soils, they continued to build the building. So, while they were trying to sink--trying to get the settlement out of the building while the building was settling, and they continued to build it. And during this whole course of

time it continued to crack more and more.

Commissioner GILINSKY. Mr. Chairman, I think it is worth understanding what the possible consequences here are. What we are worried about in the diesel generator building, as far as I can understand, is that the wall, if unsound, might fall on equipment that is important for safety in an accident. In the other case you are talking about rather more serious consequences. But in any case those are the things that are involved.

Mr. SEIBERLING. That was my reaction, but I don't know--

Commissioner GILINSKY. The diesels are the emergency source of AC power. And they can be very important. There's no question about that. You don't want anything falling on them.

Mr. SEIBERLING. Maybe they ought to tear down the building and just put them in a tent.

Well, thank you. We are going to have to recess again. Let me just ask you again, one other question, Mr. Landsman.

Mrs. Sinclair said very recently, on May 6, the chief soils engineer at Midland, Dr. Ross Landsman, testified that the fact of attempting to force a natural floodplain area in a nuclear plant site.

In the initial design of Midland, the safety related building was designed to set on natural glacial till and so forth. Dr. Landsman was asked by a Consumers Power Company

attorney, ''if fill material had been placed properly and in fact the proper quality assurance had been followed, the Midland facility could be operated with due regard to public health and safety? Dr. Landsman's answer was the personal opinion of the soils engineer: No.

Is that correct?

Mr. LANDSMAN. Yes, that is.

Mr. SEIBERLING. Is that still your opinion?

Mr. LANDSMAN. My personal opinion, had the fill gone in right, I still think as a soil engineer during a 40-year operating life of that plant, we would have had a differential settlement problem.

Mr. SEIBERLING. So in other words your opinion has been overruled, as far as--go ahead?

Mr. LANDSMAN. No, no. We are correcting that, though. We are underpinning most of the installation, except the diesel generator building.

Mr. MOODY. Mr. Chairman, could you yield for a second?

Mr. SEIBERLING. I'm a little puzzled at this point.

Mr. MOODY. Mr. Keppler, who made the decision not to underpin the diesel while doing it for the other?

Mr. KEPPLER. I think the company made that decision.

Mr. MOODY. Why did we let them make that decision if we still have an unsound structure in a basic safety component?

Mr. KEPPLER. This was the proposal adopted by the company.

It was reviewed by the staff here in Washington and they accepted that position.

Mr. MOODY. We have one staff person who just testified that it is unsound as it is.

Mr. SEIBERLING. That's where I am a little confused. I think maybe what Dr. Landsman's testimony was, in his opinion this was not a suitable place to put a plant. Is that right?

Mr. LANDSMAN. No, no, no, that's not what I said. I said that the original design of those structures, and my own opinion, because they were cantilevered out from the rest of the building and supported on uncompacted fill while the rest of the building is sitting on hard, natural material, you are looking for differential settlement problems. But as the original design--

Mr. SEIBERLING. The fill is improper as a basis. Is that what you are saying?

Mr. LANDSMAN. I'm saying the original design of the buildings was improper.

Mr. MOODY. It is inherent in what the design calls for.

Mr. LANDSMAN. That's a better way.

Mr. SEIBERLING. But do you agree that the steps that are now being taken, if taken properly, will eliminate that aspect of the problem?

Mr. LANDSMAN. Yes. Except the diesel generator building.

Mr. MOODY. Except the diesel generator.

Mr. SEIBERLING. Okay. I see.

Mr. MOODY. Mr. Chairman? I know we have to go but, again, why is the NRC allowing that situation, where the diesel generator is, at least by some testimony here, unsound, and it is a major safety component?

Mr. EISENHUT. Let me try to answer your question. If you have need to know and need to do an evaluation on the structural adequacy of a building, we have a special group called the structural engineers. We go and ask the structural engineers and they go get the appropriate--the best consultants that they have under contract that they get.

If you go to a soils problem, and want to evaluate the soils, you go to the soils engineers.

Now, Dr. Landsman is a soils engineer. There is a spectrum of views. He may have views just like I may have views on a number of things in the plant. But in this case, we went to the structural engineers to determine our position on the structural adequacy of the diesel building.

Mr. MOODY. So you are saying he's speaking outside his expertise?

Mr. EISENHUT. I'm saying we went to that group. We didn't go to other individuals. I don't know Dr. Landsman's background well enough to argue that he's outside his field

or not. But I do know that we went to that center of excellence that we have set aside, structural engineering, with their consultants, to do the determination on structural engineering and there is a spectrum of views even within our staff. But it will come to a conclusional judgment at one level, which is what they did in our safely safety evaluation.

Mr. MOODY. Is it possible to segment the problem into structural problems independent of soil problems? Don't they interact? Your expectation of what structural solution is needed depends on what the soil conditions are that pertain? Is that--isn't that a dichotomy that might be dangerous, to segment the problem, to ask the structural people an isolated question and ask the soils people an isolated question and really it is the interaction of the two?

Mr. SEIBERLING. Can you give a short answer?

Mr. EISENHUT. We did not ask them to do it in isolation. We asked them to do it working together. But when you get to someone who has to make a decision, you have to go back to the center of the knowledge in that area and they have to take into consideration everything they hear from the other disciplines, be it soil, mechanical, quality assurance, whatever, which is what they do; but they do not work in isolation.

Mr. SEIBERLING. Would you like to dispose of the NRC

witnesses before we leave?

Mr. MOODY. Procedurally, I assume you mean?

[Laughter.]

Mr. SEIBERLING. The clock is ticking. First of all, Mr. Eisenhut, do you think that someone who, like Mrs. Sinclair, in looking at this from a non-expert point of view over 10 years, would be considered biased if she came to the conclusion that this is not a suitable place to locate this plant in the first place?

Mr. EISENHUT. I certainly don't know enough personally about Mrs. Sinclair, whether or not she is biased.

Mr. SEIBERLING. I mean anybody. Any layman, let us say.

Mr. EISENHUT. Some people are and some people aren't. Just as Congressmen are and regulators are.

Mr. SEIBERLING. I'm not asking was she biased. I'm asking would it be a reasonable thing for someone, after reviewing all these facts, to come to the conclusion, not being an engineer, that this shouldn't have been put in this location in the first place?

Mr. EISENHUT. Let me try to answer it this way. I would agree, and I have stated I have agreed with a number of the points she's made. I don't think they are of the magnitude that would conclude that the plant can't be built in this location.

Mr. SEIBERLING. Would you say reasonable people could

differ in that position?

Mr. EISENHUT. Oh, absolutely.

Mr. SEIBERLING. That's all I'm asking. Now, let me ask Mr. Keppler, I read to Mr. Selby and Mr. Cook of Consumers Power, the ACRS statement of the reasons why they believe--actually it's the the NRR inspection staff. Not ACRS. It is in their reports, however. Is that a correct summary of their viewpoint?

Mr. KEPPLER. Yes, it was.

Mr. SEIBERLING. Do you agree with that, inspectors?

Ms. GARDNER. I wrote it, so I guess I do.

Mr. SEIBERLING. How about the others?

Mr. LANDSMAN. We agree.

Mr. RONALD COOK. I agree.

Mr. SEIBERLING. Do you agree that the response Mr. Selby gave me is a correct response to all those five points? Or is accurate in summary? Maybe you'd rather wait and look and see what she said in the record?

Mr. KEPPLER. I do recall the last item, I was in disagreement on.

Mr. SEIBERLING. Lack of an adequate quality assurance attitude?

Mr. KEPPLER. Yes. An aggressive quality assurance attitude.

Mr. SEIBERLING. Aggressive quality assurance attitude.

Mr. KEPPLER. That was one of them, and I think I would disagree with that point of view. I feel that a more aggressive quality assurance approach by the company would have headed off a number of these problems.

Mr. SEIBERLING. Do you feel that way, Mr. Landsman?

Mr. LANDSMAN. I'll agree with Mr. Keppler.

Mr. SEIBERLING. Any of the other inspectors? How do you feel?

Mr. GARDNER. I agree with Mr. Keppler.

Mr. RONALD COOK. I agree with that. In fact, we'll stress that.

Mr. SEIBERLING. This has been one of my biggest concerns in this whole field of nuclear power. I have the feeling that too many companies do not have the right attitude toward quality control, and zero defects. And, in fact, I would extend that to a lot of American industry, and that's one of the reasons that we are in big trouble in our economy in competing with the Japanese and others.

Do you feel that they are taking steps now to correct that attitude? Not just to correct already pointed out deficiencies?

Mr. KEPPLER. I do. But I would have to say I have been disappointed before, and that's the reason for the insistence that we have a backwards look and a forward look at this project. And I feel that I can't have the confidence

in this aggressive attitude, approach of the company, without a sustained demonstration of it.

Words just aren't good enough.

Mr. SEIBERLING. What do you feel is the root cause of this problem?

Mr. KEPPLER. Mr. Seiberling, if I knew the root cause of the problem, I would have fixed it. I have tried to look into what really contributes to the problem, and you can get as many views on that subject as you go around this room. But, when I looked at all of the efforts, by my staff and others to try to pinpoint the problems, we came to the conclusion that we really aren't sure why Consumers Power is having trouble.

As we pointed out earlier, they have dealt with the Palisades problem successfully. And I think they mean well, but for some reason they haven't been able to come through. And we are just going to persist in our efforts.

Mr. SEIBERLING. I just have one other point. Ms. Garde listed six things that on Monday they requested the Commission to do. I guess the answer as to what they are going to do about that will become apparent when they have acted on the request; but, will the Commission take up those items and give it some consideration?

Commissioner GILINSKY. I hope so, Mr. Seiberling. I hope that our meeting the other day was the first of a number of

meetings and that we will pursue this--our role in this project.

I think that it is obviously one of the half dozen trouble-plagued projects around the country. And it requires a hand-tailored solution, I think.

Mr. SEIBERLING. Well, thank you very much. I think that that concludes our testimony of this panel. I do appreciate your coming in and I'm sorry to keep you so late. We'll now proceed to the next panel. I have already missed that call.

Commissioner GILINSKY. Thank you, Mr. Chairman.

Mr. SEIBERLING. Our next witness is the mayor of Midland, the Honorable Joseph Mann.